

Federal State Autonomous Educational Institution of Higher Education  
«Peoples' Friendship University of Russia»

*Medical Institute*

Recommended MCSD

**SYLLABUS**  
(STUDY GUIDE)

**Subject**

**Medical Rehabilitation**

**Recommended for the direction of training (specialty)**

**31.05.01 General Medicine**

**Program (profile, specialization)**

**General Medicine**

### 1. Goals and objectives of the discipline:

The goal to form students' knowledge about the organizational and methodological foundations of rehabilitation, the principles of organizing the rehabilitation process, modern methods and means of medical rehabilitation, to provide a theoretical and practical basis for further study of clinical disciplines and practical activities.

### Objectives of the discipline:

- Give a clear idea of the possibilities of modern medical rehabilitation.
- Introduce you to the principles of organizing the rehabilitation process.

### 2. Place of the discipline in the structure of EP HE:

The discipline "Medical rehabilitation" belongs to the *basic* part of block 1 of the curriculum.

Table 1 shows the previous and subsequent disciplines aimed at the formation of the discipline's competencies in accordance with the matrix of competencies of the Higher Professional Education Department.

Table № 1

#### Previous and subsequent disciplines aimed at the formation of competencies

№ п/п	Code and title of competence	Previous disciplines	Following disciplines (groups of disciplines)
General Professional Competences			
	GPC-2	Biology; Biochemistry	Outpatient therapy; Anesthesiology, intensive care, Intensive care unit; Obstetrics and Gynecology
	GPC-4	Physics; Radiation diagnostics	Traumatology, orthopedics; Anesthesiology, resuscitation, intensive care unit; Oncology, whose pathology
	GPC-8	Urology	Faculty Surgery; Endoscopic Urology
	GPC-10	Pharmacology; General Surgery; Biostatistics; Seasonal diseases	Telemedicine, Oncology, Radiation therapy; Occupational diseases
Professional Competences (type of professional activity)			
	PC-4	Organization of special patient care; Pathophysiology, clinical pathophysiology; Epidemiology; Infectious Diseases; Pediatrics; Obstetrics and Gynecology General Medicine;	Polyclinic therapy; Disaster medicine; Forensic medicine; Temporary disability examination

### 3. Requirements for the results of mastering the discipline.

The process of studying the discipline is aimed at the formation of the following competencies:

Table № 2

Emerging competencies

Competences	Competence name	Indicators of achievement of competencies
GPC-2	Being able to monitor the effectiveness of preventive measures, healthy lifestyle formation and sanitary and hygienic education of the population	<p>GPC-2.1. Being able to analyse the awareness of the population of a healthy lifestyle and medical literacy.</p> <p>GPC-2.2. Being able to develop a plan of organizational and methodical measures aimed at increasing the awareness of the population of a healthy lifestyle, its literacy concerning disease prevention issues.</p> <p>GPC-2.3. Being able to prepare an oral presentation or a printed text which promote a healthy lifestyle and increase the population's literacy concerning disease prevention issues.</p>
GPC-4	Being able to use medical devices provided for by the procedure for medical care, and conduct patient examinations in order to determine a diagnosis	<p>GPC-4.1. Being able to use medical devices in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, care taking into account the medical care standards.</p> <p>GPC-4.2. Being able to assess the effectiveness and safety of medical devices.</p> <p>GPC-4.3. Mastering the technique of performing typical medical procedures using medical devices provided for by the procedures for medical care provision.</p>
GPC-8	Being able to implement and monitor the efficacy of medical rehabilitation of a patient, including when implementing individual rehabilitation and habilitation programmes for persons with disabilities; assess the patient's ability to work	<p>GPC-8.1. Being able to determine the medical indications for medical rehabilitation measures, including when implementing an individual rehabilitation or habilitation programme for persons with disabilities.</p> <p>GPC-8.2. Being able to carry out measures of medical rehabilitation of a patient in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the medical care standards.</p> <p>GPC-8.3. Being able to determine medical specialists for carrying out rehabilitation measures to a patient in need of medical rehabilitation taking into account the diagnosis and in accordance with the current procedures for the provision of medical care.</p> <p>GPC-8.4. Being able to prescribe sanatorium-resort therapy to a patient in need of medical rehabilitation, including when implementing an individual rehabilitation or habilitation programme for persons with disabilities.</p>

