

Ministry of Science and Higher Education of the Russian Federation  
Federal State Budgetary Educational  
Institution of Higher Education  
ULYANOVSK STATE UNIVERSITY  
Faculty of Medicine  
**Department of Faculty Therapy**

**METHODOLOGICAL MANUAL FOR THE SELF-STUDY WORK OF  
STUDENTS STUDIED THE DISCIPLINE "CLINICAL  
ELECTROCARDIOGRAPHY"  
SPECIALTY 31.05.01 "GENERAL MEDICINE"  
Toolkit**

**Ulyanovsk 2022**

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BBK  
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*Published by the decision of the Academic Council  
Institute of Medicine, Ecology and Physical Education  
Ulyanovsk State University*

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**Reviewer -** Associate Professor of the Department of Hospital Therapy Sapozhnikov A.N.

Methodological manual for the the self-study work of students studied the discipline "Clinical electrocardiography." - Ulyanovsk, UISU, 2022.- 12 p.

The methodological manual was prepared in accordance with the requirements of the educational plan and contains methodological guideline for the main sections of the academic discipline " Clinical electrocardiography " in accordance with the curriculum of 2022. The manual is intended for the 6<sup>th</sup>-year foreign students of the Faculty of Medicine studying in the specialties 31.05.01 "General Medicine".

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## 1. Introduction.

### OBJECTIVES AND AIM OF THE DISCIPLINE STUDY.

The objective is to teach a complete system of theoretical and practical foundations of clinical electrocardiography; methods of recording and analysis of electrocardiograms; differential diagnostics of cardiovascular system pathologies based on electrocardiography data.

Aims of the discipline mastering are:

- Studying the basics of normal electrocardiogram formation;
- Mastering the methods of taking the electrocardiogram and conducting functional tests in electrocardiography;
- Evaluation and analysis of normal electrocardiogram indicators;
- Study of the basic mechanisms of forming pathological electrocardiograms in various cardiovascular diseases;
- Carrying out differential diagnostics of cardiovascular system pathology based on electrocardiography data;
- Acquaintance with new methods of diagnostics of pathology of cardiovascular system on the basis of electrocardiography: Holter ECG monitoring, high resolution average ECG signal, heart rate variability, QT interval dispersion.

### PLACE OF THE SUBJECT IN THE STRUCTURE OF GEP

The discipline "Clinical electrocardiography" belongs to the variable part of the block (B1.V) within the disciplines of choice (B1.V.DV.07.02) of the specialty according to the Federal State Educational Standard 3++ HE № 988 from 12.08.2020 and the Working curriculum of the specialty 31.05.01 "General medicine" section B1.O.28, approved by the Chancellor of Ulyanovsk State University (protocol № 8/238 from 14.04.2022).

To master these sections, students must have knowledge, skills and competencies of the basic and variable parts of the GEP of the Federal State Educational Standard 3++ HE (2020).

Normal and pathological anatomy, normal and pathological physiology, biological chemistry, pharmacology and propaedeutics of internal diseases, faculty therapy and occupational diseases precede the study of clinical electrocardiography. Knowledge, skills and competencies in these disciplines are determined by the requirements for their development at the previous departments and are controlled by the determination of the input knowledge of the study of internal diseases.

The section is prior to the following disciplines: hospital therapy, clinical pharmacology, infectious diseases; phthisiatrics; hospital pediatrics; infectious diseases in children; polyclinical and emergency pediatrics.

## 2. LIST OF EXPECTED RESULTS OF INSTRUCTION ON THE SUBJECT (UNIT), CORELATED WITH PLANNED RESULTS OF COMPLETING THE PROGRAM

The study of the subject «Clinical electrocardiography» within the completion of the educational program is directed towards the formation of the following general and professional competences in students:

Code and name of the general professional competence	Code and name of the indicator of achievement of general professional competence
<b>UC-1</b> Ability to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	Indicator for achieving -1 (IfA) To know the clinical picture, features of the course and possible complications of the most common diseases occurring in a typical form in the adult population, accompanied by changes in electrocardiographic data; - ECG techniques - diagnostics of heart diseases as well as diseases accompanied by changes in the ECG, emergency conditions in the clinic of internal diseases;

