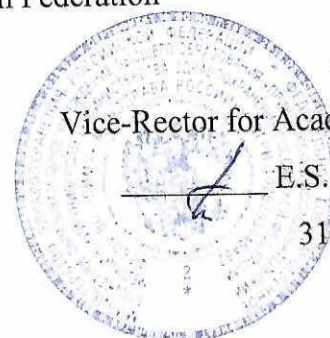


Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

## WORKING PROGRAM

Name of the academic discipline: **MEDICAL REHABILITATION**

Specialty: **31.05.01 GENERAL MEDICINE**

Qualification: **GENERAL PRACTITIONER**

Department: **MEDICAL REHABILITATION**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **108 academic hours**

Nizhny Novgorod  
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 31.05.01 General Medicine, approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 95 of February 9, 2016.

**Developers of the working program:**

Full name, academic degree, title, position.

**Belova A.N. Doctor. Sc., professor**

**Dmitrochenkov A.V. Doctor. Sc., professor**

**Israelyan Y.A., Cand. Sc., associate professor**

**Litvinova N.Y., Cand. Sc., associate professor**

The program was reviewed and approved at the department meeting (protocol No.1, 26.08.2021)

Head of the Department,

academic degree, academic title Deeef (Belova A.N.)  
(signature)

26.08.2021

AGREED

Deputy Head of EMA ph.d. of biology LB Lovtsova L.V.

(signature)

31.08 2021

**1. The purpose and objectives of mastering the academic discipline** Medical Rehabilitation (hereinafter – the discipline):

1.1. The purpose of mastering the discipline: studying the theoretical issues of medical rehabilitation and teaching the basics of restoring health, functionality, and vital activity of persons with congenital defects and those who have undergone a disease or injury (*participation in forming the relevant competencies PC – 14*).

1.2. Tasks of the discipline:

1. to equip the student with adequate quality knowledge and skills to adopt the principles and practice of Medical Rehabilitation;
2. to teach the student to provide Medical Rehabilitation interventions under different clinical settings during the phase of acute care, in the setting of hospitals and in the chronic stage;
3. to teach the student to deal with individual impairments, disability and functional limitation at the community level

1.3. Requirements to the deliverables of mastering the discipline

As a result of completing the discipline, the student should

**Know:**

- theoretical and methodological foundations of medical rehabilitation (the concept of the consequences of the disease ICIDH, ICF);
- methods for assessing the functional state and vitality of patients;
- clinical and rehabilitation groups of patients, disability criteria;
- principles of rehabilitation, the mechanism of the effect of therapeutic exercises and physiotherapy, indications and contraindications for their appointment, features of their implementation;
- rules for developing an individual program of medical rehabilitation of patients.

**Be able to:**

- assess the functional state and vital activity of patients with the most common disabling pathology
- choose the rehabilitation interventions for various categories of patients with the most common diseases that lead to disability

**Possess:**

- knowledge about choosing the optimal mode of physical activity depending on the morphofunctional status of patients;
- main rehabilitation interventions in different diseases;
- skills in working with medical documentation and scientific literature.

**2. Position of the academic discipline in the structure of the General Educational Program of Higher Education (GEP HE) of the organization.**

**2.1.** The discipline Medical Rehabilitation refers to the core part (or *the part formed by the participants of educational relations*) of Block 1 of GEP HE (Academic discipline index).

The discipline is taught in 7th and 8th semester /4<sup>th</sup> year of study.

**2.2. The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline:**

1. physics,

2. normal anatomy,
3. biochemistry,
4. normal physiology
5. pathological physiology,
6. physical culture and sports,
7. propaedeutics of internal diseases,
8. organization of hygienic education and upbringing of the population,
9. general hygiene

**2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:**

1. internal diseases,
2. neurology and medical genetics,
3. surgical diseases, pediatrics,
4. traumatology and orthopedics,
5. occupational diseases,
6. phthisiopulmonology.

