


**FEDERAL STATE BUDGETARY  
 EDUCATIONAL INSTITUTION OF HIGHER EDUCATION  
 «AMUR STATE MEDICAL ACADEMY»  
 MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION**

AGREED

Vice –Rector for Academic Affairs

 N.V. Loskutova

April 17, 2025

Decision of the CCMC

April 17, 2025

Protocol No.7

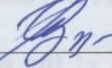
APPROVED

By decision of the Academic Council of the  
 FSBEI HE Amur SMA of the Ministry of  
 Health of the Russian Federation

April 22, 2025

Protocol No.15

Acting Rector of the FSBEI HE Amur  
 SMA of the Ministry of Health of the  
 Russian Federation

 I.V. Zhukovets

April 22, 2025



**EDUCATIONAL PROGRAM  
 discipline «Faculty Surgery, Urology»**

**Specialty: 31.05.01 General Medicine**

**Course: 4**

**Semester: 7, 8**

**Total hours: 252 hrs.**

**Total credits: 7 credit units**

**Lectures: 42 hrs.**

**Practical classes: 102 hrs.**

**Examination: 36 hrs.**

**Self-sustained work of students: 72 hrs.**

**Control form: examination, 8 semester**

**Blagoveshchensk, 2025**

The educational program of the discipline «Faculty Surgery, Urology» is designed in accordance with the requirements of the Federal State Educational Standard of Higher Education - specialist in specialty 31.05.01 General Medicine, approved by the order of the Ministry of Education and Science of Russia dated 08.12.2020 No. 988 (registered with the Ministry of Justice of Russia on 08.26.2020 No. 59493), BPEP HE (2021).

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Professor, I.V. Borozda.

APPROVED at the meeting of the Department of Surgery with a Course in Urology  
Protocol No. 7 dated March 21, 2025

Head of Department, Holder of an Advanced Doctorate (Doctor of Sciences) in Medical Sciences, Associate Professor N.P. Volodchenko

Conclusion of the Expert Commission for the Review of the Educational Programs:  
Protocol No. 2 date March 21, 2025

Expert of the expert commission,  
Holder of an Advanced Doctorate (Doctor of Science) in Medical Sciences,  
Professor A.A. Blotsky

APPROVED at the meeting of the CMC No. 4:  
Protocol No. 6 dated March 21, 2025  
Holder of an Advanced Doctorate (Doctor of Science) in Medical Sciences,

Professor I.V. Borozda

AGREED: Dean of the Faculty of Medicine,  
Ph.D. of Medical Sciences, Associate Professor  
N.G. Brush

April 17, 2025

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## 1. EXPLANATORY NOTE

### 1. 1. CHARACTERISTICS OF THE DISCIPLINE

The program for faculty surgery with a course in urology for students of medical universities is compiled taking into account modern achievements of medical science and technology. Faculty surgery studies typical forms of the course of surgical diseases. Due to the absence of specialized departments (thoracic, vascular, cardiology, proctology departments) on the clinical base of faculty surgery, students study surgical pathology of the esophagus, vessels, heart, lungs, mediastinum, thyroid gland, tumor lesions of the colon on the basis of hospital surgery. At the same time, such sections as surgery of the liver, gall bladder and ducts, pancreas, general issues of proctology, abdominal trauma have received the greatest development and perfection on the clinical base of the department of faculty surgery, where practical classes and lecturing for students can be conducted at the most modern level.

#### 1.2. Objectives and tasks of the discipline

**The purpose of teaching the discipline** is to develop students' systematic knowledge about typical variants of the course, diagnosis, treatment and rehabilitation of patients with the most common surgical and urological diseases and their complications.

#### **Learning objectives of the discipline:**

- to give students an idea of the role and place of surgery among the fundamental and medical sciences,
- to inform students about modern trends and achievements of the surgical service;
- to develop clinical thinking in students;
- to give students an idea of the typical forms of the course, treatment and rehabilitation of patients with surgical and urological pathology;
- to train students in the basic (manual and instrumental) methods of examining surgical and urological patients;
- education of students, guided by the principles of ethics and deontology; instilling highly moral standards of behavior in students at the patient's bedside and in the operating room.

#### **1.3. The place of the discipline in the structure of the main educational program of higher professional education of the Academy**

In accordance with the Federal State Educational Standard of Higher Professional Education, the total workload of the discipline is 7 credits.

(252 hours) **and includes two modules:** 1 - “faculty surgery”, 2 - “urology”.

### 1.3.1. Requirements for students

To study a discipline, knowledge, skills and abilities formed by previous disciplines are necessary.
<b>Normal anatomy, topographic and operative surgery</b>
<b>Knowledge:</b> about the structure, functions and topographic relationships of human organs and systems
<b>Skills:</b> apply knowledge when examining patients with surgical pathology, choosing a surgical technique
<b>Histology</b>
<b>Knowledge:</b> structure of tissues and cells of the body, tissue regeneration processes
<b>Skills:</b> select a method of wound treatment, taking into account the mechanism of the wound process.
<b>Pathological anatomy</b>
<b>Knowledge:</b> knowledge of pathological changes in organs and tissues in various surgical diseases
<b>Skills:</b> select adequate treatment taking into account the nature of pathological changes in tissues.
<b>Latin</b>
<b>Knowledge:</b> Basic medical and pharmaceutical terminology in Latin
<b>Skills:</b> be able to apply knowledge for communication and obtaining information from medical literature, medical documentation. (II-III level)
<b>Propaedeutics of internal diseases</b>
<b>Knowledge:</b> necessary for examination of surgical patients.
<b>Skills:</b> for making a diagnosis and developing treatment tactics
<b>Physics</b>
<b>Knowledge:</b> the use of information computer systems in medicine and health care; principles of operation and design of equipment used in medicine, the basics of physical and mathematical laws reflected in medicine. (II-III levels).
<b>Skills:</b> be able to use educational, scientific, popular science literature, the Internet for





<b>6</b>	Resuscitation, intensive care	+	+	+	+	+	+	+	+	+
<b>7</b>	Traumatology and orthopedics; VPH	+								
<b>8</b>	Surgical diseases	+	+	+	+	+	+	+	+	+
<b>9</b>	Oncology									
<b>10</b>	Infectious diseases, epidemiology	+	+	+	+	+	+	+	+	+
<b>11</b>	Clinical pharmacology	+	+	+	+	+	+	+	+	+

### 1.3.3 Requirements for the results of mastering the discipline

The process of studying the discipline "Faculty surgery, urology" is aimed at the formation of general cultural (GC), general professional (GP) and professional competencies (PC)

Competencies	Name of the discipline	
	Module – 1 "Faculty surgery"	Module – 2 "urology"
<b>OK-1</b>	+	+
<b>OK-4</b>	+	+
<b>OPK-1</b>	+	+
<b>OPK-4</b>	+	+
<b>OPK-5</b>	+	+
<b>OPK-6</b>	+	+
<b>OPK-8</b>	+	+
<b>PC-1</b>	+	+
<b>PC-5</b>	+	+
<b>PC-6</b>	+	+
<b>PK-8</b>	+	+
<b>PC-11</b>	+	+
<b>PK-16</b>	+	+
<b>PK-21</b>	+	+
<b>PC-22</b>	+	+
<b>TOTAL QUANTITY</b>	<b>15</b>	<b>15</b>

### **1.3.4. Content of competencies (or parts thereof) formed as a result of mastering the discipline**

The process of studying the discipline is aimed at developing the following competencies in the graduate:

#### **OK - general cultural competencies**

(OK-1) - the ability to think abstractly, analyze, synthesize;

(OK-4) - the ability to act in non-standard situations, readiness to bear

#### **GPC - general professional competencies**

(OPK-1) - readiness to solve standard tasks of professional activity using information, bibliographic resources, medical and biological terminology, information and communication technologies and taking into account the basic requirements of information security;

(OPK-4) - the ability and readiness to implement ethical and deontological principles in professional activities;

(OPK-5) - the ability and readiness to analyze the results of one's own activities in order to prevent professional errors;

(OPK-6) - readiness to maintain medical records;

(OPK-8) - readiness for medical use of drugs and other substances and their combinations in solving professional problems

#### **Professional competencies (PC)**

(PC-1) the ability and readiness to implement a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, preventing the occurrence and (or) spread of diseases, their early diagnosis, identifying the causes and conditions of their occurrence and development, as well as aimed at eliminating the harmful effects of environmental factors on human health;

(PC-5) - readiness to collect and analyze patient complaints, his anamnesis data, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of a disease

(PC-6) - the ability to determine - in patients the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems - X revision, adopted by the 43rd World Health Assembly, Geneva, 1989 r.

(PC-8) - the ability to determine the tactics of managing patients with various nosological forms

(PC-11) - readiness to participate in providing emergency medical care in conditions requiring urgent medical intervention;

(PC-16) - readiness for educational activities to eliminate risk factors and develop healthy lifestyle skills.

(PC-21) - ability to participate in scientific research

(PC-22) - readiness to participate in the implementation of new methods and techniques aimed at protecting the health of citizens

**1.3.5. Conjugation of general professional, professional competencies (OPK, PC) and the requirements of the professional standard approved by order of the Ministry of Labor and Social Protection of the Russian Federation dated March 27, 2017 N 306n.**

PS code **02.009**

**Medical doctor**

TF name and code	Name and code of competencies
Provision of medical care to a patient in urgent or emergency forms (Code A/01. 7)	Readiness to participate in the provision of emergency medical care in conditions requiring urgent medical intervention (PC-11). The ability to determine the main pathological conditions, symptoms, disease syndromes, nosological forms in patients in accordance with the International Statistical Classification of Diseases and Related Health Problems - X revision, adopted by the 43rd World Health Assembly, Geneva, 1986 (PC-6)
Conducting and examining a patient to establish a diagnosis (Code A/02.7)	Readiness to collect and analyze patient complaints, anamnesis data, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of a disease (PC-5)
Prescribing treatment and monitoring its effectiveness and safety (Code A/03.7)  Maintaining medical records and organizing the activities of the nursing staff at their disposal (Code A/06. 7).	Ability and readiness to determine the tactics of managing patients with various pathological forms (PC-8) Readiness for the medical use of drugs and other substances and their combinations in solving professional problems (OPK-8). Readiness to use medical products provided for by the procedures for providing medical care (OPK-11)  Readiness to maintain medical records (OPK-6).

### **1.3.6 . As a result of mastering the discipline, the student must**

#### **As a result of mastering the module "Faculty Surgery"**

##### **Know:**

- etiology, pathogenesis, typical clinical manifestations of the main surgical diseases;
- principles of surgical treatment of surgical diseases depending on age;
- new technologies in surgery;
- have an idea of the merits of domestic scientists in the development of surgery;
- deontological principles in surgery;
- modern specialized care for patients with surgical diseases;
- basic provisions on the rehabilitation of patients after surgery, issues of medical examination;

##### **Be able to:**

- collect anamnesis;
- analyze the obtained data to establish a diagnosis;
- conduct differential diagnostics of surgical diseases;
- choose a treatment method, formulate indications for conservative and surgical treatment of surgical diseases;
- provide first medical aid in acute surgical diseases;
  - be able to solve typical situational problems.

##### **Own:**

- ability examine a patient with surgical pathology (using manual and simple instrumental methods);
- the ability to perform dressings on a surgical patient;
- assist as a second assistant during operations;
- perform injections of medicinal substances;
- perform opening of abscesses;
- perform local anesthesia, pleural puncture, abdominocentesis;

#### **As a result of mastering the Urology module**

##### **Know:**

- etiology, pathogenesis, typical clinical manifestations of urological diseases;
- principles of diagnosis and treatment of urological diseases, especially in old age;
- the merits of domestic scientists in the development of urology;
- basic provisions on medical examination and rehabilitation of patients;
- scientific urological research conducted in our country and abroad;
- deontological principles in urology.

**Be able to:**

- collect anamnesis;
- generalize the obtained data to make a diagnosis;
- differentiate urological pathology from other nosologies;
- select an adequate treatment method, formulate indications for conservative and surgical treatment;
- provide first aid for acute urological diseases;
- be able to solve typical situational problems.

**Own:**

- to master the basic methods of examining a urological patient (manual and simple instrumental);
- information on specialized care for patients with urological diseases;
- technique of dressing patients after urological operations;
- catheterization of the bladder, cystoscopy;
- an algorithm for performing basic diagnostic measures when providing first aid in emergency and life-threatening conditions.

**To master:** basic technologies for converting information: text and spreadsheet editors, and Internet technology for professional activities.

**1.3.7. Forms of training organization and types of control.**

Forms of organization of students' education	Forms of control
<ul style="list-style-type: none"> <li>- Lectures</li> <li>-Practical classes</li> <li>-Work in dressing rooms</li> <li>- Visiting operating rooms</li> <li>- Interactive forms: (interactive survey, analysis of educational medical history, solving situational problems, brainstorming, discussions, defense of an abstract, small group method, etc.).</li> <li>- Participation in the research work of the department, conferences</li> </ul>	<p><b>Introductory control:</b> solving test tasks,</p> <p><b>Current control:</b></p> <ul style="list-style-type: none"> <li>- frontal survey (oral or written);</li> <li>- testing,</li> <li>- checking homework;</li> <li>- solving situational problems;</li> <li>- checking the student's independent work of choice;</li> <li>- checking the acquisition of practical skills (interviews on situational tasks, conducting business and role-playing games).</li> </ul> <p><b>Border control:</b></p> <p>A control lesson on several sections (testing, interview on situational tasks, defense of educational research work, verification of</p>

	acquisition of practical skills). <b>Intermediate control:</b> <b>exam</b> ( interview on theoretical questions, testing of practical skills).
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**Explanation.** Students receive theoretical knowledge on the subject at lectures, practical classes, and by participating in the department's research work. During practical classes, the material learned is consolidated and monitored. Interactive forms of training are used in the learning process: interactive survey, work in small groups, the "chain" method, interactive survey using the "fishbone" method, etc.

**Entrance control:** the purpose of this control is to activate students' independent work. Solving test tasks requires the ability to analyze, generalize and is a motivation for more in-depth preparation during independent work. The educational information of the tests deepens students' knowledge.

**Current control:** is carried out at each practical lesson and includes an assessment of the oral and test control developed by students during the lesson and includes: solving situational problems, analysis of the educational medical history, control of the acquisition of practical skills.

**Midterm control:** includes a control lesson on several sections and consists of an assessment of the practical skills and theoretical knowledge developed by students during the cycle of lessons, and the defense of creative work.