	<p>- clinical and pharmacological characteristics of the main groups of drugs affecting changes in electrocardiographic parameters;</p> <p>IfA - 2</p> <p>To be able to analyze the main ECG changes in myocardial hypertrophy, ischemia, ischemic injury, myocardial necrosis, scar changes; analyze the main ECG changes in non-coronary myocardial lesions: myocarditis, pericarditis, cardiomyopathy; rhythm and conduction disturbances;</p> <p>Can determine life-threatening disorders in the analysis of ECG and to carry out a set of necessary measures in case of emergency conditions;</p> <p>IfA - 3</p> <p>Master to interpretate the results of electrocardiographic diagnostic methods in the clinic of internal diseases;</p> <p>Should be familiar with the algorithms for setting electrocardiographic syndromes and symptoms with their subsequent referral for additional examination and to specialist doctors.</p>
<p><b>PC-2</b></p> <p>Readiness to collect and analyze of patient complaints, his medical history, examination results, laboratory, instrumental, pathoanatomical and other studies data to recognize the condition or determinate presence or absence malady</p>	<p>IfA -1</p> <p>To know the methodology for conducting a standard ECG, functional diagnostic methods using ECG registration; methodology for carrying out functional tests when taking an ECG, extended methods of ECG diagnostics (additional leads, Frank's orthogonal leads, spectral-temporal mapping); modern methods of instrumental diagnostics of patients using the ECG technique - stress tests (bicycle ergometric test, treadmill test, daily ECG monitoring, transesophageal electrophysiological examination, high-resolution ECG);</p> <p>IfA - 2</p> <p>Be able to interpret the results of electrocardiographic studies: standard ECG, ECG during stress tests, signal-averaged ECG, stress ECG, daily (Holter) ECG monitoring, heart rate variability;</p> <p>- to determine, on the basis of the results obtained, the main ECG-phenomena for the diagnosis of pathology of the cardiovascular system;</p> <p>- to carry out differential diagnostics of ECG syndromes and symptoms;</p> <p>IfA - 3</p> <p>Master the technique of taking a standard electrocardiogram;</p> <p>- methods of electrocardiographic diagnostics using additional methods of ECG, high-resolution ECG, stress, pharmacological ECG tests, Holter ECG monitoring;</p> <p>- methods of forming ECG conclusions</p>

### **3. CONTENT OF THE DISCIPLINE (MODULE)**

#### **Topic 1. Method of detecting and analyzing a standard electrocardiogram.**

practical class

*Questions to the topic.*

- what are the conclusions of a standard ECG for breast cancer?
- what does the term "ECG transition zone" mean?
- in which thoracic area is the R tooth maximum?
- which teeth are excreted on a standard ECG (their duration and amplitude are normal).
- what are the intervals and segments in a standard ECG?
- how many "standard leads" are available on an ECG?
- What is the number of "reinforced single pole leads" available on the ECG?
- what are the ECG marks that correspond to the median position of the electrical axis of the heart?
- which ECG markings correspond to the horizontal position of the EOS?
- what are the ECG signs that correspond to the left and right deviations of the heart's electrical axis?
- what ECG-signatures are observed in the vertical position of the EOS?
- what does the term "reduced tooth voltages" mean?

#### **Topic 2. Electrocardiogram in hypertrophy of the heart.**

practical class

*Questions to the topic.*

- which ECG signs correspond to LV and LA hypertrophy?
- Which ECG signs correspond to hypertrophy of PVs with systolic overload?
- which ECG-signs correspond to deviations in the electrical axis of the heart "left" and "right"?
- what ECG changes are observed in left and right atrial hypertrophy?
- which ECG signs correspond to RA and RV hypertrophy?
- what are the ECG signs of hypertension?
- what are the ECG signs of the pulmonary heart?
- What are the ECG signs of CHD?

