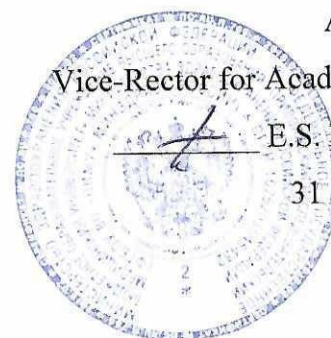


Federal State Budgetary Educational Institution of Higher Education  
"Privolzhsky Research Medical University"  
Ministry of Health of the Russian Federation



APPROVED

Vice-Rector for Academic Affairs

E.S. Bogomolova

31 August 2021

## **WORKING PROGRAM**

Name of the academic discipline: **LIVER SURGERY (ELECTIVE DISCIPLINE)**

Specialty: **31.05.01 GENERAL MEDICINE**

Qualification: **GENERAL PRACTITIONER**

Department: **FACULTY OF SURGERY AND TRANSPLANTOLOGY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **36 academic hours**

Nizhny Novgorod  
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 31.05.01 GENERAL MEDICINE, approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 95 of February 6, 2016.

**Developers of the working program:**

Zagainov Vladimir Evgenievich, Doctor of Medical Sciences, Professor, Head of the Department of Faculty Surgery and Transplantology

The program was reviewed and approved at the department meeting (protocol No. 8, April 15, 2021)

Head of the Department,  
MD, Professor Zagainov V. E.



(print name)

(signature)

\_\_April, 15\_\_ 2021

AGREED

Deputy Head of EMA ph.d. of biology



Lovtsova L.V.

(signature)

\_\_June, 1\_\_ 2021

- 1. The purpose and objectives of mastering the academic discipline** to deepen the knowledge of students about the fundamental issues of liver surgery and its important applied value in medicine. Participation in the formation of professional competencies:

1.1. The purpose of mastering the discipline: (*participation in forming the relevant competencies*).

- Able to collect complaints, an anamnesis of the patient's life and disease, to conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation), to formulate a preliminary diagnosis and draw up a plan for laboratory and instrumental examinations of the patient, incl. diagnostic studies using modern technical means and digital technologies. Ability and willingness to use social and hygienic methods for collecting and medical and static indicators of morbidity, indicators of the quality of medical care, incl. within medical information systems (PC-5)

1.2. Tasks of the discipline:

1. to form a systematized knowledge of the theoretical foundations of the pathogenetic approach to the diagnosis, surgical tactics and treatment of liver diseases.
2. to form the skills and abilities to identify individual risk factors for the development of a particular liver disease in a patient, to give recommendations on measures to prevent its occurrence and progression.
3. to form the skills and abilities of conducting a clinical examination, performing diagnostic techniques and instrumental techniques for liver pathology.
4. to form the skills of independent use in professional activities of methods of open and minimally invasive surgical interventions in the treatment of patients with liver diseases.

As a result of completing the discipline, the student should

**Know:**

- General and special methods of examination of patients with liver diseases
- Features of the course of the most common liver diseases
- Basic standards of management and pharmacotherapy of patients in preparation for surgical treatment of the liver
- Common and most dangerous complications arising from the surgical treatment of liver pathology

**Be able to:**

- Carry out examination of a patient with liver pathology
- Identify signs of surgical liver disease
- Interpret data from laboratory research methods
- Interpret data from functional research methods
- Use the data of physical, instrumental, x-ray examination, laboratory data for diagnosis, differential diagnosis and treatment in a hospital with surgical pathology of the liver
- Determine the presence of indications and contraindications for surgical treatment of the liver based on the nature of the course of the disease, laboratory and instrumental parameters, response to ongoing therapy

**Possess:**

- Skills to establish a diagnosis in major surgical liver diseases according to ICD-10
- Carrying out adequate medical measures before and after surgical treatment of liver pathology

- The ability to choose the best treatment option for the most common complications that develop after surgical treatment of the liver

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

**2.1.** The discipline Liver Surgery refers to the core part of Block 1 of GEP HE, Specialty 31.05.01 General Medicine

The discipline is taught in 12 semester/6 year of study.