**Interim assessment - exam,**

Theoretical knowledge and practical skills and abilities are tested

## 2. STRUCTURE AND CONTENT OF THE DISCIPLINE

### 2.1. Scope and content of the discipline

Type of academic work	Total hours	Semesters	
		7	8
Lectures	42	28	14
Clinical practical classes	102	68	34
Independent work	72	48	24
Exam	36	-	36
Total labor intensity in hours	252	144	108
Total workload in credit units	7	4	3

### 2.2 . Thematic plan of lectures

Lectures of module No. 1 "Faculty Surgery" in the 7th semester

No.	Content	Labor	Codes of formed
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		<b>intensity in hours</b>	<b>competencies</b>
<b>1.</b>	<b>History of surgery.</b> Features of examination and treatment of patients in a surgical clinic. Features of the course of acute surgical abdominal pathology against the background of covid-19 infection.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>2</b>	<b>Appendicitis.</b> Classification, diagnostics, general principles of treatment, complications. Modern technologies of surgical treatment.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>3.</b>	Complications of appendicitis. Chronic appendicitis	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>4</b>	<b>Hernias.</b> Classification, diagnostics, general principles of treatment, complications. Tension-free methods of surgical treatment of hernias. Minimally invasive technologies in the treatment of hernias.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>5.</b>	<b>Diseases of the gallbladder and bile ducts.</b> Classification, diagnostics, general principles of treatment, complications. Minimally invasive technologies in the treatment of cholelithiasis.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>6.</b>	<b>Acute pancreatitis .</b> Classification, diagnostics, general principles of treatment, complications. Modern technologies of surgical treatment.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>7</b>	<b>Acute intestinal obstruction.</b> Classification, diagnostics, general principles of treatment, complications.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>8</b>	<b>Peritonitis.</b> Classification, diagnostics, general principles of treatment. Modern technologies of surgical treatment.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
	<b>Total</b>	<b>16 hours</b>	

### Lectures of module No. 1 "Faculty Surgery" in the VIII semester

<b>No.</b>	<b>Content</b>	<b>Labor intensity in hours</b>	<b>Codes of formed competencies</b>
<b>1.</b>	Surgical treatment of peptic ulcer.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>2</b>	Complications of peptic ulcer disease	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>3</b>	Chronic pancreatitis	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>4</b>	Focal liver lesions.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>5</b>	Portal hypertension.	<b>2</b>	OK-1, PK-1, PK-6, PK-8
<b>6.</b>	Diseases of the colon	<b>2</b>	OK-1, PK-1, PK-6, PK-8

7.	Abdominal trauma	2	OK-1, PK-1, PK-6, PK-8
	Total	14	

### Lectures of module №2 "Urology" in the 7th semester

No.	Content	Labor intensity in hours	Codes of formed competencies
1.	History of development of urology. Symptomatology and semiotics of urological diseases.	2	OK-1, PK-1, PK-6, PK-8
2.	Acute purulent diseases of the kidneys, bladder, prostate gland.	2	OK-1, PK-1, PK-6, PK-8
3	Urolithiasis.	2	OK-1, PK-1, PK-6, PK-8
4	Neoplasms of the genitourinary system	2	OK-1, PK-1, PK-6, PK-8
5	Traumatic injuries to the kidneys and urinary tract.	2	OK-1, PK-1, PK-6, PK-8
6	Anomalies of the genitourinary system	2	OK-1, PK-1, PK-6, PK-8
	Total	12	

### 2.3 Thematic plan of clinical practical classes

#### Clinical practical classes of the module "Faculty surgery" VII semester

No. p/p	Topics of clinical practical classes	Labor intensity in hours
1.	Methods of examination of a surgical patient, writing a medical history.	3.4
2.	Acute appendicitis. Peculiarities of the course of the pathological process against the background of covid infection.	3.4
3.	Complications of acute appendicitis, chronic appendicitis	3.4
4	Hernias.	3.4
5	Gallstone disease	3.4
6	Acute pancreatitis	3.4
7	Acute intestinal obstruction	3.4
8	Private types of cultural heritage	3.4

9	Peritonitis	3.4
10	UIRS Conference, Case History Defense	3.4
	Total hours	34

### Clinical practical classes of the module "Faculty surgery" VIII semester

No. p/p	Topics of clinical practical classes	Labor intensity in hours
1	Outpatient surgery	3.4
2	Surgical treatment of peptic ulcer	3.4
3	Complications of peptic ulcer disease.	3.4
4	Gastrointestinal bleeding.	
5	Portal hypertension	3.4
6	Focal liver lesions	3.4
7	Chronic diseases of the pancreas.	3.4
8	Abdominal injuries.	3.4
9	Diseases of the rectum and colon	3.4
10	UIRS Conference, Case History Defense	3.4
	Total hours	34

### Clinical practical classes of the module "Urology" in the 7th semester

No.	Topics of clinical practical classes	Labor intensity in hours
1	Symptoms and semiotics of urological diseases of the most common diseases of the kidneys, urinary tract and genitals in children.	3.4
2	Methods of examination of urological patients.	3.4
3	Inflammatory diseases of the urinary tract	3.4
4	Urolithiasis	3.4
5	Prostate tumors	3.4
6	Tumors of the genitourinary system	3.4
7	Trauma of the genitourinary system	3.4
8	Fundamentals of outpatient urology	3.4
9	Urological emergencies	3.4
10	Final lesson	3.4
	<b>Total hours</b>	<b>34</b>

## 2. 4. Contents of lectures

### Module No. 1 "Faculty Surgery"

#### Lecture No. 1

**Acute appendicitis.** Anatomical and physiological information about the cecum and appendix. Classification of the disease.

Classification. Pathological forms. Etiology, pathogenesis. Clinic, diagnostics, differential diagnosis. Peculiarities of acute appendicitis in children. Indications and contraindications for

surgery. Preparation of patients for surgery. Types of anesthesia for surgery. Peculiarities of surgical technique depending on the forms of acute appendicitis. The place of endovideosurgical technique in the surgical treatment of appendicitis. Methods of processing the stump of the vermiform appendix during laparoscopic appendectomy. Postoperative management. Results of surgical treatment. Complications of acute appendicitis (infiltrates, abscesses of the ileocecal region, interintestinal abscess, pylephlebitis). Clinic of various complications, their diagnostics and treatment. Peculiarities of the course of the pathological process against the background of covid infection.

The importance of health education work among the population

### **Lecture #2 Hernias**

Definition of the concept. Elements of abdominal hernia. Anatomical features of sliding hernias. Classification of hernias by origin, localization, course.

Etiology, pathogenesis (general and local causes, predisposing and producing factors).

General hernia symptomatology. Diagnostics. Treatment (surgical). Principles of operations, use of synthetic materials and epidermal flaps for hernial orifice plastic surgery. Concept of tension-free hernia surgery methods. Contraindications to surgery. Hernia prevention.

Hernias of the linea alba. Anatomical data. Clinic. Diagnostics. Surgical methods.

Umbilical hernias. Anatomical data. Clinical picture, diagnostics, differential diagnostics. Surgical methods (Lexer, Mayo, Sapezhko). Inguinal hernias. Anatomy of an inguinal hernia. Direct and oblique inguinal hernias (anatomical and clinical differences). Congenital inguinal hernia. Diagnostics and differential diagnostics of inguinal hernias. Surgical methods (plastic surgery according to Roux, Bobrov, Martynov, Spasokukotsky, Bassini, Kukudzhyanov).

Femoral hernias. Anatomy of the femoral canal. Clinic. Diagnostics and differential diagnostics. Methods of operations (Bassini, Ruggi, Perlavetsco).

Postoperative hernias. Causes of occurrence. Clinic, diagnostics. Methods of operations (Sapezhko, alloplasty).

Preparation of patients for surgery, postoperative management. Results of surgical treatment. Causes of hernia recurrence. Complications of hernias

### **Lecture No.3-4**

#### **Diseases of the stomach and duodenum.**

Anatomical and physiological information about the stomach and duodenum. Methods of examination of patients with stomach diseases. Concept of phases of gastric secretion and their possible disorders.

Peptic ulcer. Etiology, pathogenesis (role of unfavorable environmental factors, central nervous system disorders, neuroendocrine disorders, local “aggressive” factors, etc.). Role of disorders of

gastric secretory phases in the pathogenesis of duodenal ulcer. Role of motor-evacuation function disorders in the pathogenesis of gastric ulcer.

Pathological changes. Stages of development of peptic ulcer disease.

Uncomplicated peptic ulcer. Clinical presentation, diagnostics, differential diagnostics, principles of conservative treatment. Precancerous diseases of the stomach (gastritis, polyposis, peptic ulcer). Chronic gastritis. Clinical and anatomical forms. Atrophic (anacid) and hypertrophic (hyperacid) gastritis. Polypous gastritis. (When reading a coordinated course, all these sections are read at the Department of Therapy).

Complicated ulcer. Callous and penetrating ulcers. Malignancy of gastric ulcers. Clinical presentation, diagnostics, differential diagnostics.

Cicatricial deformations of the stomach and duodenum: stenosis of the pylorus, body of the stomach, cardia, "snail-shaped" deformation. Clinical picture, diagnostics, differential diagnostics. Water-electrolyte disorders, their prevention and treatment.

Surgical treatment of gastric and duodenal ulcers. Indications and contraindications for surgery.

The main stages of development of gastric surgery. Development of gastric surgery in Russia (S.I. Spasokukotsky, S.S.Yudin, A.G.Saviny, E.L.Berezov, A.V.Melnikov, M.I.Kuzin, V.Ya. Mayat). Modern achievements in this field of surgery.

Methods of surgery: gastrectomy, gastroenterostomy, vagotomy. Types of gastrointestinal anastomoses in gastrectomy: Bilioth-I, Bilioth-II, Finsterer, Polia-Reichel, Balfour, Roux methods; antrumectomy with selective and trunk vagotomy, replacement of the resected part of the stomach with a transplant from the small and large intestines. Duodenoplasty method in the treatment of duodenal ulcer. Rehabilitation of patients with peptic ulcer.

Preoperative preparation and postoperative management of patients with gastric diseases. Correction of water-electrolyte imbalances, control of anemia, preparation of the gastrointestinal tract, cardiovascular system and lungs.

Prevention and treatment of postoperative complications: bleeding, atony of the stomach and intestines, anastomosis, divergence of the sutures of the duodenal stump and gastrointestinal anastomoses, peritonitis, pulmonary complications, etc.

Perforated ulcer of the stomach and duodenum. Classification of perforations, pathological anatomy. Clinical picture (primary shock, euphoria stage, diffuse peritonitis stage). "Covered" perforations, preperforative condition. Differential diagnostics. Surgical treatment (suturing of the perforation, gastric resection). Laparoscopic methods in the treatment of perforated ulcer.

Bleeding ulcer of the stomach and duodenum. Classification of bleeding. Pathological anatomy. Pathogenesis of disorders. Clinical picture of gastrointestinal bleeding. Diagnostics, differential diagnostics. Conservative treatment of bleeding ulcers. Method of selective embolization of

gastric vessels in case of bleeding. Methods of endoscopic bleeding control. Indications for surgical treatment of ulcerative bleeding. Types of surgical interventions in case of bleeding from ulcers of the stomach and duodenum. Treatment results.

### **5 Lecture No. 5 Diseases of the gallbladder and bile ducts .**

Anatomical and physiological information about the gallbladder and bile ducts. Classification of diseases, methods of examination of patients with diseases of the gallbladder and bile ducts. Gallstone disease. Pathogenesis of stone formation (infectious theory, theory of bile stasis, theories of cholesterol and pigment metabolism disorders).

Acute and chronic cholecystitis. Classification. Clinical presentation, diagnostics, differential diagnostics. Treatment. Indications for surgery. Dropsy and empyema of the gallbladder. Clinical presentation, diagnostics, treatment. Obstruction of the common bile duct (choledocholithiasis, cicatricial strictures). Clinical presentation, diagnostics, differential diagnosis of obstructive jaundice. Cholemia and acholia, their origin and complications . Features of surgery in icteric patients, preoperative preparation, measures to prevent cholemic bleeding. Cholangitis. Classification. Clinical presentation, diagnostics, differential diagnosis. The concept of biliary sepsis. Possible algorithms for the treatment of cholecystitis complicated by mechanical jaundice, cholangitis. The place of minimally invasive technologies (laparoscopic surgeries on the gallbladder, bile ducts; options for endoscopic papillosphincterotomy; contact lithotripsy). Peculiarities of tactics and treatment for biliary tract pathology in our clinic. Treatment of biliary sepsis.

Alternative methods in the treatment of gallstone disease: drug lithotripsy, shock wave lithotripsy, endovideosurgery in the treatment of cholecystitis, surgery from a small (mini) access.

### **Lecture No. 6 Acute pancreatitis.**

Anatomical and physiological information about the pancreas. Classification of diseases.

Pancreatitis. Definition of the term. Classification of pancreatitis. Acute pancreatitis (acute edema, hemorrhagic pancreatic necrosis, fatty pancreatic necrosis). Modern understanding of the etiology. The importance of morphological changes in the area of the ampulla of Vater, duodenostasis, dietary disorders, the role of infection, vascular disorders, factors causing activation of gastric enzymes of the pancreas, the importance of the kinin system for the development of the disease. Pathogenesis: the concept of the “trypsin” and “lipase” stages of disease development, activation of the kallikrein-kinin system, disorders of systemic microcirculation and hemodynamics. Pathological anatomy of acute pancreatitis.

Clinic. Concepts of two phases of the disease. Local complications: in the pre-infectious phase of the disease and in the infection phase. Diseases and systemic: pancreatogenic shock, septic

shock, multiple organ failure. Clinical semiotics. The importance of laboratory research methods in diagnosing the disease. Instrumental and radiation diagnostics. Differential diagnosis. Treatment tactics depending on the form of pancreatitis. The importance of pancreatic enzyme inhibitors, their types and place in the general complex of therapeutic measures. Use of cytostatics and sandostatin. Indications for surgery. The place of laparoscopic methods in surgery for acute pancreatitis. Outcomes of conservative and surgical treatment. Regime of patients who have had acute pancreatitis.

### **Lecture No. 7. Intestinal obstruction.**

Definition of the concept. Classification (by origin, pathogenesis, anatomical localization, clinical course). Methods of examining patients.

Congenital intestinal obstruction. Atresia. Pathological anatomy. Pathogenesis. Clinical presentation, diagnostics, differential diagnostics. Principles of surgical treatment.

Dynamic (spastic, paralytic) intestinal obstruction. Etiology, pathogenesis. Dynamic intestinal obstruction as a symptom of acute diseases of the thoracic, abdominal cavities and retroperitoneal space. Clinical picture, differential diagnostics. Principles of surgical and conservative treatment.

Mechanical intestinal obstruction (obstructive, strangulation). Classification of mechanical intestinal obstruction.

Obstructive intestinal obstruction. Definition of the concept. Volvulus, nodulation, strangulation. Causes. Features of pathogenesis. Clinical presentation of various types of strangulation intestinal obstruction. Diagnostics, differential diagnosis. Types of operations. Indications for intestinal resection.

Intussusception. Definition of the term. Types of intussusception. Causes, pathogenesis. Intussusception as a combination of obstructive and strangulation intestinal obstruction. Clinical presentation, diagnostics, differential diagnosis. Types of surgeries. Indications for disintussusception and resection of intussusception.