#### **Topic 3. Electrocardiogram for ischemic heart disease. Ischaemia, lesion, necrosis.**

practical class

*Questions to the topic.*

- what kind of ECG changes are observed in myocardial ischemia?
- which ECGs - signs correspond to subendocardial, subepicardial and intramural myocardial ischemia?
- what are the signs of myocardial ischemia?
- what types of ST segment depression do they detect?
- what is meant by the term "monophasic curve" %.
- what does concordant and discordant shift of ST segment mean?
- describe the ECG signs of ischemic damage to the anterior wall of the left ventricle?
- describe the ECG signs of ischemic damage to the posterior ventricular wall of the left ventricle?
- what is meant by "pathological tooth Q"?
- what are the signs of myocardial transmural infarction?
- what are the signs of a common anterior myocardial infarction?
- what are the ECG signs of a circulatory apical myocardial infarction?
- what are the ECG signs of a minor myocardial infarction?
- signs of cardiosclerosis and scar changes?

- ECG - signs of recurrent myocardial infarction?
- what are the signs of a postinfarct aneurysm?
- What does the term "recurring" changes on an ECG mean?
- ECGs are signs of a right ventricular infarction.

#### **Topic 4. Electrocardiogram for heart rhythm disorders.**

practical class

*Questions to the topic.*

- what kind of ECGs are signs that match ventricular extrasystole?
- which ECGs are the signs that correspond to atrial extrasystole?
- characterize the gradation of ventricular extrasystoles by Lower B.?
- describe the ECG signs of bi- trigeminias?
- what does early ventricular extrasystole mean?
- what does "interpolated" and "polymorphic" ventricular extrasystole mean?
- What are the ECG signs for right and left ventricular extrasystole?
- what are the signs of atrial and supraventricular extrasystole?
- What's an ECG for atrial fibrillation and flutter?
- What do the terms tachysystolic form of atrial fibrillation and atrial flutter in the 2:1 ratio mean?
- what are the ECG signs for paroxysmal ventricular and atrial tachycardia?
- what does an ECG look like in respiratory arrhythmias?
- what kind of ECGs are signs of intoxication by cardiac glycosides?
- what kind of ECG changes are common in fibrillation and ventricular flutter?

#### **Topic 5. Electrocardiogram for cardiac conduction disorders.**

practical class

*Questions to the topic.*

- What elements does the conductive heart system consist of?
- what kind of ECGs are the signs of a synoatronic block?
- How many degrees of sinus node blockage do you know and what is the ECG - the picture with them?
- what do you mean by "sinus node weakness syndrome"?
- ECG - signs of 1st degree atrioventricular block?
- ECG - signs of 2nd degree atrioventricular block?
- ECG - signs of 3rd degree atrioventricular block?
- what are the distinguishing features of Mobitz type I atrioventricular block 2 from complete atrioventricular block?
- What is Morgania Adams-Stokes syndrome and when does it occur?
- ECG - a picture of Frederick's syndrome?
- What kind of ECGs are symptoms typical of complete blockage of the right leg of the His branch block?
- What is the difference between complete and incomplete blockages of the legs of the His branch block?
- What is the ECG picture of complete blockage of the LBBB?
- What is the ECG picture of complete blockage of the RBBB?

#### **Topic 6. Infarct-like electrocardiographic syndromes.**

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practical class

*Questions to the topic.*

- what is the ECG picture of the lead Q-anormal?
- what are the signs of Q-anormal positional Q-anormal at horizontal, vertical electric axis of the heart?
- what are the ECG signs in myogenic Q-like syndromes: PL hypertrophy, PG hypertrophy, "stun" and myocardial hibernation?
- which ECG criteria are typical for stressful infarct-like syndromes?
- characteristics of infarct-like syndromes depending on the ECG of the following sections: II, III, aVF, aVL, V1-3.

### **Topic 7. ECG features in children and teenagers.**

practical class

*Questions to the topic.*

- What are the features of changes in the electrical axis of the heart in childhood and adolescence?
- definition and mechanisms of formation of "juvenile T teeth"?
- peculiarities of conductivity in childhood and adolescence?
- What changes on the ECG are described as "pancreatic scallop syndrome"?
- what are the ECG manifestations of "partial premature excitation syndrome" in children and adolescents?
- what are the peculiarities of repolarization processes in children and teenagers (early ventricular repolarization syndrome)?

