



MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal state autonomous educational institution  
of higher education  
«Far Eastern Federal University»  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

«AGREED»

Head of education program  
«General medicine»

  
\_\_\_\_\_  
(signature) Khotimchenko Yu.S.  
(Full name)  
«09» of July 2019

«APPROVED»

Director of the Department of Clinical  
Medicine

  
\_\_\_\_\_  
(signature) Geltser B.I.  
(Full name)  
«09» of July 2019



**WORKING PROGRAM OF ACADEMIC DISCIPLINE (WPAD)**

«Faculty Surgery, Urology»

Education program

Specialty 31.05.01 «General medicine»

**Form of study: full time**

year 4, semester 7,8  
lectures 36 hours  
practical classes 108 hours  
laboratory works not provided  
total amount of in-classroom works 144 hours  
independent self-work 108 hours  
including preparation to exam 27 hours  
control works ()  
credit year 4, semester 7  
exam year 5, semester 8

The working program is drawn up in accordance with the requirements of the Federal state educational standard of higher education (level of training), approved by the order of the Ministry of education and science of the Russian Federation from 09.02.2016 № 95.

The working program of the discipline was discussed at the meeting of the Department of fundamental and clinical medicine. Protocol No. 8, 09 of July 2019

Authors: Professor V. Usov, Associate Professor Kiselev A.Yu.

## ANNOTATION.

Academic discipline " Faculty surgery, Urology" is designed for students enrolled in the educational program of higher education 31.05.01" General medicine", included in the variable part of the curriculum discipline of choice, implemented in the 4<sup>th</sup> year in the 7<sup>th</sup> and 8<sup>th</sup> semesters. The total complexity of the discipline is 252 hours, 7 credits.

Federal state educational standard of higher education in the specialty 31.05.01 "General medicine" (level of training is Specialty) was used in the development of the working program of this discipline.

The course program is based on the medical knowledge obtained by students:

Willingness to use the techniques of first aid, methods of protection in emergency situations (GCC-7);

Willingness to use basic physicochemical, mathematical and other natural science concepts, and methods in solving professional problems (GPC-7);

The ability to assess morphological. Functional and physiological states and pathological processes in the human body to solve professional problems (GPC-9);

**The purpose** of the academic discipline " Faculty surgery, Urology" is: the formation of students' basic knowledge and skills that allow diagnosis, treatment and emergency care for the main surgical diseases in patients of different age groups; develop clinical thinking, form professionally significant personal qualities.

### **Objectives** of the academic discipline:

- teaching students the principles of organization and functioning of the surgical and urological department;
- formation of knowledge about etiology, pathogenesis, clinical manifestations, treatment and prevention of surgical and urological diseases;
- formation of knowledge about principles of diagnosis of surgical and urological diseases that cause life-threatening complications and comorbidities;

- teaching students to formulate correctly a preliminary diagnosis and refer a patient for examination;
- teaching students to diagnose acute pathology in surgical and urological patients;
- the formation of skills to provide first aid to patients with injuries and trauma in peacetime

As a result of studying this discipline, students form the following professional competencies.

Stages of competence formation	Code of competence	
willingness to collect and analyze patient complaints, his medical history, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of the disease; (PC-5)	Knows	General principles of clinical examination of surgical and urological patients. Clinical manifestations and features of the main surgical and urological syndromes. Diagnostic capabilities of laboratory and instrumental methods of examination of surgical and urological patients.
	Is able to	To conduct an interview and examination of the patient using laboratory, instrumental, histological, morphological, cytological and other methods of research. to evaluate the patient's condition in order to make a decision about the need for medical care;
	Possesses	Skill in conducting examination of a surgical and urological patient and filling in medical records, interpreting the results of laboratory, instrumental diagnostic methods, making a preliminary diagnosis
the ability to determine in a patient the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health Problems, X revision (PC-6);	Knows	The main symptoms and syndromes, the main nosological forms of surgical and urological diseases, the International Statistical Classification of Diseases and Problems Related to Health (X Revision), an algorithm for determining the nosological forms in accordance with this classification.
	Is able to	Formulate a clinical diagnosis; make a preliminary diagnosis - to synthesize information about the patient in order to determine the pathology and the causes of it; use the International Statistical Classification of Diseases and Health Issues (X Revision) to classify the identified symptoms and syndromes, the main nosological forms of surgical and urological diseases
	Possesses	Skill of forming a clinical diagnosis; making a preliminary diagnosis - the synthesis of patient information in order to determine the pathology