		<p>GPC-8.5. Being able to monitor the implementation of rehabilitation measures and evaluate their efficacy and safety, including when implementing an individual programme for the rehabilitation or habilitation of persons with disabilities, taking into account the diagnosis in accordance with the current procedures for the provision of medical care.</p>
GPC-10	<p>Being able to understand the operation principles of modern IT and use them to solve professional tasks</p>	<p>GPC-10.1. Being able to use information technology in professional activity.  GPC-10.2 Being able to observe the information security rules in professional activity.  GPC-10.3. Being able to use information and communication technologies, including applied software for general and special purposes in dealing with professional tasks.</p>
PC-4	<p>Being able to implement and monitor the patient's medical rehabilitation efficacy, including when implementing individual rehabilitation and habilitation programmes for persons with disabilities; assess the patient's ability to work</p>	<p>PC-4.1. Being able to conduct an examination of temporary disability and work as part of a medical commission which examines temporary disability.  PC-4.2. Being able to prepare necessary medical documentation to carry out medical and social examination in federal state institutions of medical and social examination.  PC-4.3. Being able to carry out medical rehabilitation measures for a patient, including when implementing an individual rehabilitation or habilitation programme for persons with disabilities, in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.  PC-4.4. Being able to refer a patient who needs medical rehabilitation to a medical specialist so that they prescribe and carry out medical rehabilitation measures, including when implementing an individual rehabilitation or habilitation programme for persons with disabilities, in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on provision of medical care taking into account the standards of medical care.  PC-4.5. Being able to refer a patient who needs medical rehabilitation to a medical specialist so that they prescribe and carry out sanatorium treatment, including when implementing an individual rehabilitation or habilitation programme for persons with disabilities, in accordance with the current procedures for the provision of medical care, clinical guidelines</p>

		<p>(treatment protocols) on the provision of medical care taking into account the standards of medical care.</p> <p>PC-4.6. Being able to assess the efficacy and safety of medical rehabilitation measures for a patient in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.</p> <p>PC-4.7. Being able to refer a patient with a persistent bodily dysfunction caused by diseases, the consequences of trauma or defects to a medical and social examination.</p>
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As a result of studying the discipline, a student must:

***Know:***

- forms of organization of the rehabilitation process
- main provisions of the legal framework for rehabilitation,
- types of rehabilitation, modern methods and means of medical rehabilitation
- characteristics and biophysical mechanisms of action of therapeutic factors used by methods of medical rehabilitation maintaining standard accounting and reporting medical documentation for medical rehabilitation.

***Be able to:***

- use educational, scientific and popular science literature, the Internet and the training portal for professional activities
- assess the patient's condition
- collect information about the patient's condition and analyze it
- evaluate subjective indicators (patient complaints), objectivity (symptoms of the disease) and data from laboratory and instrumental research methods (measurement of blood pressure, pulse, respiratory rate, body temperature, blood glucose level by express methods) during rehabilitation activities,
- evaluate the results of tests with physical activity special functional tests in patients (Martinet, Genci, Stange tests, orthostatic test, etc.)

***Own:***

- special terminology;
- basic technologies of information search and transformation, including the use of educational resources;
- the technique of anthropometric research
- skills of monitoring the dynamics of functional indicators of the cardiovascular and respiratory systems
- the technique of acupressure
- the elements of respiratory gymnastics
- the elements of physical therapy

- the technique of conducting functional tests (Martinet, Genchi, Barbell, orthostatic test, etc.)

#### 4. Scope of the discipline and types of academic work.

General credit value of the discipline is **3 credit units**.

Type of academic work	Total hours	Semesters			
		7			
<b>Class hours (total)</b>	<b>72</b>	<b>72</b>			
Including:	-	-		-	-
<i>Lectures</i>					
<i>Practical training (PT)</i>	72	72			
<i>Seminars (S)</i>					
<i>Laboratory research (LR)</i>					
Independent work (total)	<b>36</b>	<b>36</b>			
Total labor input	hours	<b>108</b>	<b>108</b>		
	credit unit	<b>3</b>	<b>3</b>		