Preoperative preparation and postoperative management in patients with acute intestinal obstruction. Combating intoxication, intestinal paresis, water-electrolyte disturbances.

Chronic intestinal obstruction. Causes, pathogenesis, clinical picture, diagnostics, differential diagnosis. Conservative and surgical treatment. Adhesive disease. Etiology, pathogenesis. Clinic. Prevention of adhesive disease. Types of operations for adhesive disease

**Lecture No. 8 Focal liver lesions.** Benign liver tumors. Liver cancer: morphological forms, classification, clinical features, diagnostics, treatment.

Liver abscess: causes, pathogenesis, classification, clinical picture and complications; diagnostic methods, treatment and outcomes.

Echinococcus of the liver: hydatid and alveolar forms of echinococcosis and alveococcosis of the liver. Endemic regions of Russia. Characteristics of parasites. Clinical presentation, diagnostics, differential diagnostics. Surgical tactics. Methods of surgical treatment. 2

**Lecture No. 9 Portal hypertension.** Classification (intrahepatic, extrahepatic and mixed forms of portal hypertension). Hypersplenism. Clinical features and diagnostics.

The importance of splenography and splenoportomanometry. Indications and contraindications for surgical treatment of portal hypertension. Principles of surgical treatment. Bleeding from dilated veins of the esophagus and cardia. Differential diagnostics. First aid. Conservative treatment. Concept of drugs that reduce pressure in the portal system. Use of the Blackmore probe. Methods of surgical treatment (Tanner operations, direct and indirect portocaval anastomoses). Budd-Chiari disease. Diagnostics. Surgical treatment of it.

10. **Lecture No. 10.** Diseases of the rectum (hemorrhoids, fistulas, paraproctitis). Clinic, diagnostics, treatment.

11. Lecture No. 11. Abdominal trauma.

12. Lecture No. 12. **Outpatient** surgery.

### **Module "Urology"**

**Lecture №1** History of urology development. Symptomatology and semiotics of urological diseases. History of urological clinics in Russia. Characteristics of domestic surgical and urological schools and their role in the development of urology. History of the development of the urology course at ASMA, its contribution to the development of domestic urology. Main scientific directions of the course. Features of studying a urological patient and treatment in a urological clinic The role of anamnesis, objective research methods, laboratory data, instrumental and radiological examination in a urological clinic.

Diagnosis. The concept of differential diagnosis. Surgical treatment and its importance. Ways to reduce the risk associated with the use of surgical treatment. The importance of studying the functions of the body before, during and after surgery.

The development of urology as an independent science is revealed. The role of S.P. Fedorov and Russian scientists in the development of urology in Russia, the development of diagnostic and treatment methods for urological diseases. Classification, diagnostics and treatment of anomalies of the genitourinary system in humans, as well as a new direction in the study of anomalies in urology from the standpoint of causal and formal genesis of changes in gene nature. The significance of anomalies of the genitourinary system in humans as the root cause of other urological diseases, the role of medical examination in their prevention are revealed. Treatment.

**Lecture No. 2 Acute purulent diseases of the kidneys, bladder, prostate gland.**

Modern view on occurrence, diagnostics and treatment of acute purulent kidney diseases, their role and significance in the general group of pyelonephritis. Urosepsis as one of the early complications of acute - purulent kidney diseases, causes and pathogenesis, principles of treatment. Anatomical and physiological information about the kidney, bladder, prostate gland. Classification of diseases. Acute pyelonephritis. Classification. Pathological forms. Etiology, pathogenesis. Clinic, diagnostics, differential diagnosis. Features of the course of acute pyelonephritis in children. Indications and contraindications for nephrectomy. Preparation of patients for surgery. Types of anesthesia for surgery. Features of surgical technique depending on the forms of acute pyelonephritis. The place of endovideosurgical technique in the surgical treatment of pyelonephritis. Postoperative management. Results of surgical treatment. Complications of acute pyelonephritis.

Clinic of various complications, their diagnostics and treatment. The importance of public health education and emergency care in reducing complications and mortality in acute pyelonephritis.

### **Lecture No. 3 Urolithiasis.**

Modern understanding of general issues of etiology, clinical picture and diagnostics. General principles of treatment, prevention and diagnostics of urological patients suffering from urolithiasis.

### **Lecture No. 4 Neoplasms of the genitourinary system.**

Kidney cancer. Etiology, pathogenesis (role of unfavorable environmental factors, central nervous system dysfunction, neuroendocrine disorders, local “aggressive” factors, etc.). Pathological changes. Stages of development.

Clinic, diagnostics, differential diagnostics, principles of conservative and surgical treatment.

Bladder cancer. Etiology, pathogenesis (role of unfavorable environmental factors, central nervous system disorders, neuroendocrine disorders, local “aggressive” factors, etc.). Pathological changes. Stages of development.

Clinic, diagnostics, differential diagnostics, principles of conservative and surgical treatment.

Kidney cancer. Etiology, pathogenesis (role of unfavorable environmental factors, central nervous system disorders, neuroendocrine disorders, local “aggressive” factors, etc.). Pathological changes. Stages of development.

Clinic, diagnostics, differential diagnostics, principles of conservative and surgical treatment.

### **Lecture No. 5. Traumatic injuries of the kidneys and urinary tract.**

Buried injuries of the genitourinary system. Classification, features of the clinical course, diagnostics and treatment of injuries of the genitourinary system.

### **Lecture No. 6.**

#### **Anomalies of the genitourinary system.**

## 2.5. Contents of clinical practical classes

### Module No. 1 "Faculty Surgery"

No.	Name of topics of clinical practical classes	Contents of clinical practical classes	Competency codes	Forms of knowledge control
1	Appendicitis.	Basic principles of diagnostics, treatment methods, complications. Minimally invasive technologies of surgical treatment of acute appendicitis.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
2.	Hernias	Classification, principles of diagnostics, methods of plastic surgery, complications, minimally invasive technologies for surgical treatment of hernias	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, testing, solving situational problems.
3.	Diseases of the biliary tract.	Basic principles of diagnostics, treatment methods, complications. Minimally invasive technologies of surgical treatment of cholecystitis	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
4.	Acute pancreatitis	Basic principles of diagnostics, treatment methods, complications of acute pancreatitis, minimally invasive technologies for surgical treatment of pancreatitis.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
5.	Gastric ulcer and duodenal ulcer	Basic principles of diagnosis, treatment methods, complications of peptic ulcer disease.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
6.	Complications of peptic ulcer disease.	Classification, diagnostics, methods of	OK-1, 4.	Frontal survey, situational

		treatment of complications.	OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	solutions tasks, control assimilation practical skills.
7.	Intestinal obstruction	Classification, diagnostics, methods of treatment of complications.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
8.	Peritonitis	Definition, classification, basic principles of diagnosis, treatment methods, complications.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
9.	Focal liver lesions	Classification, basic principles of diagnosis, treatment methods, complications.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
10.	Diseases of the colon and rectum	Basic principles of diagnostics, treatment methods, complications. Minimally invasive technologies of surgical treatment of rectal diseases.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.

### Module "Urology"

No.	Name of topics of clinical practical classes	Contents of clinical practical classes	Competency codes	Forms of knowledge control
1	Symptoms and semiotics of urological diseases	History of urology development. Symptomatology and semiotics of urological diseases. History of urological clinics in Russia. Characteristics of domestic surgical and urological schools and	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.

		<p>their role in the development of urology. History of the development of the urology course at ASMA, its contribution to the development of domestic urology. Main scientific directions of the course. Features of studying a urological patient and treatment in a urological clinic</p>		
2	<p>Methods of examination of urological patients.</p>	<p>The role of anamnesis, objective research methods, laboratory data, instrumental and radiological examination in a urological clinic.</p>	<p>OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22</p>	<p>Frontal survey, situational solutions tasks, control assimilation practical skills.</p>
3	<p>Inflammatory diseases of the genitourinary system.</p>	<p>Modern view on occurrence, diagnostics and treatment of acute purulent kidney diseases, their role and significance in the general group of pyelonephritis. Urosepsis as one of the early complications of acute - purulent kidney diseases, causes and pathogenesis, principles of treatment. Acute pyelonephritis. Classification. Pathological forms. Etiology, pathogenesis. Clinic, diagnostics, differential diagnosis. Features of the course of acute pyelonephritis in children. Indications and contraindications for nephrectomy. Preparation of patients for surgery. Types of anesthesia for surgery. Features of surgical technique depending on the forms of acute pyelonephritis. The place of endovideosurgical technique in the surgical treatment of pyelonephritis.</p>	<p>OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22</p>	<p>Frontal survey, situational solutions tasks, control assimilation practical skills.</p>

		Postoperative management. Results of surgical treatment. Complications of acute pyelonephritis.		
4	Urolithiasis.	Modern understanding of general issues of etiology, clinical picture and diagnostics. General principles of treatment, prevention and diagnostics of urological patients suffering from urolithiasis.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
5	Prostate tumors.	Classification, Pathological changes. Stages of development. Clinic, diagnostics, differential diagnostics, principles of conservative and surgical treatment.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
6	Tumors of the genitourinary system.	Kidney cancer. Etiology, pathogenesis (role of unfavorable environmental factors, central nervous system disorders, neuroendocrine disorders, local "aggressive" factors, etc.). Pathological changes. Stages of development. Clinic, diagnostics, differential diagnostics, principles of conservative and surgical treatment. Bladder cancer. Etiology, pathogenesis (the role of unfavorable environmental factors, central nervous system dysfunction, neuroendocrine disorders, local "aggressive" factors, etc.).	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
7	Injuries to the genitourinary system.	Buried injuries of the genitourinary system. Classification, features of the clinical course, diagnostics and treatment of injuries of the genitourinary system.	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.
8	Fundamentals of outpatient urology.	Organization of the work of the urological service in outpatient settings, Clinical examination of urological	OK-1, 4. OPK-	Frontal survey, situational solutions tasks, control

		patients.	1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	assimilation practical skills.
9	Urological emergencies.	Diagnostics, scope of assistance in acute urinary retention	OK-1, 4. OPK- 1,2,4,5,8. PC -1, 4,5,6, 8, 11, 16, 21,22	Frontal survey, situational solutions tasks, control assimilation practical skills.

## 2.6. Interactive forms of learning

### Interactive forms of conducting clinical practical classes

No.	Topic of clinical practical lesson	Labor intensity in hours	Interactive forms of learning	Labor intensity in hours, in % of the lesson
1.	Acute appendicitis	3.4	Interactive survey using the method "work in small, case-method"	40 minutes (0.66 hours 23.5%)
2	Hernias	3.4	Brainstorming method, case - method	40 minutes (0.66 hours) 23%
3	Gastric ulcer	3.4	Interactive survey using the method "work in small	40 minutes (0.66 hours) / 23%
4.	Complications of gastric ulcer	3.4	Brainstorming method, case method	40 minutes (0.66 hours) / 23%
5	Diseases of the biliary tract	3.4	Brainstorming method, case method	40 minutes (0.66 hours) / 23%
6.	Diseases of the pancreas.	3.4	Interactive survey using the method "work in small	40 minutes (0.66 hours) / 23%
7.	Intestinal obstruction	3.4	Brainstorming method, case method	40 minutes (0.66 hours) / 23%
8	Peritonitis	3.4	Brainstorming method, case method	40 minutes (0.66 hours) / 23%
9	Focal liver diseases	3.4	Interactive survey using the method "work in small	40 minutes (0.66 hours) / 23%
10	Diseases of the rectum	3.4	Brainstorming method, case	40 minutes (0.66 hours) / 23%

			method)	
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## 2.7. Criteria for assessing learning outcomes

Rating scales for ongoing knowledge control

The success of students in mastering the discipline (topics/sections), practical skills and abilities is characterized by a qualitative assessment and is assessed on a 5-point system: "5" - excellent, "4" - good, "3" - satisfactory, "2" - unsatisfactory.

The conversion of the mark into a point scale is carried out according to the following scheme:

Quality of development	Success rate	Mark on 5-point scale
90-100 %	Programmatic / Elevated	"5"
80-89 %	Program	« 4»
50-79 %	Essential/Basic	"Z"
less than 50 %	Below necessary	"2"

Assessment criteria (grades) of the theoretical part

"5" - for the depth and completeness of mastery of the content of the educational material, in which the student easily navigates, for the ability to connect theoretical questions with practical ones, express and justify their judgments, correctly and logically present the answer; when testing, allows up to 10% of erroneous answers.

"4" - the student has fully mastered the educational material, is oriented in it, correctly states the answer, but the content and form have some inaccuracies; during testing, allows up to 20 % of erroneous answers.

"Z" - the student has mastered the knowledge and understanding of the main provisions of the educational material, but presents it incompletely, inconsistently, does not know how to express and justify his/her judgments; when tested, allows up to 30 % of erroneous answers.

"2" - the student has fragmented and unsystematic knowledge of the educational material, is unable to distinguish between the main and the secondary, makes mistakes in defining concepts, distorts the meaning, presents the material in a disorderly and uncertain manner, and makes more than 30 % of erroneous answers when tested.

#### Assessment criteria for the practical part

"5" - the student supervises a thematic patient on a daily basis, has fully mastered the practical skills and abilities provided for by the work program of the discipline (correctly interprets the patient's complaints, anamnesis, objective examination data, formulates a clinical diagnosis, prescribes examination and treatment, interprets clinical laboratory and instrumental indicators taking into account the norm).

"4" — the student supervises the thematic patient on a daily basis, has mastered the procedure completely, but makes some inaccuracies.

"Z" student does not regularly supervise the patient; the student has only some practical skills and abilities.

"2" - the student has visited the supervised patient less than 4 times, performs practical skills and abilities with gross errors.

#### Duty assessment criteria and duty report

"5" - the student worked on duty without any comments, took an active part in carrying out medical procedures, emergency care, competently and correctly presents the medical history of the supervised patient, formulates a clinical diagnosis, prescribes examination and treatment, skillfully combines theoretical knowledge with practical skills.

"4" - the student worked on duty without any comments, took an active part in carrying out medical procedures, emergency care, but makes some inaccuracies in presenting the medical history of the supervised patient, making a clinical diagnosis, prescribing examination and treatment.

"Z" - the student worked on duty without any comments, but was passive, made inaccuracies in presenting the medical history of the supervised patient, making a clinical diagnosis, prescribing examination and treatment.

"2" — the student was not on duty or was on duty with comments, was passive, does not know how to present the medical history of the supervised patient, make a clinical diagnosis, prescribe examination and treatment.

#### Criteria for evaluation of educational medical history

"5" - preparation of the educational medical history in accordance with the requirements.

"4" - in the student's medical history, there are some inaccuracies in the formulation of a detailed clinical diagnosis, examination and treatment.

“Z” - the medical history is filled with errors, written in illegible handwriting, there are inaccuracies in the formulation of the detailed clinical diagnosis, treatment, the pathogenesis of the disease is not fully covered.