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

1. Pathological anatomy
2. Pathological physiology
3. Topographic anatomy and operative surgery
4. General surgery
5. Propaedeutics of internal diseases
6. Faculty surgery

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

1. Hospital surgery
2. Anesthesiology and intensive care

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

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

№	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				know	be able to	possess
1.	PC-5	The ability to collect complaints, an anamnesis of the patient's life and disease, to conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation), to formulate a preliminary diagnosis and draw	IPC 5.1 Knows: Legislation of the Russian Federation in the field of health care, regulatory legal acts and other documents that determine the activities of medical organizations and medical workers; method of collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient (examination, palpation, percussion,	the legislation of the Russian Federation in the field of health care, regulations and other documents that determine the activities of medical organizations and healthcare workers; method of	collect complaints, anamnesis of life and disease of the patient and analyze the information received; conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation)	collection of complaints, anamnesis of life and disease of the patient; a complete physical examination of the patient (examination, palpation, percussion, auscultation); formulating a preliminary diagnosis and drawing up a plan for

		<p>up a plan for laboratory and instrumental examinations of the patient, incl. diagnostic studies using modern technical means and digital technologies. Ability and willingness to use social and hygienic methods for collecting and medical and static indicators of morbidity, indicators of the quality of medical care, incl. within medical information systems.</p>	<p>auscultation); etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; regularity and functioning of a healthy human body and mechanisms for ensuring health from the standpoint of the theory of functional systems; features of the regulation of the functional systems of the human body in pathological processes; methods of laboratory and instrumental studies for assessing the state of health, medical indications for research, rules for interpreting their results IPC 5.2 Able to: collect complaints, anamnesis of life and disease of the patient and analyze the information received; conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and interpret its results; determine the sequence of volume, content and sequence of diagnostic measures</p>	<p>collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient (examination , palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical aspect, differential diagnosis, clinical features, complications and outcomes of diseases of internal organs; patterns of functioning of a healthy human body and mechanisms for ensuring health from the standpoint of the theory of functional systems; features of the regulation of the functional systems of the human body in pathological processes; methods of laboratory and instrumental examinations for assessing the state of health, medical</p>	<p>and interpret its results; determine the sequence of volume, content and sequence of diagnostic measures incl. modern digital technologies</p>	<p>laboratory and instrumental examinations of the patient</p>
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				indications for conducting investigations, rules for interpreting their results		
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#### 4. Sections of the academic discipline and competencies that are formed when mastering them

№	Competence code	Section name of the discipline	The content of the section in teaching units
1	PC- 5	Diagnosis and treatment of volumetric formations of the liver. Indications and contraindications for surgical treatment of the liver.	Surgical anatomy of the liver and biliary tract. Radiation symptoms of volumetric formations of the liver. Minimally invasive interventions on the liver. Types of liver resections, indications and contraindications.
2	PC-5	Surgical technique of liver resection. postoperative period.	Liver resection technique. Treatment of liver abscesses. Management of patients in the postoperative period after surgical treatment of the liver.

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

Type of educational work	Labor intensity		Labor intensity (AH) in semesters			
	volume in credit units (CU)	volume in academic hours (AH)	12			
Classroom work, including						
Lectures (L)	0,1	4	10			
Laboratory practicum (LP)*						
Practicals (P)	0,5	18	34			
Seminars (S)						
Student's individual work (SIW)	0,4	14	14			
Mid-term assessment exam						
<b>TOTAL LABOR INTENSITY</b>	<b>1</b>	<b>36</b>	<b>36</b>			