**3. Deliverables of mastering the academic discipline and metrics of competence acquisition**

Mastering the discipline aims at acquiring the following universal (UC) or/and general professional (GPC) or/and professional (PC) competencies

№	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				know	be able to	possess
1.	PC-14	Willingness to determine the need for the use of natural healing factors, drug, non-drug therapy and other methods in patients in need of medical rehabilitation and spa treatment		Methods for determining the need for the use of natural healing factors, drug, non-drug therapy and other methods in patients in need of medical rehabilitation and spa treatment	Determine the indications for prescribing exercise therapy, physiotherapy, reflexology, and other non-drug therapy, use the main resort factors in the treatment of patients	Skills in the use of medical rehabilitation and sanatorium treatment in patients in need of rehabilitation

**4. Sections of the academic discipline and competencies that are formed when mastering them**

№	Competence code	Section name of the discipline	The content of the section in teaching units
	PC-14	General issues of rehabilitation. Methods and means of medical rehabilitation.	General principles of rehabilitation The order of organization of medical rehabilitation. Methods and means of medical rehabilitation. Features of examination in medical rehabilitation. Assessment of physical development. Goniometry. Assessment of the state of the musculoskeletal system. Evaluation of the functional state and rehabilitation capabilities of patients at the stages of medical rehabilitation. Functional stress tests. Definition of rehabilitation potential. The main scales and questionnaires used in medical rehabilitation. International concept of functioning, disability and health. International classification of functioning.
	PC-14	Fundamentals of physiotherapy. Therapeutic application of electromagnetic, mechanical and thermal factors in the system of medical rehabilitation.	Modern concepts of physiotherapy. Basic principles of therapeutic use of physical factors. Methods of therapeutic application of physiotherapeutic factors of direct and alternating current, pulsed electrotherapy. Indications and contraindications. Features of preparing a patient for procedures, an indicative basis for actions during the execution of procedures. Methods of therapeutic application of physiotherapeutic factors of high-frequency, ultra-high-frequency and microwave therapy. Magnetotherapy. Therapeutic application of mechanical factors of electromagnetic nature. Methods of therapeutic use of physiotherapeutic factors: optical radiation, artificial aerodisperse media. Water, mud, heat treatment. Spa treatment.
	PC-14	General principles of acupuncture.	General principles of acupuncture. Anatomical and physiological foundations of acupuncture and its methods.
	PC-14	General principles of exercise therapy. The place of exercise therapy in the system of medical rehabilitation.	General principles exercise therapy. Means of exercise therapy, features of the exercise therapy method. Schemes for constructing therapeutic gymnastics procedure. Classification of therapeutic exercises. Manifestations of immobilization (bed-rest) syndrome, changes in body systems. Exercise therapy for injuries of the musculoskeletal system with injuries of the limbs, with uncomplicated fractures of the spine. Massage. The mechanism of the effect of massage on the body. General rules of massage. Basic types and techniques of massage.
	PC-14	Features of medical rehabilitation of certain categories of patients and disabled people.	Medical rehabilitation of patients with respiratory diseases. Medical rehabilitation of patients with cardiovascular diseases. Medical rehabilitation of patients with diseases of the nervous system. Medical rehabilitation for injuries of the musculoskeletal system: limbs, uncomplicated fracture of the spine. Medical rehabilitation of patients with joint diseases, nonspecific neck and back pains.