“2” - the medical history is written in illegible handwriting, with gross errors (a detailed clinical diagnosis is not made and not substantiated, treatment is not prescribed correctly, the pathogenesis of the disease is not covered).

#### Working off disciplinary debts

If a student misses a class for a valid reason, he/she has the right to make it up and receive the maximum grade provided for by the course work program for that class. A valid reason must be documented.

If a student misses a class for an unjustified reason or receives a "2" mark for all activities in the class, he/she is required to make it up. In this case, the mark received for all activities is multiplied by 0.8.

If a student is excused from a class at the request of the dean's office (participation in sports, cultural and other events), then he is given a grade of "5" for this class, provided that he submits a report on the completion of mandatory extracurricular independent work on the topic of the missed class.

#### Assessment criteria for midterm assessment

Interim certification is carried out in 3 stages:

1. Test control in the Moodle system .
2. Passing practical skills (competencies).
- Z. Answers to examination tickets.

#### Criteria for final assessment (midterm assessment)

"Excellent" - for the depth and completeness of mastering the content of the educational material, in which the student easily navigates, for the ability to connect theoretical questions with practical ones, express and justify their judgments, correctly and logically present the answer; when testing, allows up to 10% of erroneous answers. Practical skills and abilities provided for by the working program of the discipline are fully mastered.

"Good" - the student has fully mastered the educational material, is oriented in it, correctly states the answer, but the content and form have some inaccuracies; during testing allows up to 20% of erroneous answers. Completely practical skills and abilities provided by the working program of the discipline, but allows some inaccuracies

"Satisfactory" - the student has mastered the knowledge and understanding of the main provisions of the educational material, but presents it incompletely, inconsistently, does not know how to express and justify his/her judgments; during testing, allows up to 30% of erroneous answers, has only some practical skills and abilities.

"Unsatisfactory" - the student has fragmented and unsystematic knowledge of the educational material, is unable to distinguish between the main and secondary, makes mistakes in defining concepts, distorts their meaning, presents the material in a disorderly and uncertain manner, and makes more than 30 % of erroneous answers during testing. Performs practical skills and abilities with gross errors.

A student can claim to receive an "excellent" grade automatically if he/she has won a prize in disciplinary or interdisciplinary Olympiads (university, regional) and has an average grade for the current academic performance of at least 4.8 points. A student can refuse the "automatic" grade and take an exam or test together with a group on a general basis.

#### Academic rating of students

The rating indicator for a discipline is formed on the basis of an assessment of the student's knowledge, skills, and abilities based on the results of the midterm assessment and bonus/penalty points. The maximum result that a student can achieve is 10 points.

### **2.8. Independent work of students**

#### **2.8.1 Independent classroom work**

The main didactic tasks of independent work of students under the guidance teacher: consolidation of knowledge and skills acquired during the study process academic discipline, in lectures and practical classes; preventing them forgetting; expansion and deepening of educational material; formation of skills and independent work skills; development of independent thinking and creativity students' abilities.

**Students' independent classroom work includes** : solving situational problems, familiarization with the department's available methodological aids, tables, and diagrams, and writing conclusions based on the presented results of patient examinations.

#### **2.8.2. Students' independent work outside the classroom**

The main forms of extracurricular independent work can be:  
 study of basic and additional educational and scientific literature;  
 solving situational problems, test assignments, work in an online classroom,  
 preparation of oral reports; writing of abstracts, preparation  
 presentations. This type of learning activity should be based on activity,  
 initiative, awareness and independent activity of students.

No.	Topic of the practical lesson	Time to prepare for the lesson	Forms of extracurricular work of students	
			Basic forms required for all students	At the student's choice, abstract messages on topics
1	Acute appendicitis	2 hours	Writing a case history. Preparation on theoretical issues (reading primary and secondary literature, giving lectures, solving test control, abstracting)	Minimally invasive technologies in the treatment of surgical patients.
2	Hernias	2 hours	Preparation on theoretical issues (reading basic and additional literature, giving lectures, solving test control, reviewing)	Tension-free surgical methods for treating hernias.
3.	Diseases of the biliary tract	2 hours	Preparation on theoretical issues (reading basic and additional literature).	Minimally invasive technologies for the treatment of cholelithiasis
4.	Diseases of the pancreas		Preparation on theoretical issues (reading basic and additional literature, giving lectures, solving test control, reviewing)	Modern minimally invasive technologies for the treatment of pancreatitis.
5.	Gastric ulcer		Preparation on theoretical issues (reading basic and additional literature, giving lectures, solving test control,	New approaches to the treatment of peptic ulcer disease.

			reviewing)	
6	Peritonitis		Preparation on theoretical issues (reading basic and additional literature, giving lectures, solving test control, reviewing)	Minimally invasive technologies in the treatment of patients.
7.	Intestinal obstruction		Preparation on theoretical issues (reading basic and additional literature, giving lectures, solving test control, reviewing)	Modern methods of gastrointestinal tract decompression.
8.	Focal liver diseases		Preparation on theoretical issues (reading basic and additional literature, giving lectures, solving test control, reviewing)	New technologies and treatment of focal liver lesions.
9	Diseases of the rectum		Preparation on theoretical issues (reading basic and additional literature, giving lectures, solving test control, reviewing)	Minimally invasive technologies in proctology.
10	UIRS Conference	4		
	Total labor intensity (in hours)	24		

## Module 2. Urology

No. p/p	Topic of the clinical lesson	Time in preparation preparation for classes	Mandatory forms, the same for all students	Forms of extracurricular activity independent work student
1	Symptoms and semiotics of urological diseases	2	Preparation on theoretical issues (reading basic and additional literature, giving	Minimally invasive technologies in the treatment of urological sick.
2	Methods of examination of urological patients	2		New methods of examination urological patients

3	Non-specific and specific diseases of the genitourinary system	2	lectures, solving test control, writing abstracts). on duty	Modern antiseptics in the treatment of patients with urolo profiles	
4	Urolithiasis	2		Minimally invasive technologies in the treatment of urolithiasis	
5	Prostate tumors	2			
6	Tumors of the urinary system	2		New treatment technologies in oncology of the genitourinary syste	
7	Injuries to the genitourinary system	2		Minimally invasive technologies in the treatment of injuries genitourinary system	
8	Outpatient urology	2		SAH in the treatment of patients with genitourinary system	
9	UIRS. Urological emergencies	2			
10	Final test lesson. Protecting medical history	2			
<b>Labor intensity in hours</b>		20		<b>2</b>	
<b>Total labor intensity (in hours)</b>					24 hours

## 2. 9 . Research work of students

Research work of students is a mandatory section study of the discipline. Research is aimed at the comprehensive formation of general cultural and professional competencies of students. Involves the study specialized literature and other scientific and technical information on the achievement domestic and foreign science and technology in the relevant field of knowledge, participation in scientific research, etc. The subject of research can be chosen by students independently in consultation with the teacher, or from the list below (taking into account the scientific direction of the department).

### Sample topics of students' research work.

1. Hospital-acquired infection.
2. Modern methods of hemostasis in urology and surgery.
3. Minimally invasive technologies in surgery.
4. Robots in the service of surgeons and urologists.
5. Minimally invasive technologies in urology.
6. The place of the SAC in providing assistance to surgical patients.

**A binary system is used to evaluate research work** : passed, failed

## 3. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE

### 3.1. Primary literature

1. Komyakov, B. K. Urology : textbook / B. K. Komyakov. - 2nd ed. , reworked. and additional. - Moscow : GEOTAR-Media, 2020. - 480 p. : ill. - 480 s. - ISBN 978-5-9704-5601-9. - Text : electronic (date of receipt: 04.05.2021). - Access mode : by subscription.

<http://www.studmedlib.ru/book/ISBN9785970456019.html>

2. Kuzin, M. I. Surgical diseases : textbook / M. I. Kuzin, N. M. Kuzin, V. A., Kubyshkin et al. - 5th ed. , reworked. and additional. - Moscow : GEOTAR-Media, 2020. - 1024 p. - ISBN 978-5-9704-5438-1. - Text : electronic (date of receipt: 04.05.2021). - Access mode : by subscription.

<http://www.studmedlib.ru/book/ISBN9785970454381.html>

3. Krylov, N. N. Surgical diseases: in 2 volumes: Volume 1: textbook / edited by Krylov N. N. - Moscow: GEOTAR-Media, 2019. - 816 p. - ISBN 978-5-9704-5098-7. - Text: electronic (date accessed: 05/04/2021). - Access mode: by subscription.

<http://www.studmedlib.ru/book/ISBN9785970450987.html>

4. Krylov, N. N. Surgical diseases: V. 2: textbook / edited by Krylov N. N. - Moscow: GEOTAR-Media, 2019. - 592 p. - ISBN 978-5-9704-5099-4. - Text: electronic (date accessed: 05/04/2021). - Access mode: by subscription.

<http://www.studmedlib.ru/book/ISBN9785970450994.html>

### 3.2. ADDITIONAL REFERENCES:

1. Belkov A.V. Guide to faculty surgery. - M.: OJSC Publishing house "Medicine", 2009.-496 p.

2. Belkov A.V. Faculty surgery. Lecture course. - Rostov-on-Don: Phoenix.-2007.-436 p.

3. Glybochko, P. In Urology. From symptoms to diagnosis and treatment. Illustrated manual / Ed. Glybochko P. V. , Alyaeva Yu. G. , Gazimieva M. A. - Moscow : GEOTAR-Media, 2021. - ISBN 978-5-9704-6045-0. - Text : electronic (date of receipt: 04.05.2021). - Access mode : by subscription. <http://www.studmedlib.ru/book/ISBN9785970460450.html>

4. Evtikhov R.M., Putin M.E., Shulutko A.M. and others. Clinical surgery: textbook. manual. - M.: GEOTAR-Media, 2005.-864s. .

5. Guide to practical classes in urology: textbook/edited by Yu.G. Alyaev. – M.: “MIA”, 2003. – 208 p.

6. Savelyeva, A. I. Kiriyyenko. - 2nd ed. , processed and additional - Moscow: GEOTAR-Media, 2017. - 688 p. - ISBN 978-5-9704-3999-9. - Text: electronic (date of access: 04.05.2021). - Access mode: by subscription. <http://www.studmedlib.ru/book/ISBN9785970439999.html>

7. Hinman F. Operative urology: Atlas. Translation from English-M.: GEOTAR-Media, 2007.- 1192s

8. Urology. Illustrated workshop: textbook. manual / ed. SOUTH. Alyaeva, N.A. Grigorieva. – M.: GEOTAR-Media, 2011. - 96 p.: ill. [electronic resource]  
Electronic resource address: <http://old.studmedlib.ru/ru/index.html>

### 3.3. Educational and methodological materials prepared by the department staff

1. Volodchenko N.P. Diagnostics and treatment of bleeding. Study guide. Blagoveshchensk, 2015
2. Volodchenko N.P. Minimally invasive technologies in abdominal surgery. Tutorial. Blagoveshchensk, 2017
3. Volochenko N.P. Abdominal trauma. Tutorial. Blagoveshchensk, 2018 3. Volochenko N.P. Abdominal trauma. Tutorial. Blagoveshchensk, 2018
4. Volodchenko N.P. Purulent surgical infection and diabetes mellitus. Study guide. Blagoveshchensk, 2019
5. Volochenko N.P. Diagnostics and treatment of bleeding. Study guide. Blagoveshchensk, 2021
6. Volochenko N.P. Inpatient care for surgical patients. Study guide. Blagoveshchensk, 2022

### 3.4. Material and technical base of the educational process

#### 3.4.1. List of equipment used in teaching students

The Department of Surgery with a course in urology is located on the basis of the State Autonomous Healthcare Institution of the Arkhangelsk Region “Blagoveshchensk City Clinical Hospital” (32 Bolnichnaya St.). The department has 8 classrooms for conducting clinical practical classes, in the rooms There are tables and chairs (for teachers and students), educational boards , couches . The classrooms are equipped with thematic stands and tables on the subjects taught at the Department of Surgery with a course in urology. Albums on PhKG and PhKG sets.

No.	Name	Quantity
1	Video complex (TV, DVD)	1
2	A set of visual aids	1
3	Personal computers	8
4	Handout kit	100
5	A bank of lectures on all topics of the program (on electronic and paper media) with multimedia presentations for them.	52

6	<b>Presentations on topics</b> 1) Acute intestinal obstruction; 2) Acute calculous cholecystitis, choledocholithiasis, mechanical jaundice; 3) Acute destructive pancreatitis. Features of tactics and surgical treatment; 4) Focal liver lesions. Ultrasound results; 5) Modern methods of treatment of cholelithiasis;	1 1 1 1
7	<b>3. Atlases (on electronic and paper media):</b> 1) R-diagnostics of OKN; 2) Computed tomography of pathology of the liver, pancreas and spleen; 3) Computed tomography of abdominal cavity pathology; 4) Distal resection of the pancreas; 5) Focal liver lesions – surgical treatment; 6) Operations on the pancreas.	1 1 1 1

### 3.4.2. Multimedia materials, electronic library

No · p/p	Name, title	View	Number of copies
	<b>Multimedia materials (list)</b>		
1	Tuberculosis of the genitourinary system	Flash	2
2	Algorithm and standard of treatment of urinary tract infections in pregnant women	Flash	2
3	Overactive bladder syndrome	Flash	2
4	Boys' health	Flash	2
5	Lecture: Sex education	Flash	2
6	Acute pyelonephritis	Flash	2
7	Bladder cancer	Flash	2
8	Kidney cancer	Flash	2
9	Semiotics and symptoms of urological diseases	Flash	2
10	Injuries to the genitourinary system	Flash	2
11	Ultrasound semiotics of urological diseases	Flash	2
12	Surgical suture material	Flash	2
13	Urolithiasis	Flash	2
14	Qualification tests in urology RMAPO	Flash	2
	<b>Electronic library</b>		
1	Internet in the education of urologists and andrologists (with access to global information sites)	Word	1
2	Abstracts of dissertations (bank)	PDF	1
3	European Urology (articles from the journal)	PDF , Web - sites	1
4	BPH	Electronic	1
5	Oncourology	Electronic	1

