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Federal State Budget Educational Institution  
of Higher Education  
Pacific State Medical University  
of the Ministry of Health of the Russian Federation

APPROVED BY

Director of the Institute of Therapy (Internal  
Medicine) and Instrumental Diagnostics

\_\_\_\_\_/ Nevzorova V.A  
"2nd" of April 2026

## SUBJECT GUIDE FOR TEACHERS AND STUDENTS FOR

### B1.C.53 Clinical functional diagnostics

(Name of discipline)

**Specialty**

**31.05.01 General Medicine (English-  
language program)**

(code, name)

**Degree**

Specialist's degree

**Profile**

02 "Healthcare"

(in the field of providing primary health care to the  
population in medical organizations: polyclinics,  
outpatient clinics, inpatient/outpatient facilities of the  
municipal health care system)

**Mode of study**

**Full-time**

**Period of mastering the BEP**

**6 years**

(nominal length of study)

**Institute**

of Therapy (Internal Medicine) and  
Instrumental Diagnostics

Subject guide for teachers and students for **B1.C.53 Clinical functional diagnostics** is based on:

1) Federal State Educational Standard of Higher Education for the specialty approved by the Order No. 988 of Ministry of Science and Higher Education of the Russian Federation dated August 12, 2020.

2) Curriculum for the 31.05.01 General Medicine (English-language program), profile 02 "Healthcare" (in the field of providing primary health care to the population in medical organizations: polyclinics, outpatient clinics, inpatient/outpatient facilities of the municipal health care system), approved by the Academic Council of FSBEI HE PSMU of the Ministry of Health of Russia, Report No. 1-7/25-26 dated March 27, 2026.

Subject guide for teachers and students for **B1.C.53 Clinical functional diagnostics** was developed by the writing team of the Institute of Therapy (Internal Medicine) and Instrumental Diagnostics of the FSBEI HE PSMU of the Ministry of Health of Russia, under the guidance of the director of the Institute, Doctor of Medical Sciences, Professor Nevzorova V.A.

**Developed by:**

|                          |                                                       |                      |
|--------------------------|-------------------------------------------------------|----------------------|
| Assistant Professor      | Candidate of Medical                                  | Rodionova L.V.       |
| _____<br>(position held) | _____<br>Science<br>(academic degree, academic title) | _____<br>(full name) |

## 1. GENERAL PROVISIONS

Subject guide for **B1.C.53 Clinical functional diagnostics** is a set of recommendations and explanations that facilitate to optimal organization of mastering this discipline.

Regular analysis of lecture materials and work with end-of-the-text questions are necessary for better understanding of the material and systematization of knowledge of **B1.C.53 Clinical functional diagnostics**. Particular attention should be paid to emerging questions, confusing terms, and conflicts of points of view during the independent review of the lecture material. If necessary, a student should contact the teacher for advice. Lecture material streamlines students' thinking, while practical classes provide deeper insight into the material of the discipline.

Special attention should be paid to the content of the main provisions and conclusions, explanation of phenomena and facts, and clarification of the practical application of theoretic aspects of topic when preparing for a practical class. During this process students should aim to understand and remember the main provisions of the material under consideration, examples provided, as well as understand the illustrative material.

Collections of assessment tools are used to organize independent study of topics of **B1.C.53 Clinical functional diagnostics**.

Independent work of students is facilitated by the following:

1. availability and accessibility of the necessary educational and reference material;
2. a system of regular quality control of completed independent work;
3. availability of teacher's advice.

Subject guides for self-study are presented as literary sources. Subject guides for independent work of students include a list of library resources of the educational institution and other materials accessible to students.

Independent work is a type of in-person extracurricular work of teachers and students of **B1.C.53 Clinical functional diagnostics**. Control of independent work is conducted by the leading teacher. Evaluation of independent work results is taken into account when conducting interim examination of students throughout the **B1.C.53 Clinical functional diagnostics** course.