### **Topic 8. Electrocardiographic pattern in non-coronary myocardial lesions.**

practical class

*Questions to the topic.*

- What kind of ECGs are symptoms common to acute pericarditis?
- What kind of ECGs are symptoms typical of acute myocarditis?
- which ECGs are typical of acute rheumocarditis?
- which ECGs are typical for cardiomyopathies (dilatational, hypertrophic)?
- ECG - symptoms of chronic pulmonary heart and pulmonary artery thromboembolism?
- ECG - signs of hyperkalemia, hypo- and hypercalcemia?
- characteristic signs of early ventricular repolarization syndrome?
- ECGs are signs of hypo and hypermagnesia.

### **4. LIST OF QUESTIONS FOR CREDIT**

1. Describe the main elements of the ventricular complex of a normal ECG.
2. Characterize the atrial component of a normal ECG.
3. Describe the rules for placing electrodes when taking an ECG.
4. What teeth are emitted in a standard ECG (what is their duration and amplitude in the norm)
5. What intervals and segments are distinguished in a standard ECG?
6. What ECG elements reflect the processes of ventricular repolarization? What characteristics do these elements have in the norm?
7. Describe the algorithms for determining the electrical axis of the heart?
8. What options for the position of the electrical axis of the heart can be determined with a standard ECG?
9. What ECG signs correspond to the horizontal position of the EOS?
10. What ECG signs correspond to deviations of the electrical axis of the heart "to the left" and "to the right"?
11. What ECG signs are observed when the EOS is upright?
12. What does the term "reduced tooth voltage" mean?
13. How are the electrodes applied to the limbs?



14. How are additional chest leads across the sky formed?
15. How are Frank leads formed?
16. How is the ECG signal checked?
17. What ECG signs correspond to LV and LA hypertrophy?
18. What ECG signs correspond to LV hypertrophy with systolic overload?
19. What ECG signs should be used to differentiate LVH?
20. What ECG changes are observed with left and right atrial hypertrophy?
21. What ECG signs correspond to RV and RV hypertrophy?
22. With what pathological conditions is it necessary to differentiate ECG signs of RV hypertrophy?
23. What are the ECG signs of hypertension?
24. What are the ECG signs of cor pulmonale?
25. What are the ECG signs of CHF?
26. What ECG changes are observed during myocardial ischemia?
27. What ECG signs correspond to subendocardial, subepicardial and intramural myocardial ischemia?
28. What are the signs of ischemic myocardial injury?
29. What types of ST segment depression are distinguished?
30. What is meant by the term "monophasic curve"?
31. What does concordant and discordant ST segment displacement mean?
32. Describe the ECG signs of ischemic damage to the anterolateral wall of the left ventricle?
33. Describe the ECG signs of ischemic damage to the posterior diaphragmatic wall of the left ventricle?
34. What is meant by the term "pathological Q wave"?
35. What are the ECG signs of transmural myocardial infarction?
36. What are the ECG signs of advanced anterior myocardial infarction?
37. What are the ECG signs of circular apical myocardial infarction?
38. What are the ECG features of small focal myocardial infarction?
39. Signs of cardiosclerosis and scarring?
40. ECG - signs of recurrent myocardial infarction?
41. What are the signs of postinfarction aneurysm?
42. What does the term "reciprocal" ECG changes mean?
43. ECG - signs of right ventricular infarction.
44. What methods of stress ECG tests do you know?
45. What types of Holter ECG monitoring are available?
46. How is a pharmacological test carried out in the diagnosis of ischemic heart disease?
47. Describe the stress test method using the Bruce Protocol?
48. What ECG - signs correspond to ventricular premature beats?
49. What ECG - signs correspond to atrial premature beats?
50. Describe the gradation of ventricular extrasystoles according to Lown B.?
51. Describe the ECG signs of bituemia?
52. What does early ventricular premature beats mean?
53. What does "interpolated" and "polymorphic" ventricular premature beats mean?
54. What are the ECG signs of right and left ventricular extrasystoles?
55. What are the ECG - signs of atrial and supraventricular extrasystoles?
56. What is the ECG - picture of atrial fibrillation and atrial flutter?
57. What do the terms "tachysystolic" atrial fibrillation and atrial flutter in a 2: 1 ratio mean?
58. What ECG - signs are characteristic of paroxysmal ventricular and atrial tachycardia?
59. How is a high resolution ECG performed?
60. What does an ECG look like for respiratory arrhythmias?
61. What are the ECG signs of cardiac glycoside intoxication?
62. What ECG changes are characteristic of ventricular fibrillation and flutter?
63. What are the elements of the conduction system of the heart?
64. What ECG - signs are characteristic of the blockade of the sinoatrial node?
65. How many degrees of blockade of the sinus node do you know and what is the ECG - the picture with them?
66. What is meant by the term "sick sinus syndrome"?
67. ECG - signs of 1st degree atrioventricular block?
68. ECG - signs of 2nd degree atrioventricular block?