### 5. Volume of the academic discipline and types of academic work

Type of educational work	Labor intensity		Labor intensity (AH) in semesters			
	volume in credit units (CU)	volume in academic hours (AH)	7	8		
Classroom work, including	2.4	88	66	22		
Lectures (L)	0.5	20	14	6		
Laboratory practicum (LP)*						
Practicals (P)	1.9	68	52	16		

Seminars (S)						
Student's individual work (SIW)	1.2	42	32	10		
Mid-term assessment						
credit/exam ( <i>specify the type</i> )	0.1	3.6	-	3.6		
TOTAL LABOR INTENSITY	3.7	133.6	98	35.6		

## 6. Content of the academic discipline

### 6.1. Sections of the discipline and types of academic work

№	Name of the section of the academic discipline	Types of academic work* (in AH)					total
		L	LP	P	S	SIW	
	General issues of rehabilitation. Methods and means of medical rehabilitation.	2		15		9	26
	Fundamentals of physiotherapy. Therapeutic application of electromagnetic, mechanical and thermal factors in the system of medical rehabilitation.	6		15		8	29
	General principles of acupuncture.	2				2	4
	General principles of physiotherapy exercises. The place of exercise therapy in the system of medical rehabilitation.	4		13		8	25
	Features of medical rehabilitation of certain categories of patients and disabled people.	6		25		15	46
	TOTAL	20		68		42	130

\* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

### 6.2. Thematic schedule of educational work types:

#### 6.2.1 Thematic schedule of lectures

№	Name of lecture topics	Volume in AH	
		semester 7	semester 8
1.	General principles of rehabilitation The order of organization of medical rehabilitation. Methods and means of medical rehabilitation.	2	
2.	International concept of functioning, disability and health. International classification of functioning.	2	
3.	General principles of acupuncture. Anatomical and physiological foundations of acupuncture and its methods.	2	
4.	Exercise therapy for injuries of the musculoskeletal system with injuries of the limbs.	2	
5.	Modern concepts of physiotherapy. Basic principles of therapeutic use of physical factors.	2	

6.	Methods of therapeutic application of physiotherapeutic factors of direct and alternating current, pulsed electrotherapy.	2	
7.	Methods of therapeutic use of physiotherapeutic factors: optical radiation, artificial aerodisperse media. Water, mud, heat treatment. Spa treatment.	2	
8.	Medical rehabilitation of patients with cardiovascular diseases.		2
9.	Medical rehabilitation for injuries of the musculoskeletal system: limbs, uncomplicated fracture of the spine.		2
10	Medical rehabilitation of patients with diseases of the nervous system.		2
	TOTAL (total - AH)	14	6

6.2.2. The thematic plan of laboratory practicums (*if this type of classes is stipulated in the curriculum*) not provided by the Federal State Educational Standard

№	Name of laboratory practicums	Volume in AH	
		semester	semester
	TOTAL (total - AH)		

6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH	
		semester 7	semester 8
1.	Methods and means of medical rehabilitation. Features of examination in medical rehabilitation. Assessment of physical development. Goniometry. Assessment of the state of the musculoskeletal system.	5	
2.	Evaluation of the functional state and rehabilitation capabilities of patients at the stages of medical rehabilitation. Functional stress tests.	5	
3.	Definition of rehabilitation potential. The main scales and questionnaires used in medical rehabilitation. International concept of functioning, disability and health. International classification of functioning.	5	
4.	Methods of therapeutic application of physiotherapeutic factors of direct and alternating current, pulsed electrotherapy. Indications and contraindications. Features of preparing a patient for procedures, an indicative basis for actions during the execution of procedures.	5	
5.	Methods of therapeutic application of	5	

	physiotherapeutic factors of high-frequency, ultra-high-frequency and microwave therapy. Magnetotherapy. Therapeutic application of mechanical factors of electromagnetic nature.		
6.	Methods of therapeutic use of physiotherapeutic factors: optical radiation, artificial aerodisperse media. Water, mud, heat treatment. Spa treatment.	5	
7.	Means of exercise therapy, features of the exercise therapy method. Schemes for constructing therapeutic gymnastics procedure. Classification of therapeutic exercises. Manifestations of immobilization (bed-rest) syndrome, changes in body systems.	5	
8.	Rehabilitation interventions. Massage. The mechanism of the effect of massage on the body. General rules of massage. Basic types and techniques of massage.	5	
9.	Medical rehabilitation of patients with joint diseases, nonspecific neck and back pains.	6	
10	Medical rehabilitation of patients with respiratory diseases.	6	
11	Medical rehabilitation of patients with cardiovascular diseases.		5
12	Medical rehabilitation for injuries of the musculoskeletal system: limbs, uncomplicated fracture of the spine.		5
13	Medical rehabilitation of patients with diseases of the nervous system.		6
	TOTAL (total - AH)	52	16