6	External lithotripsy	Electronic	1
7	Endourology	Electronic	1
8	TVT	Electronic	1
9	Andrology (folder with electronic materials)	Electronic	1
10	Prostate cancer	Electronic	1
11	TUR of the prostate	Electronic	1
12	Bladder cancer	Electronic	1
13	Anatomy (atlas)	Electronic	1
14	Monographs, atlases (22 sources)	Electronic	1
<b>Video materials (list)</b>			
1	Adenomectomy	Flash	1
2	TUR BPH	Flash	1
3	Laparoscopic renal cyst excision	Flash	1
4	Nephrectomy	Flash	1
5	Laparoscopic nephropexy	Flash	1
6	Laparoscopic spermatic vein clipping	Flash	1
7	Laparoscopic pyelolithotomy	Flash	1
8	Foley operation with laparoscopic access	Flash	1
9	TUR of the prostate	CD	1
10	European Video Journal of Urology, No. 13.3, 13.4	DVD	1
11	European Video Journal of Urology, No. 14.1, 14.2	DVD	1
12	Contact lithotripsy of the ureter and bladder	CD	1
13	Penile prosthesis	CD	1
14	Buccal urethral plastics	CD	1
<b>Photo and video materials (list)</b>			
1	Genital warts of the penis	Flash	1
2	X-ray diagnostics of urological diseases (Yu.A. Pytel et al., 24 cases, by 5 methods - 5 copies)	Slides	1
3	Pediatric surgery (E.P. Erokhin - 120 color sheets - 5 copies)	Slides	1
6	A set of radiographs on the topics of the classes	X-rays	2
<b>Urological instruments</b>			
1	Cystoscope	Tools	1
2	Phantom for performing cystoscopy	Phantom	1
3	Set of urological instruments	Tools	2

### 3.4.3. Video films, photographic materials used in teaching students

#### Videos:

1.	Surgical Atlas
2.	New technologies in surgery
3.	Liver cyst resection
4.	Postcholecystectomy syndrome
5.	Pancreatic cysts. Pancreatoduodenal resection.
6.	Liver tumors
7.	Chronic pancreatitis
8.	Gallstone disease
9.	Colon surgery
10.	Teaching aids of the department
11.	Rectal polyps

12.	Endoscopic papillosphincterotomy
13.	Crohn's disease
14.	Peritonitis
15.	Acute and chronic pancreatitis
16.	Acute appendicitis
17.	Surgery of peptic ulcer and its complications
18.	Pathogenesis of hemorrhoids
19.	Portal hypertension
20.	Injuries of the duodenum
21.	Minimally invasive liver surgery
22.	Echinococcus
23.	DIC syndrome
24.	Operation Liechtenstein
25.	Minimally invasive methods of treating hemorrhoids
26.	Modern methods of detoxification in peritonitis

### List of radiographs

1. Antegrade pyelography
2. Retrograde pyelography
3. Excretory urography
4. Survey radiography
5. Vesiculography
6. Urethrography
7. Cystography
8. ICD. Stones of the ureters, kidneys, bladder

### 3.4.4. List of albums, stands, tables, tablets, handouts used in training

#### Thematic study room stands

1. A set of radiographs on the topics: acute intestinal obstruction, acute pancreatitis, cholecystitis, peptic ulcer (tablets).
2. Problem-based learning of X-ray diagnostics (tablets).
3. Operations for focal lesions of the liver and hepatic ducts.
4. Hernia surgery.
5. Surgical treatment of gastric ulcer and duodenal ulcer.
6. Atlas of operations on the pancreas.
7. Atlas of ultrasound diagnostics of liver and bile duct diseases.
8. Surgery of benign diseases of the pancreas.
9. Surgical treatment of proctological diseases.
10. General proctology.
11. Types of hernias.
12. Hernia surgery.
13. Peritonitis.

14. Acute appendicitis.
15. Drainage in surgery.
16. Hemorrhoids.

#### **Information stands**

1. Information stands on the discipline
2. Scientific Society of the Department of Surgery.
- 3 Medical news.

### **Module No. 2. “Urology”**

#### **Stands.**

1. Structure of the genitourinary system.
2. Urological instruments.
3. Classification of pyelonephritis.
4. Acute urinary retention.
5. Modern methods of treating BPH.
6. Principles of treatment of bacterotoxic uremic shock.
7. Closed kidney injuries.
8. TNM classification of bladder cancer .
9. TNM classification of prostate cancer .
10. TNM classification of kidney cancer .
11. Classification of prostate adenoma.
12. Modern methods of treatment of patients with urological pathology.
13. Anomalies of the kidneys and ureters.
14. A set of radiographs.
15. Acute urinary retention.
16. Cystoscopic atlas.
17. Kidney injuries.
18. Structure of the genitourinary system.
19. Tables:
  - kidney tumors.
  - anomalies of the genitourinary system.
  - laboratory diagnostics of pyelonephritis.
  - diagnosis of urolithiasis.
  - classification of pyelonephritis.
  - classification of urolithiasis.
  - treatment of BPH

#### **Information stands**

1. New technologies in urology.
2. Course in urology.
3. Urology. Information for students.

#### **3.4.5. List of domestic software used in the educational process**

No. p/p	List of software (commercial software products)	Details of supporting documents
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1	MS Operating System Windows 7 Pro	License number 48381779
2	MS Operating System Windows 10 Pro	CONTRACT No. UT-368 from 09.21.2021
3	MS Office	License number: 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4	Kaspersky Endpoint Security for Business – Standard Russian Edition. 50-99 Node 2 year Educational Renewal License	Agreement 165A dated November 25, 2022
5	1C Accounting and 1C Salary	LICENSE AGREEMENT 612/L dated 02.02.2022
6	PROF University	LICENSE AGREEMENT No. ЦБ-1151 dated 01.14.2022
7	1C: PROF Library	LICENSE AGREEMENT No. 2281 dated 11.11.2020
8	Consultant Plus	Agreement No. 37/C dated 02/25/2022
9	Contour.Tolk	Agreement No. K007556/22 dated 09/19/2022
10	E-learning environment 3KL (Russian Moodle)	Agreement No. 1362.3 dated November 21, 2022
11	Astra Linux Common Edition	Agreement No. 142 A dated September 21, 2021
12	Information system "Plans"	Agreement No. 9463 dated May 25, 2022
13	1C: Document Management	Agreement No. 2191 dated 10/15/2020
14	R7-Office	Agreement No. 2 KS dated 12/18/2020

#### List of freely distributed software

No. p/p	List of freely distributed software	Links to license agreement
1	Yandex Browser	Freely distributed License agreement for the use of Yandex Browser programs <a href="https://yandex.ru/legal/browser_agreement/">https://yandex.ru/legal/browser_agreement/</a>
2	Yandex.Telemost	Freely distributed License Agreement for the Use of Programs <a href="https://yandex.ru/legal/telemost_mobile_agreement/">https://yandex.ru/legal/telemost_mobile_agreement/</a>
3	Dr.Web CureIt!	Freely distributed License Agreement: <a href="https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf">https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf</a>
4	OpenOffice	Freely distributed License: <a href="http://www.gnu.org/copyleft/lesser.html">http://www.gnu.org/copyleft/lesser.html</a>
5	LibreOffice	Freely distributed License: <a href="https://ru.libreoffice.org/about-us/license/">https://ru.libreoffice.org/about-us/license/</a>
6	VK Calls	Freely distributed <a href="https://vk.com/license">https://vk.com/license</a>

#### 3.4.6 Professional databases, information reference systems, electronic educational resources

No. p/p	Resource name	Resource Description	Access	Resource address
Electronic library systems				
1	"Student Consultant"	For students and teachers of medical and pharmaceutical universities.	library, individual	<a href="http://www.studmedlib.ru">http://www.studmedlib.ru</a>

	Electronic library of the medical university.	Provides access to electronic versions of textbooks, teaching aids and periodicals.	access	<a href="#">/</a>
2	"Doctor's Consultant" Electronic Medical Library.	The materials posted in the library have been developed by leading Russian specialists based on modern scientific knowledge (evidence-based medicine). The information has been prepared taking into account the position of the scientific and practical medical society (world, European and Russian) in the relevant specialty. All materials have undergone mandatory independent review.	library, individual access	<a href="http://www.rosmedlib.ru/cgi-bin/mb4x">http://www.rosmedlib.ru/cgi-bin/mb4x</a>
3	PubMed	Free search system in the largest medical bibliographic database MedLine. Documents medical and biological articles from specialized literature, and also provides links to full-text articles.	library, free access	<a href="http://www.ncbi.nlm.nih.gov/pubmed/">http://www.ncbi.nlm.nih.gov/pubmed/</a>
4	Oxford Medicine Online.	A collection of Oxford medical publications, bringing together over 350 titles into a single, cross-searchable resource. Publications include The Oxford Handbook of Clinical Medicine and The Oxford Textbook of Medicine, the electronic versions of which are constantly updated.	library, free access	<a href="http://www.oxfordmedicine.com">http://www.oxfordmedicine.com</a>
5	Human Biology Knowledge Base	Reference information on physiology, cell biology, genetics, biochemistry, immunology, pathology. (Resource of the Institute of Molecular Genetics of the Russian Academy of Sciences.)	library, free access	<a href="http://humbio.ru/">http://humbio.ru/</a>
6	Medical online library	Free reference books, encyclopedias, books, monographs, abstracts, English-language literature, tests.	library, free access	<a href="http://med-lib.ru/">http://med-lib.ru/</a>
<b>Information systems</b>				
7	Russian Medical Association	Professional Internet resource. Objective: to facilitate the implementation of effective professional activities of medical personnel. Contains the charter, personalities, structure, rules of entry, information about the Russian Medical Union.	library, free access	<a href="http://www.rmass.ru/">http://www.rmass.ru/</a>
8	Web medicine.	The site presents a catalog of professional medical resources, including links to the most authoritative subject sites, journals, societies, as well as useful documents and programs. The site is intended for	library, free access	<a href="http://webmed.irktk.ru/">http://webmed.irktk.ru/</a>

		doctors, students, employees of medical universities and scientific institutions.		
Databases				
9	World Health Organization	The site contains news, statistics on countries that are members of the World Health Organization, fact sheets, reports, WHO publications and much more.	library, free access	<a href="http://www.who.int/ru/">http://www.who.int/ru/</a>
10	Ministry of Science and Higher Education of the Russian Federation.	The website of the Ministry of Science and Higher Education of the Russian Federation contains news, newsletters, reports, publications and much more.	library, free access	<a href="http://www.minobrnauki.gov.ru">http://www.minobrnauki.gov.ru</a>
11	Ministry of Education of the Russian Federation.	The website of the Ministry of Education of the Russian Federation contains news, newsletters, reports, publications and much more.	library, free access	<a href="https://edu.gov.ru/">https://edu.gov.ru/</a>
12	Federal portal "Russian education"	A single window for access to educational resources. This portal provides access to textbooks on all areas of medicine and health care.	library, free access	<a href="http://www.edu.ru/">http://www.edu.ru/</a> <a href="http://window.edu.ru/catalog/?p_rubr=2.2.81.1">http://window.edu.ru/catalog/?p_rubr=2.2.81.1</a>
Bibliographic databases				
13	Database "Russian Medicine"	It is created in the Central Scientific and Methodological Library and covers the entire collection, starting from 1988. The database contains bibliographic descriptions of articles from domestic journals and collections, dissertations and their abstracts, as well as domestic and foreign books, collections of institute proceedings, conference materials, etc. Thematically, the database covers all areas of medicine and related areas of biology, biophysics, biochemistry, psychology, etc.	library, free access	<a href="http://www.scsm.l.rssi.ru/">http://www.scsm.l.rssi.ru/</a>
14	eLIBRARY.RU	Russian information portal in the field of science, technology, medicine and education, containing abstracts and full texts of more than 13 million scientific articles and publications. The eLIBRARY.RU platform provides electronic versions of more than 2,000 Russian scientific and technical journals, including more than 1,000 open access journals.	library, free access	<a href="http://elibrary.ru/defaultx.asp">http://elibrary.ru/defaultx.asp</a>
15	Portal Electronic library of dissertations	Currently, the Electronic Library of Dissertations of the Russian State Library contains more than 919,000 full texts of dissertations and abstracts.	library, free access	<a href="http://diss.rsl.ru/?menu=diss_catalog/">http://diss.rsl.ru/?menu=diss_catalog/</a>

16	Medline.ru	Medical and biological portal for specialists. Biomedical journal. Last updated February 7, 2021.	library, free access	<a href="http://www.medline.ru">http://www.medline.ru</a>
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### 3.4.7 Resources of the information and telecommunications network "Internet"

Standards of specialized medical care <https://www.rosminzdrav.ru/ministry/61/22/stranitsa-979/stranitsa-983/2-standarty-spetsializirovannoy-meditsinskoy-pomoschi>

Procedures for providing medical care to the population of the Russian Federation

<https://www.rosminzdrav.ru/ministry/61/4/stranitsa-857/poryadki-okazaniya-meditsinskoy-pomoschi-naseleniyu-rossiyskoy-federatsii>

Clinical guidelines <http://obshchestvo-hirurgov.rf/stranica-pravlenija/klinicheskie-rekomendaci>

Clinical guidelines of the Ministry of Health of the Russian Federation. Access mode:

<https://medi.ru/klinicheskie-rekomendatsii/>

## 4. EVALUATION FUND

### 4.1. Examples of test tasks for current knowledge control (with sample answers)

Moodle system : <https://educ-amursma.ru/course/view.php?id=170>

#### Module No. 1 "Faculty Surgery"

1 . To the clinic A patient was admitted with complaints of chest pain on the left, shortness of breath that worsens after eating and during physical exertion, as well as in a lying position, nausea and periodic vomiting that brings relief. The anamnesis revealed a road traffic accident 10 days ago. Chest X-ray showed a gas bubble with a fluid level above the diaphragm. What is your diagnosis?

- 1) left-sided abscessing pneumonia;
- 2) angina pectoris;
- 3) sliding hernia of the esophageal opening of the diaphragm;
- 4) traumatic hernia of the diaphragm on the left. +

**The correct answer is 4**

2. A 54-year-old female patient. No complaints. A routine X-ray examination of the stomach revealed a rounded clearing with a fluid level in the posterior mediastinum, and after taking a contrast agent, the cardiac part of the stomach was found to be located above the diaphragm. What disease can be suspected in the patient?

- 1) cancer of the cardiac part of the stomach
- 2) relaxation of the diaphragm;
- 3) sliding hernia of the esophageal opening of the diaphragm;
- 4) retrosternal Lorrei hernia;

**The correct answer is 3**

3. A 40-year-old patient complains of pain behind the breastbone in the xiphoid process area, radiating to the scapula, belching, and heartburn. The symptoms intensify when bending the body forward. The patient is suspected of having a sliding hernia of the esophageal opening of the diaphragm. Which of the following diagnostic methods are necessary to confirm and clarify the diagnosis?

- a) esophagogastrosopy; b) X-ray examination of the stomach in the Trendelenburg position; c) retrograde cholangiopancreatography; d) esophageal manometry; d) intraventricular pH-metry. Choose the correct combination of answers:

- 1) **a, b, d;**  
 2) a, b, g, d; +  
 3) b, c, d, e;  
 4) b, c, d.