#### 6. Content of the academic discipline

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

№	Name of the section of the academic discipline	Types of academic work* (in AH)					
		L	LP	P	S	SIW	total
1	Diagnosis and treatment of volumetric formations of the liver. Indications and contraindications for surgical treatment of the liver.	2		8		6	16
2	Surgical technique of liver resection. postoperative period.	2		10		8	20

3	TOTAL	4	18	14	36
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\* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

## 6.2. Thematic schedule of educational work types:

### 6.2.1 Thematic schedule of lectures

№	Name of lecture topics	Volume in AH	
		semester	semester 12
1	Diagnosis and treatment of volumetric formations of the liver. Indications and contraindications for surgical treatment of the liver.	-	2
2	Surgical technique of liver resection. postoperative period.	-	2
	TOTAL (total - AH) 4		

### 6.2.2. The thematic plan of laboratory practicums

Curriculum not included.

### 6.2.3. Thematic plan of practicals

№	Name of the topics of practicals	Volume in AH	
		semester	semester 12
1	Diagnosis and treatment of volumetric formations of the liver. Indications and contraindications for surgical treatment of the liver.		8
2	Surgical technique of liver resection. postoperative period.		10
	TOTAL (total - AH) 18 AH		

### 6.2.4. Thematic plan of seminars

Curriculum not included.

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

№	Types and topics of SIW	Volume in AH	
		semester	semester 12
1	Diagnosis and treatment of volumetric formations of the liver. Indications and contraindications for surgical treatment of the liver.		6
2	Surgical technique of liver resection. postoperative period.		8
	TOTAL (total - AH) 14		

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

№	Types of control	Name of	Assessment formats
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	Se mes ter No.		section of academic discipline	Competence codes	types	number of test questions	number of test task options	
1.	12	Current monito ring	Control of mastering the topic	1. Diagnosis and treatment of volumetric formations of the liver. Indications and contraindicatio ns for surgical treatment of the liver. 2. Surgical technique of liver resection. postoperative period.	PC-5	Oral question ing	20	2
			Monitoring the student's individual work	1. Diagnosis and treatment of volumetric formations of the liver. Indications and contraindicatio ns for surgical treatment of the liver. 2. Surgical technique of liver resection. postoperative period.	PC-5	Oral question ing	20	2
2.		Mid- term assess ment	Credit	1. Diagnosis and treatment of volumetric formations of the liver. Indications and contraindicatio ns for surgical treatment of the liver. 2. Surgical technique of liver resection. postoperative period.	PC-5	Oral question ing	40	2

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



### 8.1. Key literature references

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Kuzin, M. I. Surgical diseases: textbook / M. I. Kuzin, N. M. Kuzin, V. A. Kubyshkin [and others]. - 5th ed., revised. and additional - Moscow: GEOTAR-Media, 2021. - 1024 p. - ISBN 978-5-9704-6346-8. - Text: electronic // EBS "Student Consultant": [website]. - URL: <a href="https://www.studentlibrary.ru/book/ISBN9785970463468.html">https://www.studentlibrary.ru/book/ISBN9785970463468.html</a> - Access mode: by subscription.	1	1
2	Davydov, M. I. Oncology: a textbook / M. I. Davydov, Sh. Kh. Gantsev [and others]. - Moscow: GEOTAR Media, 2020. - 920 p.: ill. - 920 p. - ISBN 978-5-9704-5616-3. - Text: electronic // EBS "Student Consultant": [website]. - URL: <a href="https://www.studentlibrary.ru/book/ISBN9785970456163.html">https://www.studentlibrary.ru/book/ISBN9785970456163.html</a> - Access mode: by subscription.	1	1