Continuous assessment during **B1.C.53 Clinical functional diagnostics** course is implemented in order to check indicators of achieving competencies, to stimulate students' academic work, and improve methods of mastering new knowledge. Continuous assessment during **B1.C.53 Clinical functional diagnostics** course is conducted during the semester to assess all types and sections of the academic discipline that encompass the competencies developed by the discipline: classroom questioning, conducting discussions, working with tests, preparing reports. Continuous assessment of students' knowledge and results of their preparation for practical classes is conducted during every class session.

Interim assessment aims to determine the level of mastery of competency indicators. It is conducted in the pass/fail test format after the student has mastered all sections of **B1.C.53 Clinical functional diagnostics** and takes into account learning outcomes for all types of student work over the entire period of mastering **B1.C.53 Clinical functional diagnostics** course.

Time allotted for interim assessment is indicated in the schedule.

Assignments given during practical classes, as well as assignments aimed to prepare students for continuous and interim assessment, are included in the collection of assessment tools for **B1.C.53 Clinical functional diagnostics**. If necessary, students should contact the teacher for advice. It is necessary to thoroughly think over questions that need clarification before seeking teacher's advice.

## 2. SUBJECT GUIDES FOR LECTURE CLASSES

Table 1. Subject Guides for **B1.C.53 Clinical functional diagnostics** Lectures

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>Topic No.1 Functional diagnostics as a discipline, its goals and objectives. History and main sections</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| Duration of the lecture (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2 |
| Purpose of the lecture:<br>1. tell students about the goals, objectives, sections of functional diagnostics, and the history of its origin;<br>2. define the concept of functional diagnostics;<br>3. examine the methods used for the functional assessment of the state of the cardiovascular, bronchopulmonary, nervous, and other systems.                                                                                                                                                                                                                     |   |
| Lecture plan, order of presentation of its sections: <ul style="list-style-type: none"> <li>- Functional diagnostics as a discipline</li> <li>- Objectives</li> <li>- Aims of functional diagnostics</li> <li>- History of origin</li> <li>- Sections of functional diagnostics</li> <li>- Main methods used in functional diagnostics</li> </ul>                                                                                                                                                                                                                  |   |
| Recommended literature<br>1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4.<br><a href="https://www.studentlibrary.ru/book/ISBN9785970491744.html">https://www.studentlibrary.ru/book/ISBN9785970491744.html</a> .<br>2. Standardization of Spirometry. P.V. Struchkov. GEOTAR-Media, 2019.<br><a href="https://www.studentlibrary.ru/book/MIF003385.html">https://www.studentlibrary.ru/book/MIF003385.html</a>                                                                        |   |
| <b>Topic No.2 Fundamentals of functional diagnostics of the respiratory system. Spirometry. Body plethysmography and other respiratory system examination methods</b>                                                                                                                                                                                                                                                                                                                                                                                              |   |
| Duration of the lecture (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2 |
| Purpose of the lecture:<br>1. tell students about functional diagnostics of the respiratory system, the main methods of studying the function of external respiration;<br>2. define the concept of external respiration, spirometry, body plethysmography;<br>3. examine the methods of studying the function of external respiration, the main indications, the methodology of implementation, contraindications and limitations.                                                                                                                                 |   |
| Lecture plan, order of presentation of its sections: <ul style="list-style-type: none"> <li>- Anatomy and physiology of the bronchopulmonary system</li> <li>- Respiratory volumes</li> <li>- Spirometry. Principles of the method, spirometry technique, main indications and interpretation of results</li> <li>- Body plethysmography. Principles of the method, spirometry technique, main indications and interpretation of results</li> <li>- Pulse oximetry</li> </ul>                                                                                      |   |
| Recommended literature<br>1. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V. Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL: <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a> .<br>2. Standardization of spirometry. P.V. Struchkov. GEOTAR-Media, 2019.<br><a href="https://www.studentlibrary.ru/book/MIF003385.html">https://www.studentlibrary.ru/book/MIF003385.html</a> |   |

**Topic No.3 Fundamentals of normal electrocardiography. Registration techniques. ECG analysis. Conclusions. ECG in ACS with and without ST segment elevation. ECG in rhythm and conduction disorders**

Duration of the lecture (in academic hours):

2

Purpose of the lecture:

1. tell students about the basics of a normal ECG, the methods of ECG recording, the methods of ECG interpretation, and the formation of conclusions;
2. define acute coronary syndrome with and without ST segment elevation;
3. examine the electrocardiography method and the main changes on the ECG in ACS, rhythm and conduction disorders.