		and the causes of it; use of the International Statistical Classification of Diseases and Related Health Issues (X revision) for the classification of identified symptoms and syndromes, the main nosological forms of surgical and urological diseases
ability to determine tactics of management of patients with different nosological forms (PC-8);	Knows	Laws of the pathological process in surgical and urological diseases, injuries, blood loss, clinical picture, features of the course and possible complications of the most common surgical and urological diseases occurring in typical form
	Is able to	Identify the main symptoms and syndromes common to surgical and urological diseases, make a conclusion about the nature of the pathological process and draw up a plan for the examination and treatment of the identified surgical pathology
	Possesses	Methods for identifying the main symptoms and syndromes of surgical diseases, skills of working with reference books, educational literature and other medical information sources
willingness to provide medical care for sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the patient's life and do not require emergency medical care (PC-10)	Knows	The main stages of the treatment of patients with the most common types of surgical and urological diseases, the basis of the medical staff activity at all stages of the treatment of surgical patients.
	Is able to	Identify the clinical signs of surgical and urological diseases that require emergency medical care, complete the entire study of wound infection, select a method for treating wounds according to the wound process phase, select the tools for performing PSD, assist with pathological processes and soft tissue injuries, fractures and dislocations , provide first aid for surgical diseases that do not require emergency medical care.
	Possesses	The main medical diagnostic and therapeutic measures to provide first medical aid in emergency and life-threatening conditions

1. The following methods of active / interactive learning are used to form the competencies within the discipline "Faculty Surgery, Urology":
2. It is planned to conduct practical training using computer training programs, working with models and phantoms with the analysis of clinical cases.
3. For the organization of independent work, the preparation of abstracts and reports for the presentation in the group and at the student conference is

proposed; and also preparation for practical exercises, work with additional literature, preparation of essays.

4. Active and interactive forms of training (IT-methods):
  - a. analysis of real clinical situations (case-study);
  - b. solution of clinical situational problems (case study);
  - c. use of interactive atlases on surgical diseases.
  - d. analysis of real clinical situations;

The proportion of clinical practical classes conducted in interactive forms, is 10% of the classroom time; individual extracurricular work - 10% of the time.

## **I. STRUCTURE AND CONTENT OF THEORETICAL PART OF THE COURSE (36 hours)**

### **Module 1. Emergency surgical assistance (24 hours)**

#### **Theme 1. Introductory lecture. Acute appendicitis (2 hours)**

Clinical anatomy of the appendix. Etiology, pathogenesis of appendicitis. Clinic, diagnosis, differential diagnosis. Surgical tactics for acute appendicitis. Surgical accesses to the appendix, ante-and retrograde appendectomy. Course of the postoperative period. Complications of acute appendicitis, classification, their diagnosis and treatment.

#### **Theme 2. Peptic ulcer. (2 hours)**

Clinical anatomy of the stomach and duodenum. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis of peptic ulcer. Complications: perforation, penetration, stenosis of the output section of the stomach, malignancy, pathogenesis, clinic, diagnosis. Options for conservative treatment. Indications for surgical treatment. The postoperative period. Surgical treatment. The main types of gastrectomy, vagotomy and pyloroplasty methods.

#### **Theme 3. Gastrointestinal bleeding (2 hours)**

Blood supply of the stomach and duodenum. Etiology of HCC. Classification, clinic. Diagnostics. Tactics of managing patients. The value of

fiberoptic gastroduodenoscopy (FGDS) for the diagnosis and treatment. Differential diagnosis. Variants of surgical treatment of ulcer bleeding.

**Theme 4. Peritonitis (2 hours)**

Clinical anatomy of the abdominal cavity. Etiology, classification, pathogenesis, clinic, diagnosis, differential diagnosis of peritonitis. Treatment. Abdominal sepsis, pathogenesis, clinic, diagnosis, treatment. Endogenous intoxication syndrome with peritonitis.

**Theme 5. Acute intestinal obstruction (2 hours)**

Definition. Pathogenesis. Classification. Clinic. Diagnostics. Differential diagnosis. Tactic of treatment. The content of conservative and surgical methods of treatment. The postoperative period.