**The correct answer is 4**

4. Erosive-ulcerative esophagitis is a complication of:

- 1) stomach cancer;
- 2) peptic ulcer of the duodenum;
- 3) cardiospasm;
- 4) sliding hernia of the esophageal opening of the diaphragm;

**The correct answer is 4**

5. Indications for surgical treatment of hernias of the esophageal opening of the diaphragm are:

- a) ineffectiveness of conservative treatment;
  - b) development of inflammatory strictures from the esophagus;
  - c) frequent bleeding from the esophagus;
  - d) sliding hernia of the esophageal opening of the diaphragm without complications;
  - d) congenital short esophagus.
- 1) a, b, g;
  - 2) b, c;
  - 3) a, b, c;
  - 4) g, d;

**The correct answer is 3**

### **Module No. 2 "Urology"**

Moodle system : <https://educ-amursma.ru/course/view.php?id=69>

#### **1. The purpose of excretory urography in kidney trauma:**

- 1) Exclude the presence of concomitant kidney diseases
- 2) To determine the extent and nature of kidney damage
- 3) Detect subcapsular hematoma
- 4) Determine the mobility of the damaged kidney

**The correct answer is 4**

#### **2. The most informative research methods for suspected traumatic kidney injury are:**

- 1) chromocystoscopy + retrograde ureteropyelography
- 2) abdominal aortography against the background of excretory urography
- 3) excretory urography + general radiography of the kidneys
- 4) Ultrasonography + excretory urography
- 5) computed tomography + nephroscintigraphy

**The correct answer is 3**

3. A 37-year-old female patient came to the clinic complaining of general weakness and aching pain in the lower back on the right. Two hours ago, she suffered an attack of right-sided renal colic, accompanied by a rise in temperature, chills followed by a rapid decrease in temperature, profuse sweating and the disappearance of lower back pain. At the time of examination, a positive Pasternatsky symptom was noted. on the right, kidneys are not palpable, urination is not impaired, urine is clear, body temperature is 37.2°C. The most likely diagnosis:

- 1) condition after an attack of right-sided renal colic
- 2) acute purulent pyelonephritis
- 3) pyelitis
- 4) acute hematogenous pyelonephritis

**The correct answer is 1**

4. In acute pyelonephritis with impaired urine outflow from the kidney, the following - sequence of symptoms is observed: 1) chills 2) pain in the kidney area 3) high temperature 4) profuse sweating 5) weakness
- 1) Correct 1, 2, 3, 4 and 5
  - 2) Correct 2, 1, 3, 4 and 5
  - 3) Correct 1, 3, 4, 5 and 2
  - 4) Correct 3, 2, 1, 5 and 4

**The correct answer is 2**

5. The minimum number of leukocytes in urine sediment indicating the presence of leukocyturia is:
- 1) 2-5 leukocytes in the field of view
  - 2) more than 6 leukocytes in the field of view
  - 3) more than 10 leukocytes in the field of view
  - 4) more than 20 leukocytes in the field of view

**The correct answer is 3**

#### **4.2. Examples of situational tasks of current control (with sample answers)**

##### **Module No. 1. "Faculty Surgery"**

1. During an operation for acute appendicitis in a 25-year-old woman, the doctor found an unchanged vermiform appendix. What is the next tactic?

**Answer:** It is necessary to perform a revision 1 meter of the ileum for possible Meckel's diverticulum and pathology of the uterine appendages.

In the absence of pathology on the part of other abdominal organs or genitals, an appendectomy with tight suturing of the abdominal cavity is performed.

2. A 26-year-old patient underwent surgery for destructive appendicitis with peritonitis. How to complete the operation?

**Answer:** After performing an appendectomy, drain the abdominal cavity and install a glove drain and microirrigator in the right iliac fossa through a separate puncture in the abdominal wall for infusion of antibiotics.

3. During the operation, a large pancreatic cyst was discovered. What should be done with the patient?

**Answer:** It is necessary to perform internal drainage of the cyst - cystojejunostomy, cystogastrostomy.

##### **Module No. 2. "Urology"**

1. A 23-year-old man has a palpable, hard, lumpy mass in his right inguinal region that has grown significantly over the past two months. One testicle has been present in the scrotum since birth.

What is your preliminary diagnosis?

Specify the type of developmental anomaly of the external genitalia in this patient?

Answer: A) Cancer of the right testicle

B) Right-sided cryptorchidism

2. A female patient of 18 years old consulted a doctor complaining of frequent (every 20-30 minutes) painful urination. She fell ill after hypothermia. The urine is cloudy, and the last portion contains blood. The body temperature is normal. Pain in the bladder area is noted on palpation.

What disease should we think about?

Treatment tactics?

Answer: Acute hemorrhagic cystitis.

Antibacterial, infusion, anti-inflammatory, hemostatic therapy

### 4.3 Examples of midterm assessment test tasks (with standard answers)

Moodle system : <https://educ-amursma.ru/course/view.php?id=170>

## Module No. 1 "Faculty Surgery"

1. The patient was admitted to the clinic with complaints of chest pain on the left, shortness of breath that worsens after eating and during physical exertion, as well as in the lying position, nausea and occasional vomiting that brings relief. The patient has a history of a road traffic accident 10 days ago. Chest X-ray shows a gas bubble with a fluid level above the diaphragm. What is your diagnosis?

- 1) left-sided abscessing pneumonia;
- 2) angina pectoris;
- 3) sliding hernia of the esophageal opening of the diaphragm;

**4) traumatic hernia of the diaphragm on the left.**

1. Erosive-ulcerative esophagitis is a complication of:

- 1) stomach cancer;
- 2) duodenal ulcer;
- 3) cardiospasm;
- 4) sliding hernia of the esophageal opening of the diaphragm;**
- 5) chronic gastritis.

2. The most informative in the diagnosis of hernia of the esophageal opening of the diaphragm

- 1) ultrasound;
- 2) intraesophageal pH-metry;
- 3) esophagomanometry;
- 4) X-ray examination of the esophagus and stomach in the Trendelenburg position;

4. A 57-year-old female patient was admitted with moderate leucorrhoea in the right hypochondrium, radiating to the scapula. History: chronic calculous cholecystitis. No changes were noted in the general blood test results. No jaundice. Palpation revealed an enlarged, moderately painful gallbladder. Body temperature is unchanged. Your diagnosis:

- 1) empyema of the gallbladder
  - 2) pancreatic head cancer
  - 3) hydrocele of the gallbladder**
  - 4) acute perforated cholecystitis
5. The most common cause of mechanical jaundice is
- 1) cicatricial strictures of the extrahepatic bile ducts
  - 2) choledocholithiasis
  - 3) pancreatic **head cancer**
  - 4) liver echinococcosis
6. The nature of pain in destructive pancreatitis:
- 1) cramping pains
  - 2) pain of an uncertain nature
  - 3) pain that causes anxiety
  - 4) severe, constant pain
7. The most common source of massive bleeding from the upper gastrointestinal tract is:
- 1) gastric ulcer**
  - 2) duodenal ulcer
  - 3) stomach cancer
  - 4) Mallory-Weiss syndrome
8. Most reliable in determining the exact location of the source of bleeding from the upper gastrointestinal tract
- 1) enterography
  - 2) computed tomography
  - 3) endoscopic esophagogastroduodenoscopy**
  - 4) arteriography
9. The outpatient surgeon should remember that rectal cancer revealed by digital examination in:
1. 10% of clinical observations
  2. 20% of clinical observations
  3. 30% of clinical observations
  4. 60-80% of clinical observations
- 10.** The patient was hospitalized with complaints of pain in the epigastric region, nausea, and vomiting. Over the course of 6 months, he lost weight by 15 kg. X-ray examination of the stomach revealed its displacement forward. Preliminary diagnosis:
- 1) pyloric stenosis
  - 2) pancreatic cancer
  - 3) gastric ulcer
  - 4) stomach cancer

Moodle system : <https://educ-amursma.ru/course/view.php?id=69>

- 1. Excretory urography in kidney trauma has the purpose of all of the following except:**
  - 1) To determine the condition of the contralateral kidney
  - 2) Exclude the presence of concomitant kidney diseases
  - 3) Establish the extent and nature of kidney damage
  - 4) Identify subcapsular hematoma
  
- 3. If traumatic kidney injury is suspected, the most informative and appropriate tests are:**
  - 1) chromocystoscopy + retrograde ureteropyelography
  - 2) abdominal aortography against the background of excretory urography
  - 3) excretory urography + general radiography of the kidneys
  - 4) ultrasonography + excretory urography
  
- 3. A 37-year-old female patient came to the clinic complaining of general weakness and aching pain in the lower back on the right.** Two hours ago, she had an attack of right-sided renal colic, accompanied by a rise in temperature, chills followed by a rapid decrease in temperature, profuse sweating and the disappearance of lower back pain. At the time of examination, Pasternatsky's symptom is weakly positive on the right, the kidneys are not palpated, urination is not impaired, urine is transparent, body temperature is 37.2°C. The most likely diagnosis:
  - 1) condition after an attack of right-sided renal colic
  - 2) acute purulent pyelonephritis
  - 3) pyelitis
  - 4) acute hematogenous pyelonephritis
  
- 4. The minimum number of leukocytes in urine sediment indicating the presence of leukocyturia is:**
  - 1) 2-5 leukocytes in the field of view
  - 2) more than 6 leukocytes in the field of view
  - 3) more than 10 leukocytes in the field of vision
  - 4) more than 20 leukocytes in the field of vision
  
- 5. Complications of chronic pyelonephritis include:**
  - 1) CRF
  - 2) arterial hypertension
  - 3) nephrolithiasis
  - 4) renal papillary necrosis
  
- 6. The development of cystitis is influenced by:**
  - 1) pathogenic microorganisms
  - 2) mycoplasmas
  - 3) viruses
  - 4) chlamydia
  
- 7. Renal colic is caused by:**
  - 1) tuberculosis of the kidney
  - 2) ureteral stone
  - 3) chronic pyelonephritis

- 4) pelvic dystopia of the kidney
- 8. Using an operating cystoscope, the following is performed:**
- 1) bladder biopsy
  - 2) urethral examination
  - 3) catheterization of the seminal vesicles
  - 4) ureteral stone crushing
- 9. The main method for diagnosing prostate cancer is:**
- 1) excretory urography;
  - 2) prostate biopsy;
  - 3) urethroscopy;
  - 4) Ultrasound of the prostate gland;
- 10. The main drugs for prostate cancer are:**
- 1) 5 $\alpha$  reductase inhibitors;
  - 2) chemotherapy drugs;
  - 3) androgen inhibitors;
  - 4) corticosteroids;

#### **4.4 List of practical skills that a student should have after mastering the discipline**

1. Collect anamnesis from a surgical patient.
2. Conduct a physical examination of a patient with acute abdominal and urological pathology.
3. Prepare a medical history and discharge summary.
4. To determine the type and scope of clinical, laboratory and instrumental research methods for the most common surgical and urological diseases.
5. Evaluate the results of instrumental, X-ray, ultrasound, radioisotope and other modern examination methods (CT, MSCT, MRI).
6. Create a treatment and rehabilitation plan for the patient.
7. Identify and interpret symptoms in acute abdomen.
8. Identify symptoms of bleeding in the gastrointestinal tract; assess blood loss indicators: red blood cell count, hemoglobin, hematocrit, BCC.
9. To detect external abdominal hernias by examining the inguinal canal, umbilical ring, defects in the linea alba, the "cough impulse" symptom, percussion and auscultation of the hernial protrusion.
10. Perform an examination of the anal area.
11. Conduct a digital rectal examination.
12. Conduct an examination of the external genitalia.
13. Perform catheterization of the bladder with a rubber catheter.
14. To determine indications for conservative and surgical treatment of urological diseases.
15. Perform punctures (together with a doctor) of the abdominal cavity.
16. Remove superficial formations.
17. Apply and remove skin sutures.
18. Open and drain purulent cavities in the subcutaneous tissue.
19. To have an algorithm for performing basic diagnostic measures when providing first aid in emergency and life-threatening conditions of the patient

#### **4.5 Exam Questions**

##### **Module No. 1 "Faculty Surgery"**

1. Domestic surgical schools, their role in the development of surgery.
2. Principles of organizing outpatient care for surgical patients.
3. Laparoscopic surgery as a modern minimally invasive method of treatment.
4. Features of the course of acute abdominal pathology in COVID patients.

## HERNIAS

4. Definition of the concept of abdominal wall hernia. Predisposing and producing causes. Local and general factors. Basic elements of hernia.
5. The concept of sliding hernia. Diagnostics, features of the operation.
6. Treatment of hernias. Indications and contraindications for surgery. Preoperative preparation. Main stages of surgery.
7. Postoperative management after hernia surgery. Local and general complications. Prevention of relapses.
8. Complications of hernias. Causes of occurrence. Clinic, diagnostics, treatment. Prevention.
9. Strangulated hernia. Definition. Mechanisms of strangulation. Types of strangulation. Symptoms, Clinic, differential diagnostics.
10. Complications in forced reduction of strangulated hernia. Concept of sham reduction. Tactics in spontaneous reduction of strangulated hernia.
11. Inguinal hernias. Classification, anatomical data. Clinical presentation, differential diagnostics, treatment. Complications during surgery. Prevention.
12. Congenital inguinal hernia. Anatomical data. Clinical features, differential diagnostics. Features of surgical treatment.
13. Postoperative hernias of the anterior abdominal wall. Causes of occurrence. General and local symptoms. Diagnostics. Surgical methods of treatment. Causes of relapses, their prevention.
14. Irreducible hernia. Anatomical data. Symptoms and recognition. Differential diagnostics. Treatment.
15. Hernia of the white line of the abdomen. Umbilical hernia (anatomical data, diagnostics, surgical methods). Complications during and after herniotomy.
16. Oblique inguinal hernia. Diagnostics, surgical methods. Complications before and after herniotomy. Prevention.
17. Direct inguinal hernia. Diagnostics. Operation methods. Complications before and after herniotomy. Prevention.
18. Femoral hernia. Clinic, diagnostics, surgical methods (Bassini, Ruggi-Parlavetchio). Complications during and after surgery. Prevention.
19. Diaphragmatic hernia. Diagnostic methods, clinical features, treatment.
20. Treatment of strangulated hernias (features of surgical technique, determination of the viability of the strangulated organ, indications for intestinal resection).
21. Relaxation of the diaphragm. Clinical picture, diagnostics. Indications for surgery. Principles of surgical treatment.

## APPENDICITIS

22. Acute diseases of abdominal organs. General and local symptoms.
23. Acute appendicitis. Classification, etiology, pathogenesis, clinical presentation, differential diagnosis.

24. Clinical picture of acute appendicitis depending on the location of the appendix.  
Diagnostics, differential diagnostics.
25. Features of the course of acute appendicitis in children.
26. Features of the course of acute appendicitis in the elderly.
27. Features of the course of acute appendicitis in pregnant women.
28. Appendicular infiltrate. Definition. Clinical picture, diagnostics. Outcomes. Treatment.  
Indications for surgery. Volume of surgical intervention depending on the stage of the process.
29. Treatment of acute appendicitis (surgical technique, preparation of the patient for surgery, postoperative management).
30. Complications of acute appendicitis. Clinic, diagnostics, treatment.
31. Chronic appendicitis. Clinic, diagnostics, treatment.
32. Early complications after appendectomy. Clinic, diagnostic methods, treatment.
33. Douglas space abscess. Causes, symptoms and course. Volume of surgical intervention.  
Diagnostic methods. Indications for surgery.