69. ECG - signs of grade 3 atrioventricular block?
70. What are the distinguishing features of grade 2 atrioventricular block Mobitz type 3 from complete atrioventricular block?
71. What is Morgagni-Adams-Stokes syndrome and when does it occur?
72. ECG - a picture of Frederick's syndrome?
73. What ECG - signs are characteristic of a complete blockade of the right bundle branch block?
74. What is the difference between complete and incomplete bundle branch blocks?
75. What is the ECG picture of complete left bundle branch block?
76. What is the ECG picture of incomplete right bundle branch block?
77. What is the ECG picture of incomplete left bundle branch block?
78. What is the ECG picture of the anterior branch of the left bundle branch block?
79. What is the ECG picture of the posterior branch of the left bundle branch block?
80. ECG - signs of two-beam and three-beam blockade of the His knife?
81. What is the ECG pattern of stress Q-abnormality?
82. What ECG are signs of positional Q-abnormality with a horizontal, vertical electrical axis of the heart?
83. What ECG signs are there in myogenic Q infarction-like syndromes: LV hypertrophy, RV hypertrophy, "stunned" and hibernating myocardium?
84. What ECG criteria are typical for stress-related infarction-like syndromes?
85. Features of infarction-like syndromes depending on ECG leads: II, III, aVF, aVL, V1-3?
86. What are the features of changes in the electrical axis of the heart in childhood and adolescence?
87. Definition and mechanisms of formation of "juvenile T waves"?
88. Features of conduction in childhood and adolescence?
89. What ECG changes are characterized as "supraventricular crest syndrome"?
90. What are the ECG manifestations of "partial premature excitation syndrome" in children and adolescents?
91. What are the features of repolarization processes in childhood and adolescence (early ventricular repolarization syndrome)?
92. What ECG - signs are characteristic of acute pericarditis?
93. What ECG - signs are characteristic of acute myocarditis?
94. What ECG - signs are characteristic of acute rheumatic heart disease?
95. What ECG - signs are characteristic of cardiomyopathies (dilated, hypertrophic)?
96. ECG - signs of chronic pulmonary heart disease and thromboembolism pulmonary artery?
97. ECG - signs of hyperkalemia, hypo- and hypercalcemia?
98. Characteristic features of early repolarization syndrome ventricles?
99. ECG - signs of hypo- and hypermagnesemia?
100. What methods of long-term ECG recording are available?