**Theme 6. Gallstone disease (2 hours)**

Clinical anatomy of the biliary tract. Definition of Gallstone disease (GSD). Classification. Clinic. Diagnostics. Differential diagnosis. Tactic of treatment.

**Mechanical jaundice.** Causes of occurrence. Diagnostics. Differential diagnosis. Treatment of obstructive jaundice. Draining operations.

**Theme 7. Acute cholecystitis (2 hours)**

Definitions. Classification. Clinic. Diagnostics. Differential diagnosis. Tactics of treatment of patients.

Minimally invasive interventions. Cholecystectomy. Laparoscopic cholecystectomy. Postcholecystectomy syndrome.

**Theme 8. Inflammatory diseases of the pancreas (2 hours)**

**Acute pancreatitis.** Clinical anatomy of the pancreas. Definition of acute pancreatitis. Classification. Pathogenesis. Clinic. Diagnostics. Differential diagnosis. Tactic of treatment. The content of conservative and surgical treatment methods. **Chronic pancreatitis.** Classification. Pathogenesis. Clinic. Diagnostics. Differential diagnosis. Treatment tactics.

**Theme 9. Portal hypertension syndrome (2 hours)**

Clinical anatomy of the portal vein system, porto-caval anastomoses. Pathogenesis and classification of portal hypertension syndrome (PHS). Complications

(esophageal varicose veins and ascites, bacterial peritonitis). Clinic. Diagnostics. Conservative and surgical treatment. Cirrhosis Etiology, pathogenesis, classification, clinic, diagnosis, causes of (PHS). Budd-Chiari Syndrome. Etiology, pathogenesis, classification, clinic, diagnosis, causes of LNG. Principles of treatment of bleeding from varicose veins of the esophagus (VVE). Principles of treatment of ascites.

#### **Theme 10. Disorders of the mesenteric blood supply (2 hours)**

Features of the blood supply to the small, large intestine and rectum. Acute disorders of the mesenteric circulation. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis Complications. Tactics of treatment for acute disorders of the mesenteric circulation. Chronic disorders of the mesenteric circulation. Etiology, pathogenesis, clinic, diagnostics, differential diagnostics. Complications. Tactics of treatment for chronic disorders of the mesenteric circulation.

#### **Theme 11. Abdominal trauma (2 hours)**

The causes. Pathogenesis. Clinic for damage to parenchymal organs. Clinic of injuries of hollow organs Diagnosis. Treatment tactics.

#### **Theme 12. Chest trauma (2 hours)**

The causes. Pathogenesis of penetrating and non-penetrating chest wounds. Pneumothorax. Hemopneumothorax. Clinic, Diagnosis. Tactic treatment. Injuries of the mediastinum organs (esophageal perforation, heart contusion). Clinic. Diagnosis. Treatment tactics.

### **Module 2 Selected Questions of Planned Surgery (4 hours)**

#### **Theme 1. Surgical diseases of the esophagus (2 hours)**

Features of the structure of the mucous membrane of different parts of the digestive tract. Gastro-esophageal reflux disease. Hernia of the esophageal opening of the diaphragm. Pathogenesis. Classification. Clinical manifestations. Diagnosis. Treatment tactics. Surgical treatment. Reflux esophagitis. Barrett's esophagus. Clinical manifestations. Diagnosis. Treatment tactics. Achalasia of the esophagus and other diseases leading to impaired patency of the esophagus Pathogenesis. Clinical manifestations. Diagnosis. Treatment tactics.

## **Theme 2. Stomach cancer (2 hours)**

Pathways of lymphatic drainage from the stomach and duodenum. Predisposing factors for the development of gastric cancer. Determination of gastric cancer. Clinical manifestations. Etiology. Classification. Diagnosis. Differential diagnosis. Tactics of treatment of patients. Indications for surgery. Types of surgical interventions.

## **Module 3 Herniology (2 hours)**

### **Theme 1. Herniology (2 hours)**

Clinical anatomy of the anterior abdominal wall and diaphragm. Etiology and pathogenesis of hernia of the anterior abdominal wall. Clinical manifestations. Classification. Differential diagnosis. Surgical treatment of inguinal, femoral and umbilical hernias. Surgical treatment of postoperative hernia of the anterior abdominal wall. Features of surgical treatment in children. Diaphragmatic hernia, pathogenesis, clinic, diagnosis, treatment. Complications of hernia of the anterior abdominal wall and diaphragm. Strangulated hernia: clinic, diagnosis, types of strangulations. Differential diagnosis. Features of surgical treatment.