Lecture plan, order of presentation of its sections:

- ECG. The essence of the method. The concept of vectors. Determining the electrical axis of the heart
- ECG registration technique, ECG registration according by Neb and Slepak
- ECG analysis scheme
- Methodology for constructing ECG conclusions
- ECG in ACS with and without ST segment elevation. The main diagnostic ECG criteria
- ECG changes in rhythm and conduction disorders

Recommended literature

1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4.  
<https://www.studentlibrary.ru/book/ISBN9785970491744.html>.
2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg.: VolgGMU, 2005. - 98 p. URL: <https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020>

**Topic No.4 Holter ECG monitoring and 24-hour blood pressure monitoring. Indications. Research methodology and devices. Analysis. Making conclusions**

Duration of the lecture (in academic hours):

2

Purpose of the lecture:

1. tell students about the Holter ECG monitoring method and ABPM;
2. define the main recorded and assessed parameters during Holter ECG and ABPM;
3. examine the Holter ECG and ABPM methods, the main indications for their implementation, and contraindications.

Lecture plan, order of presentation of its sections:

- Holter ECG monitoring. Method capabilities. Indications. Devices
- Interpretation of results, drawing conclusions based on Holter ECG
- ABPM. Method capabilities. Indications. Devices
- Interpretation of results, drawing conclusions based on ABPM

Recommended literature

1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4.  
<https://www.studentlibrary.ru/book/ISBN9785970491744.html>.
2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg.: VolgGMU, 2005. - 98 p. URL: <https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020>.

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>Topic No.5 Echocardiography basics. Indications. Examination methodology, modes and approaches, positions. Analysis of key indicators. Making conclusions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| Duration of the lecture (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2 |
| Purpose of the lecture:<br>1. tell students about the method of echocardiographic examination, the main modes, approaches, positions;<br>2. define main indicators used when conducting echocardiography;<br>3. examine the methodology for constructing conclusions on echocardiography.                                                                                                                                                                                                                                                                                                                                |   |
| Lecture plan, order of presentation of its sections: <ul style="list-style-type: none"> <li>- Anatomy and physiology of the cardiovascular system</li> <li>- The echocardiography method. History of its development. Principles of the method. Indications for its implementation</li> <li>- Research methodology, modes and approaches, positions</li> <li>- Analysis of the main indicators</li> <li>- Drawing conclusions</li> </ul>                                                                                                                                                                                 |   |
| Recommended literature<br>1. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V. Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL: <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a><br>2. Point of Care Ultrasound, 2nd Edition [English electronic textbook]. Soni, Arntfield Kory. Elsvir:2019. <a href="https://www.books-up.ru/ru/book">https://www.books-up.ru/ru/book</a>                                                           |   |
| <b>Topic No.6 Stress testing in cardiology. Types of stress tests. Indications. Contraindications. Methodology. Analysis and conclusions. Functional diagnostics of ACS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |
| Duration of the lecture (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2 |
| Purpose of the lecture:<br>1. tell students about the types of stress tests in cardiology (bicycle ergometry, treadmill test, stress echocardiography, etc.), indications and contraindications;<br>2. define the main indicators used when conducting stress tests in cardiology;<br>3. examine the methods of bicycle ergometry, treadmill test, and stress echocardiography.                                                                                                                                                                                                                                          |   |
| Lecture plan, order of presentation of its sections: <ul style="list-style-type: none"> <li>- Stress tests in cardiology (types, test methods)</li> <li>- Indications and contraindications</li> <li>- Analysis and conclusions</li> <li>- Functional diagnostics of ACS</li> </ul>                                                                                                                                                                                                                                                                                                                                      |   |
| Recommended literature<br>1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4. <a href="https://www.studentlibrary.ru/book/ISBN9785970491744.html">https://www.studentlibrary.ru/book/ISBN9785970491744.html</a> .<br>2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg. : VolgGMU, 2005. - 98 p. URL: <a href="https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020">https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020</a> |   |
| <b>Topic No.7 Electroencephalography. Indications. Examination methodology. Normal EEG. General cerebral, local, and other pathological changes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| Duration of the lecture (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Purpose of the lecture:<br>1. tell students about the main modes and indicators assessed during an EEG, and the methodology for conducting it;<br>2. define electroencephalography;<br>3. examine methods for studying the function of the nervous system.                                                                                                                                                                                                                                              |
| Lecture plan, order of presentation of its sections:<br>- Electroencephalography. Principles of the method. Indications<br>- Research methodology<br>- Normal EEG parameters<br>- EEG in pathology. General cerebral, local and other pathological changes                                                                                                                                                                                                                                              |
| Recommended literature<br>1. Principles of internal medicine [English electronic textbook] T.R. Harrison et al. 21th edition- McGrawHill LLC, 2022.- p.4132<br>2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a> |