#### **Evaluation criteria based on the results of the offset**

**"5" (excellent)** - the student has mastered the discipline program in full, passed the test for 80 or more points and successfully passed the interview

**"4" (good)** - the student has mastered the discipline program in full, passed the test for 70 or more points and successfully passed the interview

**"3" (satisfactory)** - the student has mastered the discipline program in full, passed the test for 60 or more points and successfully passed the interview

**"2" (unsatisfactory)** - the student did not master the discipline program in full, passed the test for less than 60 points and did not pass the interview

## **5. EDUCATIONAL-METHODOLOGICAL AND INFORMATION SUPPORT OF THE DISCIPLINE**

### **List of recommended literature:**

#### **a). Core reading:**

1. Ивашкин В. Т. Internal diseases propedeutics / V. T. Ivashkin, A. V. Okhlobystin. - Moscow : GEOTAR-Media, 2020. - 176 p. - 176 с. - ISBN 978-5-9704-5555-5. - Текст : электронный //

ЭБС "Консультант студента": [сайт]. - URL: <https://www.studentlibrary.ru/book/ISBN9785970455555.html>

2 Internal Diseases: Textbook in 2 Vols. Vol. I / edited by A. I. Martynov, Z. D. Kobalava, S. V. Moiseev. - Moscow: GEOTAR-Media, 2022. - 688 с. - ISBN 978-5-9704-6766-4. - Текст: электронный // ЭБС "Консультант студента": [сайт]. - URL : <https://www.studentlibrary.ru/book/ISBN9785970467664.html>

3. Internal Diseases. Vol. II. : Textbook in 2 Vols. / edited by A. I. Martynov, Z. D. Kobalava, S. V. Moiseev. - Moscow : GEOTAR-Media, 2022. - 616 с. - ISBN 978-5-9704-6767-1. - Текст : электронный // ЭБС "Консультант студента" : [сайт]. - URL : <https://www.studentlibrary.ru/book/ISBN9785970467671.html>

#### **b). Supplementary reading:**

1.LWW ECG Interpretation: An Incredibly Easy Pocket Guide /Ed.: Third edition. Philadelphia : Wolters Kluwer Health. 2017. - 100 Pages. Resource Type: eBook. Related ISBNs: 9781496352163. 9781496352170. - URL :

<https://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=1690663&site=ehost-live&scope=site&ebv=EK&ppid>

2.Rowlands, Angela, Sargent, Andrew The ECG Workbook. Edition: 4th edition. Keswick : M&K Publishing. 2019. eBook. Related ISBNs:9781910451267. 9781910451762.

<https://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=2103565&site=ehost-live&scope=site&ebv=EB&ppid>

3. Smirnova A. Yu. Basis of functional and laboratory diagnostics : textbook of medicine for medicine faculty students / Smirnova A. Yu., V. V. Gnoevykh; Ulyanovsk State University, Insitute of Medicine, Ecology and Physical culture. - Ulyanovsk : ULSU, 2018. - 163 p. : ill. - Текст на англ. яз. URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/1237> . - Режим доступа: ЭБС УлГУ. - Текст : электронный.

#### **c). Educational and methodical literature**

1. Gimaev R. Kh. Methodological instructions for the organization of independent work of students in the discipline "Clinical electrocardiography" for the specialty 31.05.01 "General medicine" / R. Kh. Gimaev; ULSU, Med. fac. - Ulyanovsk: ULSU, 2022. - Unpublished resource. - URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/10455>. - Access mode: EBS UIGU. - Text: electronic.

##### **educational-methodical**

Gimaev R. Kh. Methodological instructions for the organization of independent work of students in the discipline "Clinical electrocardiography" for the specialty 31.05.01 "General medicine" / R. Kh. Gimaev; ULSU, Med. fac. - Ulyanovsk: ULSU, 2019. - Unpublished resource. - URL: <http://lib.ulsu.ru/MegaPro/Download/MObject/10455>. - Access mode: EBS UIGU. - Text: electronic.

#### **d) Professed data base, directory and search systems:**

##### **1. Electronic library systems:**

1.1. Цифровой образовательный ресурс IPRsmart: электронно-библиотечная система: сайт /ООО Компания «Ай Пи Ар Медиа». - Саратов, [2022].— URL: <http://www.iprbookshop.ru> . — Режим доступа: для зарегистрир. пользователей. - Текст электронный.

1.2. Образовательная платформа ЮРАЙТ: образовательный ресурс, электронная библиотека сайт / ООО Электронное издательство ЮРАЙТ. — Москва, [2022]. - URL: <https://ura.it.ru>. — Режим доступа: для зарегистрир. пользователей. - Текст: электронный.