#### ULCER DISEASE

34. Indications for surgical treatment of patients with gastric ulcer and duodenal ulcer.
35. Callous and penetrating ulcer of the stomach and duodenum. Clinical picture, diagnostics, features of surgical treatment.
36. Preoperative preparation and postoperative management of patients with gastric diseases (ulcer bleeding, stenosis of the gastric outlet).
37. Pathogenetic substantiation of surgical methods for gastric ulcer and duodenal ulcer.
38. Stenosis of the pylorus and duodenum. Etiology, stages, clinical picture, diagnostics, indications for surgery, surgical treatment.
39. Pathogenesis of changes in organs and systems in decompensated gastric stenosis.  
Possibilities of preoperative correction.
40. Perforated ulcer of the stomach and duodenum. Clinic, diagnostics, differential diagnostics, treatment.
41. Malignancy of gastric ulcer. Causes, clinical features, diagnostics, surgical treatment features.
42. Early complications after gastric resection. Causes. Clinic, treatment, prevention.
43. Precancerous diseases of the stomach. Clinic, diagnostics, treatment.
44. Gastroduodenal bleeding of ulcerative etiology. Differential diagnosis. Research methods, choice of treatment method.
45. Non-ulcer bleeding from the esophagus and stomach (etiology, surgical tactics).
46. Forms of atypical course of perforated ulcer of the stomach and duodenum.

#### SURGICAL DISEASES OF THE GALLBLADDER, ACUTE PANCREATITIS

47. Acute cholecystitis. Etiology, pathogenesis, classification, diagnostics, treatment.
48. Chronic calculous cholecystitis. Etiology, pathogenesis, clinical picture, treatment. Types of operations.
49. Surgical tactics in acute cholecystitis. Types of operations used.
50. Modern methods of treatment of gallstone disease.
51. Mechanical jaundice. Clinic, differential diagnostics, treatment.

52. Gallbladder and bile duct cancer. Clinic, diagnostic methods, treatment.
53. Cholangitis. Classification, clinical features, diagnostics, treatment.
54. Acute pancreatitis. Classification, etiology, pathogenesis, clinical presentation, diagnostics, treatment.
55. Acute pancreatitis. Complications: abscess formation, pancreatic fistula, false cyst, peritonitis. Clinic, diagnostics, treatment.
56. Basic principles of conservative treatment of acute pancreatitis.
57. Indications for surgical treatment in acute pancreatitis. Surgical options.

#### POSTCHOLECYSTECTOMY SYNDROME

58. Clinic of residual cholelithiasis. Diagnostics, treatment methods.
59. Definition of the concept of postcholecystectomy syndrome. Causes, diagnostics.

#### SURGICAL DISEASES OF THE LIVER

60. Liver abscesses. Causes, clinical features, diagnostics, treatment.
61. Liver cancer. Clinic, causes, diagnostics, treatment.
62. Methods of surgical treatment of liver cirrhosis.
63. Echinococcus liver. Clinic, diagnosis, treatment.
64. Classification, clinical features, diagnostics of portal hypertension. Principles of surgical treatment.

#### CHRONIC DISEASES OF THE PANCREAS

65. Pancreatic cancer. Clinic, diagnostics, treatment methods.
66. Pancreatic cysts. Classification, diagnostics, surgical treatment methods.
67. Chronic pancreatitis. Classification, clinical features, diagnostics, surgical treatment methods.

#### ACUTE INTESTINAL OBSTRUCTION

68. Classification, etiology, pathogenesis of intestinal obstruction.
69. Dynamic intestinal obstruction. Etiopathogenesis, clinical features, diagnostics, treatment.
70. Mechanical intestinal obstruction. Etiopathogenesis, clinical features, treatment.
71. Intussusception, its types. Causes, pathogenesis, clinical picture, diagnostics, treatment.
72. Adhesive disease. Causes, clinical features, treatment, prevention.
73. Differential diagnostics of dynamic and mechanical obstruction. Surgical tactics for these types of intestinal obstruction.
74. X-ray diagnostics of acute intestinal obstruction.
75. Intestinal volvulus. Pathogenesis, clinical features, diagnostics, treatment.
76. Features of diagnostics and surgical treatment of tumor colonic obstruction.

#### PERITONITIS

77. Acute purulent diffuse peritonitis. Causes, pathogenesis, clinical picture, modern treatment methods.
78. Peritonitis. Anatomical and physiological information about the peritoneum. Modern classification. Phases of the clinical course of peritonitis.

79. Treatment of diffuse peritonitis in the postoperative period.
80. Local peritonitis. Etiology, clinical features, diagnostics, treatment.
81. Subphrenic abscess. Etiology, pathogenesis, diagnosis, treatment.
82. Basic principles of surgical treatment of diffuse peritonitis.
83. Detoxification methods for diffuse peritonitis.

## PROCTOLOGY

84. Hemorrhoids. Etiology, pathogenesis, clinical features, diagnostics, treatment.
85. Complications of hemorrhoids. Clinic, diagnostics. Choice of treatment method.
86. Anal fissures. Causes of occurrence. Clinic, diagnostics, treatment.
87. Paraproctitis. Classification, clinical features, diagnostics, surgical treatment methods.
88. Rectal prolapse. Classification, etiology, pathogenesis, clinical features, diagnostics. Methods of surgical treatment.
89. Rectal polyps. Causes. Clinic, diagnostics, treatment.
90. Fistulas of the rectum. Classification, clinical features, diagnostics, treatment.
91. Epithelial coccygeal passages. Etiology, clinical features, diagnostics, treatment.

## ABDOMINAL INJURIES

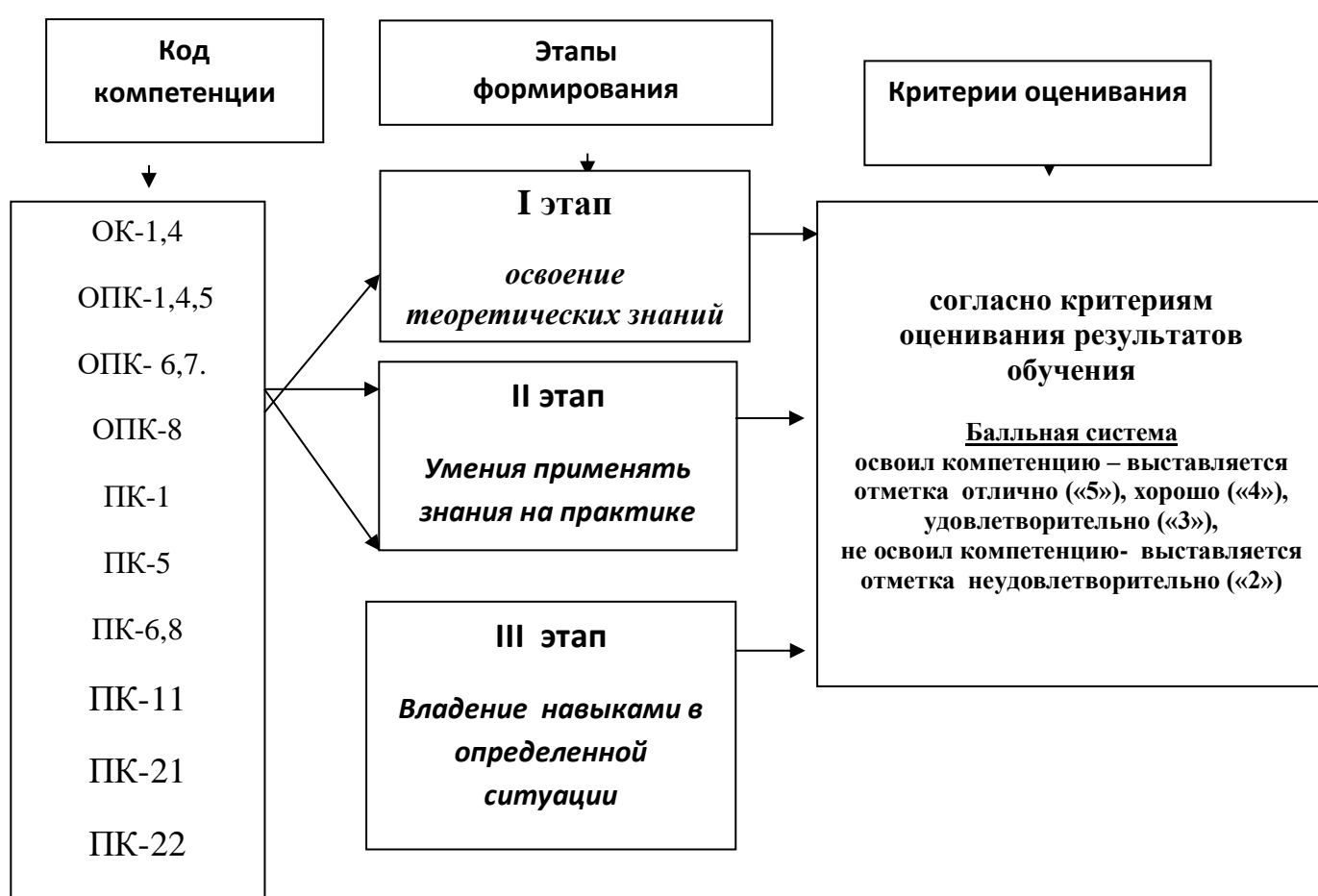
92. Diagnostic laparoscopy. Its capabilities. Indications for implementation.
93. Classification of abdominal injuries. Main clinical symptoms, diagnostics.
94. Traumatic injuries of parenchymatous abdominal organs. Clinic, diagnostics, treatment.
95. Traumatic injuries of the hollow abdominal organs. Clinic, diagnostics, treatment features.

## Module No. 2 "Urology".

1. Domestic urological schools, their role in the development of urology.
2. Principles of organizing outpatient care for urological patients.
3. Laparoscopic and endoscopic urology as a modern minimally invasive treatment method.
4. Renal angiography in diagnostics of kidney diseases. Indications.
5. Urological diagnostic instruments (features, design, sterilization)
6. Catheterization of the urinary bladder. Indications, technique of execution.
7. Urination disorders. Types.
8. Epicystostomy. Indications. Technique of execution.
9. Polyuria. Pollakiuria. Clinical characteristics of the symptom.
10. Types of excretory urography.
11. Kidney pain, its characteristics, causes, pathogenesis. Diagnostics.
12. Lorin-Epstein block. Technique of execution. Indications.
13. Zimnitsky test. Clinical value. Interpretation of data.
14. Urination disorders. Types. Clinical interpretation.
15. Catheterization of the urinary bladder. Features of the technique. Indications.
16. Causes of renal colic.
17. Chromocystoscopy. Clinical value of the method. Indications.
18. Excretory urography. Technique of performance. Clinical interpretation.
19. Methods of studying separate renal function. Clinical value.
20. Urethroscopy. Indications and contraindications for use.
21. Cystoscopy. Technique of execution. Indications and contraindications.
22. OPN. Modern aspects of treatment (conservative, hemodialysis).
23. Acute pyelonephritis (etiology, pathogenesis, clinical picture).

24. Chronic cystitis. Etiology, pathogenesis, diagnostics, treatment.
25. Prostate adenoma. Clinic. Diagnostics, treatment methods.
26. Acute pyelonephritis. Causes, features of the course in childhood.
27. Prostate adenoma. Differential diagnosis.
28. OPN. Methods of extrarenal blood purification.
29. Impotence. Causes, diagnostics, types of treatment.
30. Urolithiasis. Basic principles of treating patients. Indications for surgical treatment.
31. Urolithiasis and pregnancy. Modern aspects in diagnostics and treatment.
32. Chronic pyelonephritis. Diagnostic methods. Treatment principles.
33. Bladder stones. Causes. Clinic. Diagnostics. Treatment principles.
34. Isotope methods in diagnostics of urological diseases.
35. Complicated forms of acute pyelonephritis. Peculiarities of clinical manifestation, treatment

### 5. Stages of competence development and assessment scale



### Content of competencies

No	Competency number /index	Content of the competence or its part	As a result of studying the academic discipline, students must:			
			Know	Be able to	To own	Evaluation tools
1	ОК-1	the ability to think abstractly, analyze,	The main historical stages	To characterize	The ability to analyze	Test questions, typical test tasks

		and synthesize;	of development of asepsis and antisepsis, blood transfusion, pain relief	the stages of development of various sections of general surgery	changes occurring in the organization of care for surgical patients	
2	OK-4	Ability to act in non-standard situations, readiness to bear social and ethical responsibility for decisions made	On possible non-standard situations when providing assistance to sick children with surgical pathology	Be able to provide first aid during natural disasters	To have an algorithm for providing assistance to patients in non-standard situations	Test questions, typical test tasks
3	OPK-1	readiness to solve standard tasks of professional activity using information, bibliographic resources, medical and biological terminology, information and communication technologies and taking into account the basic requirements of information security;	Know the standard tasks of professional activity using information, bibliographic resources, medical and biological terminology, information and communication technologies and taking into account the basic requirements of information security;	Be able to apply standard tasks of professional activity using information, bibliographic resources, medical and biological terminology, information and communication technologies and taking into account the basic requirements of information security;	Possess the ability to use standard tasks of professional activity using information, bibliographic resources, medical and biological terminology, information and communication technologies and taking into account the basic requirements of information security;	Test questions, typical test tasks
4	OPK-4	the ability and willingness to implement ethical and deontological principles in professional activities;	Know the basic ethical and deontological principles in professional activities;	To be able to use ethical and deontological principles in professional activities;	To possess basic ethical and deontological principles in professional activities;	Test questions, typical test tasks
5	OPK-5	the ability and willingness to analyze the results of one's own activities in order to prevent professional mistakes;	Know the basic principles of analyzing the results of one's own activities to prevent professional mistakes;	Be able to use the basic principles of analyzing the results of one's own activities to prevent professional mistakes;	To master the basic principles of analyzing the results of one's own activities in order to prevent professional	Test questions, typical test tasks

					errors;	
6	OPK-6	readiness to maintain medical records	Know the basic principles of maintaining medical records	Be able to use the basic principles of medical record keeping	Have a basic understanding of medical record keeping	Test questions, typical test tasks
7	OPK-8	readiness for medical use of drugs and other substances and their combinations in solving professional problems	Know the basic principles of using drugs and other substances and their combinations when solving professional problems	Be able to use the basic principles of using drugs and other substances and their combinations when solving professional problems	To master the basic principles of using drugs and other substances and their combinations when solving professional problems	Test questions, typical test tasks
8	PC-1	the ability and readiness to implement a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, prevention of the occurrence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their occurrence and development, as well as aimed at eliminating the harmful effects of environmental factors on human health;	Know the range of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, prevention of the occurrence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their occurrence and development, as well as aimed at eliminating the harmful effects of environmental factors on human health;	Be able to apply a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, prevention of the occurrence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their occurrence and development, as well as aimed at eliminating the harmful effects of environmental factors on human health	To have a set of measures aimed at maintaining and strengthening health and including the formation of a healthy lifestyle, prevention of the occurrence and (or) spread of diseases, their early diagnosis, identification of the causes and conditions of their occurrence and development, as well as aimed at eliminating the harmful effects of environmental factors on human health	Test questions, typical test tasks
9	PC-5	readiness to collect and analyze patient complaints, his	Know the basic methods of collecting and	Be able to apply the analysis of	To possess methods of collecting and	Test questions, typical test tasks