#### 5. Content of the discipline

##### 5.1. The content of the discipline sections

№ п/п	Name of the section of discipline	Contents of the section
1.	Organizational and methodological foundations of rehabilitation	Definition of the concept of rehabilitation. Concepts of disorders, disability, and social insufficiency. Types of rehabilitation, their goals and objectives. Medical rehabilitation. Habilitation. Rehabilitation program. Rehabilitation potential. Rehabilitation prognosis. Principles of organization of the rehabilitation process. Stages of medical rehabilitation. Organizational approaches and staffing of the rehabilitation process.
2.	Medical aspects of disability	Concepts of disabled person, disability. The concept of "disability". Primary, secondary, and tertiary physical disabilities. Classification of disability. Disability groups. Features (risk groups) of persons with disabilities.
3.	Features of medical rehabilitation of patients of different age groups	Children's rehabilitation. Current trends and assessments of children's health. Features of the child's body that must be taken into account when organizing and conducting the rehabilitation process. The main categories of vital activity of the body, which are based on the medical and social expertise of persons under the age of 1-8 years. Anatomical, physiological and psychological characteristics of patients of older age groups. Problems elderly and senile people. Types of personality adaptation to old age. Special feature of rehabilitation of patients of older age groups. General rules of communication with sick people and disabled people.

4.	Means and methods of medical rehabilitation	<p>Means of medical rehabilitation. Medical support of the rehabilitation process. Means of psychological rehabilitation. Technical means of rehabilitation. Reconstructive surgery. Physical therapy. The concept of physical therapy. External physical factors used in physical therapy. Natural and preformed healing factors. Mechanism of therapeutic action of physiotherapy. Common contraindications. Safety precautions when working in the physiotherapy department (office). Classification, types and forms of physical therapy. Classification of motor modes. Features and evaluation of functional examination of patients before and after exercise therapy in different motor modes. Ergotherapy Basics of medical massage. Basic techniques. Indications and contraindications. Fundamentals of reflexology. Mechanism of therapeutic action. Methods of reflexology. The technique of acupressure. Indications and contraindications. Features of reflexotherapy in the elderly, senile age and long-livers. Mechanism of therapeutic action and methods of hirudotherapy. Indications and contraindications. Technique of hirudotherapy. Possible complications. Mechanism of therapeutic action of herbal medicine. Features of the method of herbal medicine. Indications and contraindications. Mechanism of therapeutic action of apitherapy. Indications, contraindications. The mechanism of therapeutic action of aromatherapy. Methods of aromatherapy. Indications and contraindications. Climatotherapy. Factors of climate therapy. Climates. Climatic resorts. Aerotherapy. Mechanism of therapeutic action of aerotherapy. Methods. Heliotherapy. The mechanism of therapeutic action of heliotherapy. Forms of heliotherapy sessions. Indications and contraindications. Thalassotherapy. Mechanism of therapeutic action of thalassotherapy. The concept of "cold load". Indications and contraindications for thalassotherapy. Speleotherapy. Microclimatic features of natural caves and salt mines. The mechanism of therapeutic action of speleotherapy. Indications and contraindications. Peloidotherapy. Classification of peloids. The mechanism of therapeutic action of peloid therapy. Methods. Indications and contraindications. Balneotherapy. Composition and classification of the miner.mineral waters. Mechanism of</p>
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		action balneotherapy, Types of balneotherapy. Indications and contraindications. Rules for receiving mineral waters.
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## 5.2. Sections of disciplines and types of classes

№ п/п	Name of the section of discipline	L	PC	LR	S	Ssgw	Total hours
1.	Organizational and methodological foundations of rehabilitation		12			4	16
2.	Medical aspects of disability		12			6	18
3.	Features of medical rehabilitation of patients of different age groups		18			10	28
4.	Means and methods of medical rehabilitation		30			16	46
	<b>TOTAL</b>		<b>72</b>			<b>36</b>	<b>108</b>

## 6. Laboratory training (if available)

*Not foreseen*

## 7. Practical training (seminars) (if available)

№ п/п	№ discipline section	Themes of practical training (seminars)	Labour intensity (hours)
1.	Organizational and methodological foundations of rehabilitation	Definition of the concept of rehabilitation. Concepts of disorders, disability, and social insufficiency. Types of rehabilitation, their goals and objectives. Medical rehabilitation. Habilitation. Rehabilitation program. Rehabilitation potential. Rehabilitation prognosis. Principles of organization of the rehabilitation process. Stages of medical rehabilitation. Organizational approaches and staffing of the rehabilitation process".	12
2.	Medical aspects of disability	Concepts of disabled person, disability. The concept of "disability". Primary, secondary, and tertiary physical disabilities. Classification of disability. Disability groups. Features (risk groups) of persons with disabilities.	12
3.	Features of medical rehabilitation of patients of different age groups	Children's rehabilitation. Current trends and assessments of children's health. Features of the child's body that must be taken into account when organizing and conducting the rehabilitation process. The main categories of vital activity of the body, which are described in the medical and social expertise of individuals, under 18 years of age. Anatomophysiological and psychological features of patients of older age groups. Problems of the elderly and senile age. Types of personality adaptation to old age. Special feature of rehabilitation of patients of older	18