### 3. SUBJECT GUIDES FOR PRACTICAL CLASSES

Table 2. Subject Guides for Practical **B1.C.53 Clinical functional diagnostics** Classes

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>Topic No.1 Functional diagnostics as a discipline, goals, and objectives. Clinical functional diagnostics. Main sections</b>                                                                                                                                                                                                                                                                                                                                                                                                          |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge of the anatomy and physiology of the cardiovascular, respiratory, and nervous systems;<br>2. during the discussion, outline the main goals and objectives of the discipline of functional diagnostics;<br>3. thoroughly go over definitions and concepts of functional examination methods;<br>4. describe patterns of development and formation of the functional diagnostics field<br>5. develop clinical thinking when conducting functional diagnostic methods. |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                  |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                  |   |
| Recommended reading:<br>1. History of Medicine : textbook / Yu. P. Lisitsyn - M. : GEOTAR-Media, 2020. - 350, [1] p.<br>2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a>                                                                         |   |
| <b>Topic No.2 Functional diagnostics. History of origin and development</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge on the history of medicine;                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |

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| 2. during the discussion, outline the main stages in the development of functional diagnostics;<br>3. thoroughly go over the definitions and concepts of the main methods used in functional diagnostics;<br>4. describe patterns of emergence and development of functional diagnostics;<br>5. form an idea of the periods of development of functional diagnostics.                                                                                                                                                                                             |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                           |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| Recommended reading:<br>1. History of Medicine : textbook / Yu. P. Lisitsyn - M. : GEOTAR-Media, 2020. - 350, [1] p.<br>2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V<br>Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a>                                                                                               |   |
| <b>Topic No.3 Functional diagnostics of the respiratory system. Methods for conducting research and assessing respiratory function, and preparing the patient for examinations</b>                                                                                                                                                                                                                                                                                                                                                                                |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge of the anatomy and physiology of the respiratory system;<br>2. during the discussion, outline the main indications and contraindications for prescribing methods for assessing respiratory function;<br>3. thoroughly go over definitions and concepts of spirometry and plethysmography;<br>4. describe patterns of drawing conclusions when conducting methods for assessing respiratory function;<br>5. improve clinical thinking skills.                                                 |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                           |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| Recommended reading:<br>1. Standardization of Spirometry. P.V. Struchkov. GEOTAR-Media, 2019.<br><a href="https://www.studentlibrary.ru/book/MIF003385.html">https://www.studentlibrary.ru/book/MIF003385.html</a><br>2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V<br>Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a> |   |
| <b>Topic No.4 Spirometry. Study of respiratory volumes and flows. Drawing conclusions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge of the anatomy of the bronchopulmonary system, the main indications for the method;                                                                                                                                                                                                                                                                                                                                                                                                          |   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |
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| 2. during the discussion, outline the main changes in bronchopulmonary pathology revealed by spirometry;<br>3. thoroughly go over definitions and concepts of bronchodilator test, bronchodilator response, bronchospasm, bronchodilator or bronchodilator, pulmonary ventilation, respiratory volume, vital capacity of the lungs (VC), inspiratory capacity (IC), maximum inspiratory flow rate;<br>4. describe patterns of drawing conclusions in various bronchopulmonary pathologies;<br>5. form an idea of the basics of spirometry research.                    |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                                |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                |   |