## **Module 4 Surgical diseases of the genitourinary system (6 hours)**

### **Theme 1. Urolithiasis (2 hours)**

Clinical anatomy of the urinary system. Stone formation conditions. Complications of urolithiasis (kidney cysts, hydronephrosis, renal colic, kidney block, chronic renal failure, acute renal failure, chronic calculous pyelonephritis). Clinical manifestations., diagnosis. Tactics of treatment.

### **Theme 2. Acute and chronic urinary retention (2 hours)**

The reasons. Pathogenesis. Clinical manifestations. Diagnostics. Differential diagnosis with anuria. Tactics of treatment. Gross hematuria syndrome. The reasons. Clinical manifestations. Diagnostics. Tactics of treatment. Bladder tamponade. The reasons. Clinical manifestations. Diagnosis. Tactics of treatment.

### **Theme 3. Damage to the urinary organs (kidney, ureter, bladder, urethra, penis) (2 hours)**



Etiology, pathogenesis, clinic, diagnosis and treatment. Complications (peritonitis, urinary flow into retroperitoneal tissue, anuria) causes, clinical presentation, diagnosis, treatment. Urethral strictures, causes, clinical presentation, diagnosis, treatment.

## **II. STRUCTURE AND CONTENT OF PRACTICAL PART OF THE COURSE (108 hours)**

### **Lesson 1 Introduction to Faculty Surgery (4 hours)**

Faculty surgery is a subject that studies the diagnosis of the most frequent surgical diseases, the principles of their treatment and prevention. The main purpose of the subject is the study of diagnostics as a scientific discipline, including diagnostic techniques, semiology, and peculiarities of thinking in recognition of diseases. Diagnosis: definition of the term, diagnosis as the basis for the treatment and prophylaxis of diseases. The main types of diagnosis: clinical, pathoanatomical, forensic.

Types of diagnosis by the method of construction: the diagnosis is direct or by analogy, the differential diagnosis, and as part of it - the diagnosis by exclusion, the diagnosis is synthetic or complete, the diagnosis by observation, the diagnosis by the treatment effect. The types of diagnosis according to the degree of reasonableness are distinguished as a preliminary diagnosis, i.e. hypothetical, the diagnosis is final, i.e. reasonable, the diagnosis is questionable. The role of anamnesis, physical examination of the patient, laboratory, instrumental methods of investigation in the surgical clinic.

Surgical treatment method and its value. Ways to reduce the risk associated with the use of surgical treatment. The value of studying the functions of the body before the operation, during it and after it.

### **Lesson 2. Acute appendicitis and its complications (4 hours)**

Anatomical and physiological information about the cecum and the appendix. Classification of acute appendicitis, pathoanatomical forms, etiology and pathogenesis. Clinical manifestations and diagnosis. Features of the clinical picture, depending on the variant position of the appendix.

Acute appendicitis in children, pregnant women and the elderly: treatment, indications and contraindications for appendectomy, the choice of method of anesthesia and surgical access. Preparing patients for surgery. Maintaining patients after operation. Laparoscopic appendectomy.

Complications of acute appendicitis: appendicular infiltrate, appendicular abscess, peritonitis, pylephlebitis, sepsis. The clinical picture of these complications their diagnosis and treatment.

### **Lessons 3. Peptic ulcer of the stomach and duodenum, its complications (4 hours)**

Clinical anatomy of the stomach and duodenum. Methods of examination of patients with diseases of the stomach and duodenum.

Duodenal ulcer: etiology, pathogenesis, pathological anatomy. Stage of development of peptic ulcer. The clinical picture and diagnosis. Characteristics of the impairment of the main links of homeostasis.

Peptic ulcer: types of gastric ulcers. Features of the etiology and pathogenesis of gastric ulcers.