		age groups. General rules of communication with sick people and disabled people.	
4.	Means and methods of medical rehabilitation	<p>Means of medical rehabilitation. Medical support of the rehabilitation process. Means of psychological rehabilitation. Technical means of rehabilitation. Reconstructive surgery. Physical therapy. The concept of physical therapy. External physical factors used in physical therapy. Natural and preformed healing factors. Mechanism of therapeutic action of physiotherapy. Common contraindications. Safety precautions when working in the physiotherapy department (office). Classification, types and forms of physical therapy. Classification of motor modes. Features and evaluation of functional examination of patients before and after exercise therapy in different motor modes. Ergotherapy Basics of medical massage. Basic techniques. Indications and contraindications. Fundamentals of reflexology. Mechanism of therapeutic action. Methods of reflexology. The technique of acupuncture. Indications and contraindications. Features of reflexotherapy in the elderly, senile age and long-livers. Mechanism of therapeutic action and methods of hirudotherapy. Indications and contraindications. Technique of hirudotherapy. Possible complications. Mechanism of therapeutic action of herbal medicine. Features of the method of herbal medicine. Indications and contraindications. Mechanism of therapeutic action of apitherapy. Indications, contraindications. The mechanism of therapeutic action of aromatherapy. Methods of aromatherapy. Indications and contraindications. Climatotherapy. Factors of climate therapy. Climates. Climatic resorts. Aerotherapy. Mechanism of therapeutic action of aerotherapy. Methods. Heliotherapy. The mechanism of therapeutic action of heliotherapy. Forms of heliotherapy sessions. Indications and contraindications. Thalassotherapy. Mechanism of therapeutic action of thalassotherapy. The concept of "cold load". Indications and contraindications for thalassotherapy. Speleotherapy. Microclimatic features of natural caves and salt mines. The mechanism of therapeutic action of speleotherapy. Indications and contraindications. Peloidotherapy. Classification of peloids. The mechanism of therapeutic action of peloid therapy. Methods. Indications and contraindications. Balneotherapy. Composition and classification of the miner.mineral waters. Mechanism of action balneotherapy, Types of</p>	30

		balneotherapy. Indications and contraindications. Rules for receiving mineral waters.	
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## 8. Material and technical support of the discipline:

The following components of the RUDN University material and technical base are used:

- classroom fund, material and technical fund, library fund Lecture hall, classrooms, operating rooms and intensive care units on clinical bases for conducting practical classes in the **Vinogradov State Clinical Hospital, Federal Research Center of Resuscitation and Rehabilitation.**

## 9. List of information technologies

### Information support of the discipline

**a) software:** licensed software. Internet sites corresponding to individual topics of the discipline, resources of the electronic library of the university d) databases, information and reference systems and search engines.

### b) databases, information and reference systems and search engines

1. RUDN University Electronic Library system – EBS RUDN University <http://lib.rudn.ru/MegaPro/Web>
2. University Library Online <http://www.biblioclub.ru>
3. EBS Yurayt <http://www.biblio-online.ru>
4. NEB Elibrary <http://elibrary.ru>
5. Student Advisor [www.studentlibrary.ru](http://www.studentlibrary.ru)
6. EBS "Lan" <http://e.lanbook.com/>
7. Meduniver medical portal. It contains a medical photo atlas, videos on various sections of medicine, and a medical electronic library <http://meduniver.com/>
8. Russian Anesthesia Server **Rusanesth.com**
9. State Central Medical Library of the I. M. Sechenov Moscow State Medical University **Scsml.rssi.ru**

## 9. Educational and methodological support of the discipline:

### a) basic literature

- Eremushkin MA. Fundamentals of rehabilitation. Textbook-M.: Publishing Center "Academy", 2014. - 208 p.
- Korolev A. A., Sobolevskaya Yu. A., Rudakova SM., Kukelev Yu. V., Kamaeva A.V., Shipulina G. V., Martynyuk MD. Meditsinskaya reabilitatsiya: uchebnoe posobie [Medical rehabilitation: a textbook]. the center is in an emergency. and radiats. A. M. Nikiforov Ministry of Emergency Situations of Russia. Saint Petersburg: Politechnika — service Publ., 2014, 184 p. (in Russian)
- Ponomarenko G. N. Fizioterapiya: natsionalnoe rukovodstvo [Physical therapy: a national guide], Moscow: GEOTAR-Media Publishing Group, 2014, 864 p.
- Popov S. N. Physical rehabilitation. In 2 tons. Study guide for students institutions of higher medical Prof. educational institutions. Vol. 1. - Moscow: Publishing center "Akademiya", 201 p. - 288s.