6.2.4. Thematic plan of seminars (if this type of classes is stipulated in the curriculum) not provided by the Federal State Educational Standard

№	Name of seminar topics	Volume in AH	
		semester	semester
	TOTAL (total - AH)		

6.2.5. Types and topics of student's individual work (SIW)

№	Types and topics of SIW	Volume in AH	
		semester 7	semester 8
	Work with literary and other sources of information on the section under study, including: - interactive	12	5
	Fulfillment of tasks provided for by the work program (individual) in the form of: - writing case histories; - abstracts, preparation of reports, speeches	4	3



	Preparation for participation in classes in an interactive form (role-playing and business games, game design, computer simulation, discussions)	3	
	Working with electronic educational resources hosted on the educational portal of the academy	10	5
	TOTAL (total - AH)	29	13

### 7. Types of assessment formats for ongoing monitoring and mid-term assessment

№	Semester No.	Types of control	Name of section of academic discipline	Competence codes	Assessment formats			
					types	number of test questions	number of test task options	
1.		Current monitoring	Control of mastering the topic	General issues of rehabilitation. Methods and means of medical rehabilitation.	PC-14	Test tasks	10	Computer testing (an option to create a random sampling method)
						situational task	1	5
			Control of mastering the topic	Fundamentals of physiotherapy. Therapeutic application of electromagnetic, mechanical and thermal factors in the system of medical rehabilitation.	PC-14	Test tasks	10	Computer testing (an option to create a random sampling method)
						situational task	1	5
			Control of mastering the topic	General principles of acupuncture.	PC-14	Test tasks	10	Computer testing (an option to create a random sampling method)
			Control of mastering the topic	General principles of exercise therapy. The place of exercise therapy in the	PC-14	Test tasks	10	Computer testing (an option to create a random sampling method)

			system of medical rehabilitation.		Practical skills	3	15	
			Control of mastering the topic	Features of medical rehabilitation of certain categories of patients and disabled people.	PC-14	Test tasks	10	Computer testing (an option to create a random sampling method)
			Monitoring the student's individual work	Features of medical rehabilitation of certain categories of patients and disabled people.	PC-14	interview	1	15
						Writing a medical case	1	15
2.		Mid-term assessment	Exam/ Credit			Test tasks	20	Computer testing (an option to create a random sampling method)

## 8. Educational, methodological and informational support for mastering the academic discipline (printed, electronic publications, the Internet and other network resources)

### 8.1. Key literature references

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Epifanov, V.A. Physical therapy : учебное пособие / V.A. Epifanov, A.V. Epifanov ; Epifanov V.A. ; Epifanov A.V. – Москва : ГЭОТАР-Медиа, 2022. – 576 с. – ISBN 978-5-9704-6795-4. – Текст : электронный. – <a href="https://www.studentlibrary.ru/book/ISBN9785970467954.html">https://www.studentlibrary.ru/book/ISBN9785970467954.html</a>	0	1
2	Medical rehabilitation : textbook / edited by A. V. Epifanov, E. E. Achkasov, V. A. Epifanov. - Москва : ГЭОТАР-Медиа, 2022. - 664 с. - ISBN 978-5-9704-6688-9. - Текст : электронный // ЭБС "Консультант студента" <a href="http://www.studmedlib.ru/book/ISBN9785970466889.html">http://www.studmedlib.ru/book/ISBN9785970466889.html</a>	0	0
3	Hovanskaya G.N. General principles of medical rehabilitation and physiotherapy : manual for the Medical Faculty for International Students (Course of studies in English) / Г. Н. Хованская ; Г. Н. Хованская. – Гродно : ГрГМУ, 2019. – 212 с. – ISBN 9789855950944. – Текст : электронный. –	0	0