| Recommended reading:<br>1. Standardization of Spirometry. P.V. Struchkov. GEOTAR-Media, 2019.<br><a href="https://www.studentlibrary.ru/book/MIF003385.html">https://www.studentlibrary.ru/book/MIF003385.html</a><br>2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V<br>Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a>      |   |
| <b>Topic No.5 Body plethysmography. Methodology, analysis, and conclusions. Study of the diffusion capacity of the lungs and assessment of the elastic properties of the respiratory system</b>                                                                                                                                                                                                                                                                                                                                                                        |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge of the anatomy and physiology of the bronchopulmonary system and methods for assessing their function;<br>2. during the discussion, outline the main indications and contraindications for body plethysmography;<br>3. thoroughly go over definitions and concepts of body plethysmography and the diffusion capacity of the lungs;<br>4. describe patterns of drawing conclusions in various bronchopulmonary pathologies;<br>5. develop an understanding of the body plethysmography technique. |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                                |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                |   |
| Recommended reading:<br>1. Principles of internal medicine [English electronic textbook] T.R. Harrison at al. 21th edition- McGrawHill LLC, 2022.- p.4132<br>2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V<br>Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a>                                                               |   |
| <b>Topic No.6 Study of respiratory volumes and flows using drugs. Pulse oximetry</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Purpose of the practical class:<br>1. consolidate acquired knowledge about the indications and contraindications for testing with drugs;<br>2. during the discussion, outline the main drugs and dosages used to assess respiratory volumes and flows;<br>3. thoroughly go over definitions and concepts of a bronchodilator test;<br>4. describe patterns of drawing conclusions based on the test results;<br>5. form an idea of conducting spirometry before and after inhalation of a bronchodilator drug in order to assess the response of the respiratory tract to its effects.                                    |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
| Recommended reading:<br>1. Standardization of Spirometry. P.V. Struchkov. GEOTAR-Media, 2019.<br><a href="https://www.studentlibrary.ru/book/MIF003385.html">https://www.studentlibrary.ru/book/MIF003385.html</a><br>2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V<br>Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a>                                                         |   |
| <b>Topic No.7 Basics of normal electrocardiography. Waves and intervals. ECG analysis. Drawing conclusions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge of the physiology of the cardiovascular system and the cardiac conduction system;<br>2. during the discussion, outline the basic standards for counting waves and intervals;<br>3. thoroughly go over the definitions and concepts of voltage, vector, and cardiac conduction system;<br>4. describe patterns of forming an ECG conclusion;<br>5. form an understanding of the origin of waves and intervals on an ECG.                                                                                                                              |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
| Recommended reading:<br>1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4.<br><a href="https://www.studentlibrary.ru/book/ISBN9785970491744.html">https://www.studentlibrary.ru/book/ISBN9785970491744.html</a> .<br>2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg. : VolgGMU, 2005. - 98 p. URL: <a href="https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020">https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020</a> |   |

**Topic No.8 ECG in various pathological conditions. ECG in acute coronary syndrome (ACS) with and without ST segment elevation. Complications and masks of myocardial infarction. ECG analysis**

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge on a normal ECG, ECG in ACS, rhythm and conduction disorders;
2. during the discussion, outline the main changes on the ECG in ACS with and without ST segment elevation;
3. thoroughly go over definitions and concepts of ACS with and without ST segment elevation, to classify rhythm and conduction disorders;
4. describe patterns of constructing ECG conclusions in ACS with and without ST segment elevation;
5. form an understanding of the main complications of infarction.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.

Independent work of the student: preparing a report on the lecture; working with study materials.

Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.

Recommended reading:

1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4.  
<https://www.studentlibrary.ru/book/ISBN9785970491744.html>.
2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg. : VolgGMU, 2005. - 98 p. URL: <https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020>

**Topic No.9 ECG for rhythm and conduction disorders. ECG for implantable devices in cardiology. ECG analysis**

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge on the main ECG changes in case of rhythm and conduction disorders;
2. during the discussion, outline the main ECG changes in case of rhythm and conduction disorders;
3. thoroughly go over definitions and concepts of pacing modes;
4. describe patterns of the operating principles of pacemakers, their types;
5. develop knowledge about the operation of artificial pacemakers, ECGs, changes in the waves and intervals on the ECG in case of rhythm and conduction disorders.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.

Independent work of the student: preparing a report on the lecture; working with study materials.

Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.

Recommended reading:

1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-

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| Media, 2026. ISBN 978-5-9704-9174-4.<br><a href="https://www.studentlibrary.ru/book/ISBN9785970491744.html">https://www.studentlibrary.ru/book/ISBN9785970491744.html</a> .<br>2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg. : VolgGMU, 2005. - 98 p. URL: <a href="https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020">https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020</a>                                                                                                                |   |
| <b>Topic No.10 ECG in non-coronary myocardial diseases. ECG analysis</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge about channelopathies;<br>2. during the discussion, outline the main channelopathies (Brugada syndrome, CLC syndrome, etc.);<br>3. thoroughly go over definitions and concepts of ion channelopathies and non-coronary myocardial diseases;<br>4. describe patterns of development of myocarditis, pericarditis, cardiomyopathy;<br>5. form an idea of building conclusions in non-coronary myocardial diseases.                                                                                                                                    |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |
| Recommended reading:<br>1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4.<br><a href="https://www.studentlibrary.ru/book/ISBN9785970491744.html">https://www.studentlibrary.ru/book/ISBN9785970491744.html</a> .<br>2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg.: VolgGMU, 2005. - 98 p. URL: <a href="https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020">https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020</a> |   |
| <b>Topic No.11 Holter ECG monitoring. Research methodology, analysis, and Holter ECG for rhythm disturbances and ischemia</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge on normal ECG and ECG in pathology;<br>2. during the discussion, outline the main indications and contraindications for Holter ECG;<br>3. thoroughly go over the definitions and concepts of Holter ECG monitoring, multi-day ECG monitoring;<br>4. describe patterns of constructing conclusions on Holter ECG, the methodology for conducting Holter ECG;<br>5. form an understanding of constructing conclusions on Holter ECG in case of rhythm disturbances and ischemia.                                                                      |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |

Recommended reading:

1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4.  
<https://www.studentlibrary.ru/book/ISBN9785970491744.html>.
2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg. : VolgGMU, 2005. - 98 p. URL: <https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020>

**Topic No.12 ABPM. Research methodology, analysis of key parameters. Types of 24-hour blood pressure curves. Data analysis and conclusions**

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge on the classification of blood pressure and arterial hypertension;
2. during the discussion, outline the main indications and contraindications for ABPM, and the methodology for performing ABPM;
3. thoroughly go over definitions and concepts of the time index, hypertension area index, 24-hour index, and types of 24-hour curves;
4. describe patterns of drawing conclusions based on ABPM data;
5. form an understanding of the main indices, norms, and pathologies during ABPM.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.

Independent work of the student: preparing a report on the lecture; working with study materials.

Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.

Recommended reading:

1. Principles of internal medicine [English electronic textbook] T.R. Harrison et al. 21th edition- McGrawHill LLC, 2022.- p.4132.
2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <https://www.studentlibrary.ru/book/ISBN9785970467671.html>.