1.3. Консультант врача. Электронная медицинская библиотека: база данных: сайт/ ООО Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг. — Москва, [2022]. — URL: <https://www.rosniedlib.ru>. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

1.4. Большая медицинская библиотека: электронно-библиотечная система: сайт/ ООО Букап. — Томск, [2022]. — URL: <https://www.books-up.ru/ru/library/>. — Режим доступа: для

зарегистрир. пользователей. — Текст: электронный.

1.5. ЭБС Лань: электронно-библиотечная система: сайт / ООО ЭБС Лань. — Санкт-Петербург, [2022]. — URL: <https://e.lanbook.com>. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

1.6. ЭБС Znanium.com: электронно-библиотечная система: сайт /ООО Знаниум. - Москва, [2022]. - URL: <http://znanium.com>. — Режим доступа: для зарегистрир. пользователей. - Текст: электронный.

1.7. Clinical Collection : научно-информационная база данных EBSCO // EBSCOhost : [портал]. — URL: <http://web.b.ebscohost.com/ehost/search/advanced?vid=1&sid=9f57a3e1-1191-414b-8763-e97828f9f7e1%40sessionmgr102>. — Режим доступа: для авториз. пользователей. — Текст: электронный,

1.8. Data base «Русский как иностранный»: электронно-образовательный ресурс для иностранных студентов: сайт / ООО Компания «Ай Пя Ар Медиа». — Саратов, [2022]. — URL: <https://ros-edu.ru>. — Режим доступа: для зарегистрир. пользователей. — Текст: электронный.

**2. ConsultantPlus** [Электронный ресурс]: legal search system. /ООО «Консультант Плюс» - Электрон. дан. - Москва: КонсультантПлюс, [2022).

### **3. Базы данных периодических изданий:**

3.1. База данных периодических изданий EastView: электронные журналы / ООО ИВИС. - Москва, [2022]. - URL: <https://dlib.eastview.com/browse/udb/12>. — Режим доступа: для авториз. пользователей. — Текст: электронный.

3.2. eLIBRARY.RU: научная электронная библиотека: сайт / ООО Научная Электронная Библиотека. — Москва, [2022]. — URL: <http://elibrary.ru>. — Режим доступа: для авториз. пользователей. — Текст: электронный.

3.3. Электронная библиотека «Издательского дома «Гребенников» (Grebinnikon): электронная библиотека / ООО ИД Гребенников. — Москва, [2022]. — URL: <https://id2.action-media.ru/Personal/Products>. — Режим доступа: для авториз.пользователей. — Текст электронный.

**4. Федеральная государственная информационная система «Национальная электронная библиотека»:** электронная библиотека: сайт / ФГБУ РГБ. — Москва, [2022]. — URL: <https://нэб.рф>. — Режим доступа: для пользователей научной библиотеки. — Текст: электронный.

**5. SMART Imagebase:** научно-информационная база данных EBSCO // EBSCOhost: [портал]. — URL: <https://ebSCO.smartimagebase.com/?TOKEN=EBSCO-1a21f8c55aa76d8229047223a7d6dc9c&custid=s6895741> — Режим доступа: для авторизованных пользователей. — Изображение: электронное.

### **6. Федеральные информационно-образовательные ресурсы:**

6.1. Единое окно доступа к образовательным ресурсам: федеральный портал. — URL: <http://window.edu.ru/> - Текст: электронный.

6.2. Российское образование: федеральный портал/ учредитель ФГАУ «ФИЦТО» — URL: <http://www.edu.ru> — Текст: электронный.

### **7. Образовательные ресурсы УлГУ:**

7.1. Электронная библиотечная система УлГУ: модуль «Электронная библиотека» АБИС Мега-ПРО / ООО «Дата Экспресс». — URL: <http://lib.usu.ru/MegaPro/Web>. — Режим доступа: для пользователей научной библиотеки. — Текст: электронный.

Developer \_\_\_\_\_  
*Signature*

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*position name*