	<a href="https://www.books-up.ru/ru/read/general-principles-of-medical-rehabilitation-and-physiotherapy-12068689/">https://www.books-up.ru/ru/read/general-principles-of-medical-rehabilitation-and-physiotherapy-12068689/</a>		
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## 8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
	Physical agents in rehabilitation: from research to practice / M. H. Cameron ; Cameron Michelle H. – Philadelphia : W.B. Saunders Company, 1999. – 490 с. : ил. мяг. – ISBN 0-7216-6244-7.	0	10
	Physical rehabilitation in arthritis / A. Helewa, J. M. Walker ; Walker Joan M. ; Helewa Antoine. – 2nd ed. – Saunders, 2004. – 414р. : тв. – ISBN 0-7216-9538-8.	0	1
	Physical rehabilitation outcome measures. A guide to enhanced clinical decision making / D. Brooks, E. Finch, N. E. Mayo, P. W. Stratford ; Finch Elspeth ; Brooks Dina ; Stratford Paul W. ; Mayo Nancy E. – 2nd ed. – Lippincott Williams & Wilkins, 2002. – 292 с. : мяг. + 1 диск (CD-Rom). – ISBN 0-7817-4241-2.	0	2
	Rehabilitation of the spine. A practitioner`s manual / C. Liebenson ; Liebenson Craig. – 2nd ed. – Philadelphia : Lippincott Williams & Wilkins, 2007. – 972 с. : ил. тв. + 1 электрон. диск (DVD-Rom).	0	1
	Bandy, W. D. Therapeutic exercise for physical therapist assistants / W. D. Bandy, B. Sanders ; Bandy William D. ; Sanders Barbara. – 2nd ed. – Philadelphia : Lippincott Williams & Wilkins, 2008. – 458 с. : ил. мяг. – ISBN 978-0-7817-9080-2.	0	1

## 8.3. Electronic educational resources for teaching academic subjects

### 8.3.1. Internal Electronic Library System of the University (IELSU)

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
	Internal electronic library system (VEBS)	Proceedings of the teaching staff of the Academy: textbooks and teaching aids, monographs, collections of scientific papers, scientific articles, dissertations, abstracts of dissertations, patents.	from any computer on the Internet, using an individual login and password [Electronic resource] - Access mode: <a href="http://95.79.46.206/login.php">http://95.79.46.206/login.php</a>	not limited

### 8.3.2. Electronic educational resources acquired by the University

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
	<a href="https://www.studentlibrary.ru/">https://www.studentlibrary.ru/</a>	Electronic database "Student Advisor" - 4444a full-text database that	from any computer on the Internet, using an	not limited

		includes textbooks and teaching aids, reference books, atlases, monographs, lecture courses, workshops on completed disciplines studied at universities and colleges.	individual login and password [Electronic resource] - Access mode: <a href="http://www.studmedlib.ru/">http://www.studmedlib.ru/</a>	
	<a href="http://www.books-up.ru/">http://www.books-up.ru/</a>	Electronic library system "Bukap" - Educational and scientific medical literature of Russian publishing houses, incl. translations of foreign publications.	from any computer on the Internet, using an individual login and password	not limited