		anamnesis data, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of a disease	analyzing patient complaints, anamnesis data, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of a disease	patient complaints, his anamnesis data, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the fact of the presence or absence of a disease	analyzing patient complaints, anamnesis data, examination results, laboratory, instrumental, pathological and other studies in order to recognize a condition or establish the presence or absence of a disease	
10	PC-6	the ability to determine the main pathological conditions, symptoms, disease syndromes, and nosological forms in patients in accordance with the International Statistical Classification of Diseases and Related Health Problems - 10th revision, adopted by the 43rd World Health Assembly, Geneva, 1989 г.	Know the main pathological conditions, symptoms, syndromes of diseases, nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems - X revision, adopted by the 43rd World Health Assembly, Geneva, 1989 г.	To be able to assess pathological conditions, symptoms, syndromes of diseases, nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems - X revision, adopted by the 43rd World Health Assembly, Geneva, 1989 г.	To have knowledge of methods for assessing pathological conditions, symptoms, disease syndromes, and nosological forms in accordance with the International Statistical Classification of Diseases and Related Health Problems - 10th revision, adopted by the 43rd World Health Assembly, Geneva 1989 г.	Test questions, typical test tasks
11	PC-8	the ability to determine the tactics of managing patients with various nosological forms	Know the basic principles of managing patients with various nosological forms	Be able to assess patients with various nosological forms	To master methods of managing patients with various nosological forms	Test questions, typical test tasks
12	PC-11	readiness to participate in	Know the basic principles of	Be able to provide	To have knowledge of	Test questions, typical test tasks

		providing emergency medical care in conditions requiring urgent medical intervention;	providing emergency medical care for conditions requiring urgent medical intervention;	emergency medical care in cases of patient conditions requiring urgent medical intervention;	methods of providing emergency medical care in conditions requiring urgent medical intervention;	
13	PC-16	readiness for educational activities to eliminate risk factors and develop healthy lifestyle skills	Know the basic principles of educational activities to eliminate risk factors and develop healthy lifestyle skills	Be able to conduct educational activities to eliminate risk factors and develop healthy lifestyle skills	To master methods of conducting educational activities to eliminate risk factors and develop healthy lifestyle skills	Test questions, typical test tasks
14	PC-21	ability to participate in scientific research	Know the basic principles of scientific activity	Be able to evaluate the results of scientific activity	Master scientific research methods	Test questions, typical test tasks
15	PC-22	readiness to participate in the implementation of new methods and techniques aimed at protecting the health of citizens	Know the main new technologies aimed at protecting the health of citizens	Be able to apply new technologies aimed at protecting the health of citizens	Own new technologies aimed at protecting the health of citizens	Test questions, typical test tasks

Protocol for coordinating the work program "Faculty surgery, urology" for the implementation of interdisciplinary connections

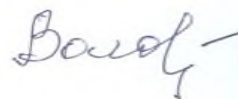
No.	Name disciplines	Na-63name of the department where the subject is studied discipline	Name of topics (sections, modules)	Signature of the head of the department with whom the approval is carried out
1	Anatomy	Anatomy and operative surgery	1, 2,4,6	
2	Topographic anatomy and operative surgery			

3.	Histology, embryology, cytology	Histology with biology	3,4,5,	
4	Modern problems of tissue regeneration			
5	Microbiology, virology	Microbiology and virology.	1,2,3,4,5,6	
6.	Hospital surgery	Hospital surgery with a course in pediatric surgery	2,3,4,5,6	
7	Faculty therapy	Faculty and outpatient therapy	2,3,4,5	
7	Pathological anatomy, clinical pathological anatomy	Pathological anatomy with a course in forensic medicine	1,2,3,5,6	
8	Pathophysiology, clinical pathophysiology	Normal physiology, pathophysiology	2,3,5,6	

APPROVED

at a department meeting  
of the Department of Surgery with a  
course on urology

Protocol No. 8 dated May 5, 2026



N.P. Volodchenko  
Head of Department

**ADDITIONS AND CHANGES TO THE WORK PROGRAM  
IN THE DISCIPLINE «FACULTY SURGERY, UROLOGY»  
SPECIALTY 31.05.01 MEDICAL CARE  
FOR THE 2026-2027 ACADEMIC YEAR**

**Make an addition and change to the table in section 3.5. «Professional databases, information and reference systems, electronic educational resources» to read as follows:**

Name resource	Resource Description	Access	Resource address
<b>Electronic library systems</b>			
"Student Consultant" Electronic library medical university.	For students and faculty of medical and pharmaceutical universities. Provides access to electronic versions of textbooks, teaching aids, and periodicals.	Remote access after registration under the university profile	<a href="https://www.studentlibrary.ru/">https://www.studentlibrary.ru/</a>
Reference and information system "MedBaseGeotar".	The MedBaseGeotar reference and information system is designed for practicing medical specialists, researchers, teachers, postgraduate students, residents, senior students, and healthcare managers to quickly search, select, and read the medical literature they need for their work in a single data source.	Remote access after registration under the university profile	<a href="https://mbasegeotar.ru/pages/index.html">https://mbasegeotar.ru/pages/index.html</a>
Electronic Library System "Bookup"	A large medical library is an information and educational platform for the shared use of electronic educational and methodological publications from medical universities in Russia and the CIS countries.	Remote access after registration under the university profile	<a href="https://www.books-up.ru/">https://www.books-up.ru/</a>
Electronic Block System "Lan"	The Network Electronic Library of Medical Universities is an electronic database of educational and scientific works on medical topics, created for the purpose of implementing network forms of professional educational programs, open access to	Remote access after registration under the university profile	<a href="https://e.lanbook.com/">https://e.lanbook.com/</a>

	educational materials for partner universities.		
Scientific electronic library " CyberLeninka "	CyberLeninka is a scientific electronic library built on the paradigm of open science ( Open Science ), whose main goals are the popularization of science and scientific activity, public oversight of the quality of scientific publications, the development of interdisciplinary research, a modern institution of scientific review, increasing the citation rate of Russian science, and building a knowledge infrastructure. It contains over 2.3 million scientific articles.	free access	<a href="https://cyberleninka.ru/">https://cyberleninka.ru/</a>
Human Biology Knowledge Base	Reference information on physiology , cell biology , genetics , biochemistry , immunology , pathology . (Resource of the Institute of Molecular Genetics of the Russian Academy of Sciences .)	free access	<a href="http://humbio.ru/">http://humbio.ru/</a>
State register of medicines	The State Register of Medicines website contains information about medications: indications, contraindications, mechanism of action, side effects, dosages, and methods of administration.	free access	<a href="https://grls.rosminzdrav.ru/GRLS.aspx">https://grls.rosminzdrav.ru/GRLS.aspx</a>
<b>Information systems</b>			
Clinical Guidelines Index	A resource of the Russian Ministry of Health that contains clinical guidelines developed and approved by medical professional non-profit organizations of the Russian Federation, as well as methodological manuals, nomenclatures, and other reference materials.	Link to download the application	<a href="https://cr.minzdrav.gov.ru/#/">https://cr.minzdrav.gov.ru/#/</a>
Federal Electronic Medical Library (FEMB)	The Federal Electronic Medical Library is part of the unified state information system in the field of healthcare as a reference system. The FEMB was created based on the collections of the I.M. Sechenov Central Scientific Medical Library.	free access	<a href="https://femb.ru/">https://femb.ru/</a>
Russian State Library (RSL)	Collection size: approximately 3 million titles. Coverage period: From the 11th century to the present day. The Russian State Library's Digital Library is a collection of electronic copies of valuable and frequently requested publications from the Russian State Library's collections, external sources, and documents originally created in electronic form.	Registration on the website	<a href="https://www.rsl.ru/">https://www.rsl.ru/</a>
Russian Medical Association	A professional online resource. Purpose: to promote effective professional activity among medical personnel. Contains the charter, personnel, structure, membership rules, and information about the Russian Medical Union.	free access	<a href="http://www.rmass.ru/">http://www.rmass.ru/</a>
Web medicine	The website provides a directory of	free access	<a href="http://webmed.irkutsk.ru/">http://webmed.irkutsk.ru/</a>

	professional medical resources, including links to the most authoritative specialized websites, journals, societies, as well as useful documents and programs. It is intended for physicians, students, and staff of medical universities and research institutions.		
<b>Databases</b>			
Worldwide healthcare organization	The site contains news, statistics on countries that are members of the World Health Organization, fact sheets, reports, WHO publications, and much more.	library, free access	<a href="http://www.who.int/ru/">http://www.who.int/ru/</a>
Ministry of Science and higher Education of the Russian Federation	The website of the Ministry of Science and Higher Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	free access	<a href="http://www.minobrnauki.gov.ru">http://www.minobrnauki.gov.ru</a>
Ministry of Education of the Russian Federation.	The website of the Ministry of Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	free access	<a href="https://edu.gov.ru/">https://edu.gov.ru/</a>
<a href="https://polpred.com">Polpred.com</a>	Electronic Library System Business Media. Media Review	free access	<a href="https://polpred.com/news">https://polpred.com/news</a>
<b>Bibliographic databases</b>			
BD Russian Medicine	Created at the Central Scientific and Methodological Library, it covers the entire collection since 1988. The database contains bibliographic descriptions of articles from Russian journals and collections, dissertations and their abstracts, as well as Russian and foreign books, institute proceedings, conference materials, etc. Thematically, the database covers all areas of medicine and related fields of biology, biophysics, biochemistry, psychology, etc.	free access	<a href="https://rucml.ru/">https://rucml.ru/</a>
PubMed	A text database of medical and biological publications in English. PubMed is an electronic search engine with free access to 30 million publications from 4,800 indexed medical journals. The database contains articles published from 1960 to the present, including information from MEDLINE, PreMEDLINE, and NLM. Each year, the portal is updated with more than 500,000 new papers.	free access	<a href="https://pubmed.ncbi.nlm.nih.gov/">https://pubmed.ncbi.nlm.nih.gov/</a>
eLIBRARY.RU	A Russian information portal in science, technology, medicine, and education, containing abstracts and full texts of over 13 million scientific articles and publications. The eLIBRARY.RU platform offers electronic versions of over 2,000 Russian scientific and technical journals, including over 1,000 open-access journals.	Full functionality of the site is available after registration.	<a href="http://elibrary.ru/defaultx.asp">http://elibrary.ru/defaultx.asp</a>
Electronic	Currently, the Electronic Library of	free access	<a href="http://diss.rsl.ru/?menu=dis">http://diss.rsl.ru/?menu=dis</a>

library of dissertations (RSL)	Dissertations of the Russian State Library contains more than 919,000 full texts of dissertations and abstracts.		<a href="#">scatalog/</a>
Medline.ru	Medical and biological portal for specialists. Biomedical journal.	free access	<a href="https://journal.scbmt.ru/jour/index">https://journal.scbmt.ru/jour/index</a>
Official Internet portal of legal information	The single official state information and legal resource in Russia	free access	<a href="http://pravo.gov.ru/">http://pravo.gov.ru/</a>

**6. Add and amend the table in section 3.6. «Licensed and freely distributed software used in the educational process» to read as follows:**

**List of software (commercial software products)**

№ p/p	List of software (commercial software products)	Details of supporting documents
1.	MS operating system Windows 7 Pro	License number 48381779
2.	MS operating system Windows 10 Pro	CONTRACT No. UT-368 from September 21, 2021
3.	MS Office	License numbers: 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4.	Kaspersky Endpoint Security for Business – Standard Russian Edition. 50-99 Node 1-year Educational Renewal License	Agreement No. 7 AA dated 02/07/2025
5.	1C Accounting and 1C Salary	LICENSE AGREEMENT 612/L dated 02.02.2022 (additional licenses)
6.	1C: PROF University	LICENSE AGREEMENT No. KrTsB-004537 dated December 19, 2023
7.	1C: PROF Library	LICENSE AGREEMENT No. 2281 dated November 11, 2020
8.	Consultant Plus	Contract No. 41AA dated December 27, 2024
9.	Kontur.Tolk	Agreement No. K213753/24 dated August 13, 2024
10.	3KL e-learning environment (Russian Moodle)	Agreement No. 1362.5 dated November 20, 2024
11.	Astra Linux Common Edition	Agreement No. 142 A dated September 21, 2021
12.	Information system "Plans"	Agreement No. 2873-24 dated June 28, 2024
13.	1C: Document Management	Agreement No. 2191 dated 10/15/2020
14.	R7-Office	Agreement No. 2 KS dated 12/18/2020
15.	License for the "ROSA CHROME OS Workstation"	Agreement No. 88A dated 08/22/2024
16.	Alt Virtualization Server 10 (for secondary and higher vocational education)	Agreement No. 14AK dated September 27, 2024
17.	Dr.Web Desktop Security Suite Comprehensive Protection + Control Center for 12 months.	Agreement No. 8 dated October 21, 2024
18.	Software "Schedule for	Agreement No. 82A dated July 30, 2024

educational institutions"	
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**List of freely distributed software**

№ p/p	Scroll freely distributed software	Links to the license agreement
1.	Yandex Browser	Freely distributed License Agreement for the use of Yandex Browser programs <a href="https://yandex.ru/legal/browser_agreement/">https://yandex.ru/legal/browser_agreement/</a>
2.	Yandex.Telemost	Freely distributed License Agreement for the use of programs <a href="https://yandex.ru/legal/telemost_mobile_agreement/">https://yandex.ru/legal/telemost_mobile_agreement/</a>
3.	Dr. Web CureIt !	Freely distributed License Agreement: <a href="https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf">https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf</a>
4.	OpenOffice	Freely distributed License: <a href="http://www.gnu.org/copyleft/lesser.html">http://www.gnu.org/copyleft/lesser.html</a>
5.	LibreOffice	Freely distributed License: <a href="https://ru.libreoffice.org/about-us/license/">https://ru.libreoffice.org/about-us/license/</a>
6.	VK Calls	Freely distributed <a href="https://vk.com/licence">https://vk.com/licence</a>
7.	Kaspersky Free Antivirus	Freely distributed <a href="https://products.s.kaspersky-labs.com/homeuser/Kaspersky4Win2021/21.16.6.467/english-0.207.0/3830343439337c44454c7c4e554c4c/kis_eula_en-in.txt">https://products.s.kaspersky-labs.com/homeuser/Kaspersky4Win2021/21.16.6.467/english-0.207.0/3830343439337c44454c7c4e554c4c/kis_eula_en-in.txt</a>