**Topic No.13 Echocardiography. Modes, approaches, positions. Types of echocardiography. Dopplerography. Analysis and calculation of key parameters. Echocardiography changes in cardiovascular pathology**

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of the anatomy and physiology of the cardiovascular system;
2. during the discussion, outline the main types of echocardiography, modes, approaches and positions;
3. thoroughly go over definitions and concepts of doppler ultrasonography, diastolic dysfunction, left ventricular ejection fraction, normokinesis, akinesis, hypokinesis;
4. describe patterns of analysis and calculation of the main indicators;
5. learn to form a conclusion based on the results of an echocardiographic study.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.

Independent work of the student: preparing a report on the lecture; working with study materials.

Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.

Recommended reading:

1. Point of Care Ultrasound, 2nd Edition [English electronic textbook]. Soni, Arntfield Kory. Elsevier:2019. <https://www.books-up.ru/ru/book>.
2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <https://www.studentlibrary.ru/book/ISBN9785970467671.html>

**Topic No.14 Stress and functional tests (bicycle ergometry, treadmill test, drug tests). Analysis of tests and conclusions**

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate knowledge acquired at the lecture;
2. during the discussion, outline the basic concepts of classification, modern views on the pathogenesis of hypertension;
3. thoroughly go over definitions and concepts of AH, diagnostic methods, risk factors;
4. describe patterns of development and classification of hypertension;
5. form an idea of the principles of treatment and prognosis of hypertension.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.

Independent work of the student: preparing a report on the lecture; working with study materials.

Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.

Recommended reading:

1. Fundamentals of electrocardiogram analysis. I.N. Nankevich, E.V. Ivanishkina. GEOTAR-Media, 2026. ISBN 978-5-9704-9174-4. <https://www.studentlibrary.ru/book/ISBN9785970491744.html>.
2. Electrocardiography: methodology and basics of analysis. Shilova L.N. Volg. : VolgGMU, 2005. - 98 p. URL: <https://www.books-up.ru/ru/book/electrocardiography-methodology-and-basics-of-analysis-19565020>

**Topic No.15 EEG technique. Normal EEG. Analysis of the main rhythms of brain activity**

Duration of the practical class (in academic hours):

2

Purpose of the practical class:

1. consolidate acquired knowledge of the anatomy and physiology of the nervous system, the main pathologies;
2. during the discussion, outline the main indications and contraindications for EEG;
3. thoroughly go over definitions and concepts of beta rhythm, theta rhythm, alpha rhythm, delta rhythm, epilepsy;
4. describe patterns of total electrical activity of the brain, the method of recording potentials;
5. form an understanding of the construction of conclusions based on EEG in health and pathology.

Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.

Independent work of the student: preparing a report on the lecture; working with study materials.

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| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| Recommended reading:<br>1. Gusev E. I. Neurology and neurosurgery = Неврология и нейрохирургия : textbook : in 2 vol. / E. I. Gusev, A. N. Konovalov, V. I. Skvortsova ; ed. by A. N. Konovalov, A. V. Kozlov. - 5nd ed. - M. : GEOTAR-Media. - (Textbook). Vol. 1 : Neurology. - 2023. - 556 p.<br>2. Internal diseases [English electronic textbook] Martynov A. I., Kobalava Z. D., Moiseev S. V Internal diseases : Textbook / Moscow : GEOTAR-Media, 2022. - 616 c. - ISBN 978-5-9704-6767-1. - URL : <a href="https://www.studentlibrary.ru/book/ISBN9785970467671.html">https://www.studentlibrary.ru/book/ISBN9785970467671.html</a> |   |
| <b>Topic No.16 Pathological EEG. Interpretation of electroencephalographic data in epilepsy and traumatic brain injury</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
| Duration of the practical class (in academic hours):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2 |
| Purpose of the practical class:<br>1. consolidate acquired knowledge on the EEG methodology and EEG analysis;<br>2. during the discussion, outline the main changes in the EEG in epilepsy and traumatic brain injury;<br>3. thoroughly go over definitions and concepts of epileptic activity, status epilepticus, EEG with sleep deprivation, brain rhythms;<br>4. describe patterns of formation of epileptic activity in the brain, pathological changes in the EEG in traumatic brain injury;<br>5. form an idea of building conclusions on the EEG in epilepsy and traumatic brain injury.                                             |   |
| Practical classes requirements: classrooms equipped with multimedia equipment, blackboards, medical equipment and tools for patient examination, and subject guides for the discipline.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| Independent work of the student: preparing a report on the lecture; working with study materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |   |
| Methods of evaluation of acquired knowledge and skills: discussion of reports, classroom questioning, tests, working with case studies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| Recommended reading:<br>1. Gusev E. I. Neurology and neurosurgery: textbook : in 2 vol. / E. I. Gusev, A. N. Konovalov, V. I. Skvortsova ; ed. by A. N. Konovalov, A. V. Kozlov. - 5nd ed. - M. : GEOTAR-Media. - (Textbook). Vol. 1 : Neurology. - 2023. - 556 p.<br>2. Gusev E. I. Neurology and neurosurgery: textbook : in 2 vol. / E. I. Gusev, A. N. Konovalov, V. I. Skvortsova ; ed. by A. N. Konovalov, A. V. Kozlov. - 5nd ed. - M. : GEOTAR-Media. - (Textbook). Vol. 2 : Neurosurgery. - 2023. - 314, [1] p.                                                                                                                     |   |