### 8.3.3 Open access resources

<i>№</i>	<i>Name of the electronic resource</i>	<i>Brief description (content)</i>	<i>Access conditions</i>
	<a href="https://elibrary.ru/">https://elibrary.ru/</a>	Scientific electronic library eLIBRARY.RU The largest Russian information portal in the field of science, technology, medicine and education, containing abstracts and full texts of scientific articles and publications.	from any computer on the Internet
	<a href="https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health">https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health</a>	Online resources of ICF; checklist, guide, practical manner	from any computer on the Internet
	<a href="https://www.icf-research-branch.org/">https://www.icf-research-branch.org/</a>	Online resources with description of using ICF in rehabilitation management	from any computer on the Internet
	<a href="https://pubmed.ncbi.nlm.nih.gov/">https://pubmed.ncbi.nlm.nih.gov/</a>	PubMed® comprises more than 34 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full text content from PubMed Central and publisher web sites.	from any computer on the Internet
	<a href="https://pedro.org.au/">https://pedro.org.au/</a>	A free database of over 35,000 randomised trials, systematic reviews and clinical practice guidelines in physiotherapy.	from any computer on the Internet
	<a href="http://www.otseeker.com/">http://www.otseeker.com/</a>	OTseeker is a database that contains abstracts of systematic reviews, randomised controlled trials and other resources relevant to occupational therapy interventions.	from any computer on the Internet
	<a href="https://rehabrus.ru/">https://rehabrus.ru/</a>	Union of Rehabilitologists of Russia - Modern materials and clinical recommendations for medical rehabilitation	from any computer on the Internet

## 9. Material and technical support for mastering an academic discipline

### 9.1. List of premises for classroom activities for the discipline

1. *Audiences for lectures and practical classes: Institute of Traumatology and Orthopedics, room 71, Semashko Hospital, 1 block, 3 floor, room 302A*

2. *Therapeutic, neurological and traumatological departments, offices of departments of physical therapy, physiotherapy services, functional diagnostics services of Institute of Traumatology and Orthopedics and Semashko Hospital*

### 9.2. List of equipment for classroom activities for the discipline

1. *Multimedia complex*
2. *Centimeter tapes, scales, stadiometer*
3. *Information stands*
4. *Tonometers*
5. *Phonendoscopes*
6. *Medical documentation: medical history, outpatient card*

### 9.3. A set of licensed and freely distributed software, including domestic production

Item no.	Software	number of licenses	Type of software	Manufacturer	Number in the unified register of Russian software	Contract No. and date
1	Wtware	100	Thin Client Operating System	Kovalev Andrey Alexandrovich	1960	2471/05-18 from 28.05.2018
2	MyOffice is Standard. A corporate user license for educational organizations, with no expiration date, with the right to receive updates for 1 year.	220	Office Application	LLC "NEW CLOUD TECHNOLOGIES"	283	without limitation, with the right to receive updates for 1 year.
3	LibreOffice		Office Application	The Document Foundation	Freely distributed software	
4	Windows 10 Education	700	Operating systems	Microsoft	Azure Dev Tools for Teaching Subscription	
5	Yandex. Browser		Browser	«Yandex»	3722	
6	Subscription to MS Office Pro for 170 PCs for FGBOU VO "PIMU" of the Ministry of Health of Russia	170	Office Application	Microsoft		23618/HN10030 LLC "Softline Trade" from 04.12.2020

**10. List of changes to the working program (to be filled out by the template)**

Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation  
(FSBEI HE "PRMU" of the Ministry of Health of Russia)

Department of  
*Medical Rehabilitation*

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**CHANGE REGISTRATION SHEET**

working program for the academic discipline  
***NAME OF THE ACADEMIC DISCIPLINE***

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Field of study / specialty / scientific specialty: 31.05.01 GENERAL MEDICINE  
*(code, name)*

Training profile: \_\_\_\_\_  
*(name) - for master's degree programs*

Mode of study: FULL-TIME  
*full-time/mixed attendance mode/extramural*

Position	Number and name of the program section	Contents of the changes made	Effective date of the changes	Contributor's signature
1				

Approved at the department meeting  
Protocol No. \_\_\_\_\_ of \_\_\_\_\_ 20\_\_

Head of the Department

\_\_\_\_\_  
department name, academic title

\_\_\_\_\_  
signature

\_\_\_\_\_  
print name