### 8.2. Further reading

№	Name according to bibliographic requirements	Number of copies	
		at the department	in the library
1	Poston, G. J. Principles of operative surgery: a reference guide for physicians / G. J. Poston. - Moscow: Medical Literature, 2021. - 287 p. - ISBN 978-5-89677-042-8. - Text: electronic. - URL: <a href="https://znanium.com/catalog/product/1360853">https://znanium.com/catalog/product/1360853</a> - Access mode: by subscription.	1	1
2	Pavlov, Ch. S. Diseases of the liver vessels: approaches to therapy: a textbook / Pavlov Ch. S., Semnistaya M. Ch., Mamonov A. V. - Moscow: GEOTAR-Media, 2022. - 88 p. - ISBN 978-5-9704-6497-7. - Text: electronic // EBS "Student Consultant": [website]. - URL: <a href="https://www.studentlibrary.ru/book/ISBN9785970464977.html">https://www.studentlibrary.ru/book/ISBN9785970464977.html</a> - Access mode: by subscription.	1	1

### 8.3. Electronic educational resources for teaching academic subjects

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

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users
	Internal Electronic Library System of the University (IELSU)	Proceedings of PIMU staff (textbooks, manuals, collections of tasks, methodological manuals, laboratory work, monographs, etc.)	Access by individual login and password from any computer and mobile device	Not limited

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

№	Name of the electronic resource	Brief description (content)	Access conditions	Number of users

1	Database "Medicine. Healthcare (VO) and "Medicine. Healthcare (SPO)" as part of the database "Electronic library of a technical university (ELS "Student Consultant"	Textbooks and teaching aids for higher medical and pharmaceutical education	Access by individual login and password from any computer and mobile device	Not limited
2	Database «Doctor's Consultant. Electronic Medical Library»	National guidelines, clinical guidelines, textbooks, monographs, atlases, reference books, etc.	Access by individual login and password from any computer and mobile device	Not limited
3	Database "Electronic Library System "Bukap"	Educational and scientific medical literature of Russian publishing houses, incl. translated editions. The collection of subscription publications is formed point by point.	Access by individual login and password from any computer and mobile device	Not limited
4	Electronic periodicals in the database "SCIENTIFIC ELECTRONIC LIBRARY eLIBRARY"	Electronic medical journals	Access - from the computers of the university	Not limited

### 8.3.3 Open access resources

№	Name of the electronic resource	Brief description (content)	Access conditions
1	EBS "Urayt". Access mode: <a href="http://biblio-online.ru">http://biblio-online.ru</a> .	Textbooks and teaching aids for higher medical and pharmaceutical education	Not limited
2	EBS "Student Advisor". Access mode: <a href="http://www.studentlibrary.ru">http://www.studentlibrary.ru</a> .	Textbooks and teaching aids for higher medical and pharmaceutical education	Not limited
3	EBS "Lan". Access mode: <a href="http://e.www.lanbook.com/">http://e.www.lanbook.com/</a> .	Textbooks and teaching aids for higher medical and pharmaceutical education	Not limited
4	EBS "Znaniy.com". Access mode: <a href="http://www.znaniy.com">www.znaniy.com</a> .	Textbooks and teaching aids for higher medical and pharmaceutical education	Not limited

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

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

1. Lecture hall
2. Study rooms (5)
3. Departments of a clinical hospital with wards for patients (two surgical departments with 30 beds each)
4. Reception department for emergency and planned patients
5. Operating block with intensive care and intensive care units
6. Treatment and dressing rooms
7. Diagnostic departments and offices: radiation diagnostics, ultrasound, endoscopic department, laboratory departments, blood transfusion department

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

1. Surgical instruments, devices, high-tech equipment (bases of the department)
2. Multimedia complex (laptop, projector, screen)
3. Kodascope
4. PC with Internet access
5. Sets of slides, tables, multimedia visual materials, videos on the topics of lectures and practical exercises

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

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

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

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

Department of faculty of surgery and transplantology

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**CHANGE REGISTRATION SHEET**

working program for the academic discipline  
***LIVER SURGERY***

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

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

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

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

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

Head of the Department faculty  
of surgery and transplantology  
MD, Professor Zagainov V. E.  
department name, academic title

\_\_\_\_\_/\_\_\_\_\_  
signature print name