#### 4. GUIDELINES FOR CONTINUOUS AND INTERIM ASSESSMENT

Table 3. Guidelines for Conducting Continuous and Interim Assessment during **B1.C.53 Clinical functional diagnostics** Course

| Type of assessment    | Assessment format                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Continuous assessment | <ul style="list-style-type: none"> <li>- conducting and evaluating oral quizzes during practical classes;</li> <li>- assessment and evaluation of completion and results of assignments given during practical classes;</li> <li>- assess and evaluate completion and results of individual assignments and exam tasks given during practical classes;</li> <li>- assessment and evaluation of lecture notes quality.</li> </ul> |

|                       |                                                                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Interim certification | is conducted in oral format; it allows to assess the development of students' competencies correlating with types of professional activity. |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|

## **5 ASPECTS OF THE IMPLEMENTATION OF THE COURSE FOR STUDENTS WITH DISABILITIES AND SPECIAL NEEDS**

### **5.1. Availability of accessible environment**

For students with disabilities and special needs, if a written application is submitted, lectures and practical classes are carried out taking into account health limitations, individual capabilities and medical status (hereinafter referred to as individual characteristics) of the student. Compliance with the following general requirements is ensured: teaching aids for collective and individual use are provided, required technical assistance is provided by an assistant, buildings and premises where lectures and practical classes are taking place meet accessibility requirements, other arrangements lack of which makes it impossible or difficult to master the discipline are made.

### **5.2. Compliance with general requirements**

When lectures and practical classes are carried out at the written application of the student, the following general requirements are met: lectures and practical classes for students with disabilities and special needs take place at the same location as for students who do not have disabilities, if this does not cause difficulties for students; an assistant (assistants), who provide(s) students with the necessary technical assistance taking into account individual characteristics of the student, is (are) provided; necessary teaching aids are provided, taking into account individual characteristics of the student.

5.3. Availability of the internal policies and procedures of FSBEI HE PSMU of the Ministry of Health of Russia to students with disabilities in a form accessible to them.

All internal policies and procedures of FSBEI HE PSMU of the Ministry of Health of Russia concerning the discipline are made available to students with disabilities in a form accessible to them.

5.4. Increase in the duration of interim assessment of students with disabilities and special needs in relation to the established duration

Format of the interim assessment of academic performance within the scope of the discipline for students with disabilities and special needs is selected taking into account individual characteristics (orally, by writing on paper, by typing on a computer, as a test, etc.). The duration of the interim assessment in relation to the established duration is increased at the written application of the student with disabilities. Time limit for the student's preparation for the test is increased by at least 0.5 hours

## **6. STAFFING REQUIREMENTS OF THE DISCIPLINE**

Academic teaching personnel that ensure the implementation of the discipline education process meet the requirements of the Federal State Educational Standard of Higher Education for the 31.05.01 General Medicine specialty; list of the aforementioned personnel is available on the website of the educational organization.