- Popov S. N. Physical rehabilitation. In 2 tons. Study guide for students institutions of higher medical Prof. educational institutions. Vol. 2. - M.: Publishing center "Academy", 2013. - 304s.

**b) additional literature**

- Bogolyubov V. M. Medical rehabilitation. Kniga-Moscow: Binom Publishing House, 2010. -416 p.
- Bogolyubov V. M. Medical rehabilitation. Kniga P-M.: Binom Publishing House, 2010. - 424 p.
- Bogolyubov V. M. Medical rehabilitation. ILI Book-Moscow: Binom Publishing House, 2010. - 368 p.
- Agasarov L. G. Technologies of rehabilitation treatment in dorsopathies. Moscow: Vuzovsky uchebnyk: INFRA-M, 2010, 96 p. (in Russian).
- Zhernov V. A., Zubarkina M. M. Medical rehabilitation. Hirudotherapy and hirudoreflexotherapy. Uchebnoe posobie [Textbook], Moscow: RUDY Publishing House, 2013, 53 p. (in Russian).
- Zhernov V. A., Zubarkina M. M. Hirudotherapy as a corrective technology of restorative medicine. Uchebnoe posobie [Textbook], Moscow: RUDN Publishing House, 2006, 55 p. (in Russian).
- Zhernov V. A. Restorative medicine. Reflexology. Training manual. Moscow: RUDN Publishing House, 2004, 53 p. (in Russian).

**11. Methodological guidelines for students on mastering the discipline "Medical rehabilitation".**

The training of students contributes to the development of communication skills with the patient, taking into account the ethical and deontological features of pathology and patients.

The student is required to attend classes, complete tasks of the head of the discipline, get acquainted with the recommended literature, etc. When certifying a student, the quality of work in the classroom, the level of preparation for independent activity in the chosen field, the quality of performing tasks of the discipline leader, and the ability to independently study educational material are evaluated.

During practical classes in classrooms, relevant topics are analyzed using multimedia equipment (computer, projector).

Independent work during extracurricular hours can take place both in the classrooms of the department and in the computer class, where students can study material based on presentations prepared by the department's teachers, as well as on computer tests.

Presentations on class topics can be recorded on CD-ROMs or flash cards for students to work independently on their home computer.

Textbooks in electronic form on a number of topics under study are available on the pages of the department and department staff on the RUDN University Educational Portal, as well as on local resources of the RUDN University electronic library system.

Independent work planned academic, research, and research work of students performed during extracurricular (classroom) hours on assignment and with the methodical guidance of the

teacher, but without his direct participation (with partial direct participation of the teacher, who leaves the leading role for the work of students).

As one of the forms of independent work, it is planned to prepare notes on various sections of the course, as well as present reports at the permanent scientific seminar of the department.

Extracurricular independent work includes:

- study of the material on the textbook, textbooks on paper and electronic media;
- preparation of an abstract message on a selected topic; preparation for performing control works and test tasks.

## **12. Fund of assessment funds for conducting intermediate certification of students in the discipline "Medical rehabilitation"**

Materials for assessing the level of development of the educational material of the discipline "Medical Rehabilitation", including a list of competencies indicating the stages of their formation, a description of indicators and criteria for evaluating competencies at various stages of their formation, a description of assessment scales, standard control tasks or other materials necessary for assessing knowledge, skills, abilities and (or) experience of activities that characterize the stages of competence formation in the process of mastering the educational program, methodological materials that determine the procedures for evaluating knowledge, skills, abilities and (or) experience of activities that characterize the stages of competence formation, developed in full and available for students on the disciplines page of the RUDN University TUIS.

The program is compiled in accordance with the requirements of the FSES HE.

### **Developers:**

Assistant Professor

Department of Anesthesiology and Resuscitation  
with Medical Rehabilitation course

V.A. Moroz

Head of the Department

Department of Anesthesiology and Resuscitation  
with Medical Rehabilitation course

M.V. Petrova

**Head of Program**

**I.V. Radysh**