Treatment of gastric ulcer and duodenal ulcer. Options for conservative treatment. Indications for surgical treatment. Types of operations: resection of the stomach, SPV, draining operations and vagotomy. Methods of gastric resection: Billroth 1, Billroth 2 modified by Hofmeister-Finsterer, Roux. Maintaining the postoperative period

Complications of peptic ulcers: bleeding, perforation, pyloro-duodenal stenosis, penetration, malignancy of the ulcer. The pathogenesis of complications. Perforated gastric and duodenal ulcer: classification of perforations. Perforated ulcer clinic. The clinical picture of atypical and covered perforations. Diagnosis and differential diagnosis. Medical tactics. Types of operations.

Symptomatic ulcers: hormonal and medicinal, Zollinger-Ellison syndrome. Etiology and pathogenesis. The clinical picture, diagnosis. Features of surgical treatment.

### **Lesson 4. Gastrointestinal bleeding (4 hours)**

Blood supply of the stomach and duodenum. Etiology of gastrointestinal bleeding (GIB) (bleeding from the gastric and duodenal ulcers, erosive-ulcerative gastritis, Mallory-Weiss syndrome, decaying gastric tumour, varicose veins of the stomach). Pathological anatomy. Pathogenesis of impairments of the main links of haemostasis. Classification, clinical picture. Diagnosis. Tactics of managing patients. The value of fibrotic esophagogastroduodenoscopy (FEGD) for diagnosis and treatment. Differential diagnosis. Conservative treatment of bleeding ulcers. Endoscopic methods for arresting bleeding. The surgical treatment options for ulcerative bleeding.

### **Lesson 5. Peritonitis (4 hours)**

Definition of the concept. Clinical anatomy of the abdominal cavity. Etiology, classification. Features of the spread of infection in the abdominal cavity in various acute surgical diseases of the abdominal organs. Pathogenesis of peritonitis, as a multicomponent complex of complications. Pathological changes in acute purulent peritonitis. Clinical picture, diagnosis, differential diagnosis of peritonitis. Tactics of managing patients, modern principles of complex treatment. Features of surgical intervention. Indications for drainage and tamponade of the abdominal cavity, laparotomy, programmed sanation of the abdominal cavity. The role of emergency management, early diagnosis and treatment of peritonitis.

Abdominal sepsis, pathogenesis, clinical picture, diagnosis, treatment. Endogenous intoxication syndrome with peritonitis.

Gynecological peritonitis. Clinic, diagnosis, treatment.

Tuberculous peritonitis. Classification, clinical picture, diagnosis of various forms, treatment.

### **Lesson 6. Acute intestinal obstruction (4 hours)**

Definition Pathogenesis. Classification by reason of disease, pathogenesis, anatomical localization, clinical course, an algorithm for examining patients.

Dynamic intestinal obstruction (DIO): etiology and pathogenesis. DIO as a symptom of acute diseases of the thoracic abdominal cavities and chest cavity, chronic intoxication. Clinical picture, differential diagnosis, treatment principles.

Mechanical intestinal obstruction (MIO): MIO classification: obstructive, strangulation, mixed. Causes and pathogenesis. Clinic, diagnosis, differential diagnosis of the MIO types. Features of surgical treatment.

Definitions of the concept of invagination: types, causes, pathogenesis. Invagination as a set of obstructive and strangulated intestinal obstruction: clinic, diagnosis, differential diagnosis. Types of operations. Indications for intestinal disinvagination.

Preoperative preparation and management of the postoperative period in patients with congestive heart failure, the fight against intoxication, intestinal paresis, water and electrolyte disorders, changes in the acid-base state. Postoperative period

The compartment syndrome, pathogenesis, clinic, diagnosis, treatment.

#### **Lesson 7 Gallstone disease (GSD) (4 hours)**

Clinical anatomy of the biliary tract. Definition GSD. Classification. Clinical picture. Algorithm for examination of patients. Diagnosis. Differential diagnosis. Complications of GBD. Tactics of treatment.

#### **Mechanical jaundice.**

Causes of occurrence. Pathogenesis. Impairment of the main links of homeostasis. Diagnosis. Differential diagnosis. Treatment of obstructive jaundice. Drug therapy for obstructive jaundice, detoxification methods. Endoscopic method of treating patients with obstructive jaundice, indications and choice of method of operation. Draining operations. Stenting of the biliary tract.

#### **Lesson 8. Acute cholecystitis (4 hours)**

Definition of acute cholecystitis. Etiology and pathogenesis of acute cholecystitis. Classification. Clinical picture. Diagnosis. Differential diagnosis. Complications. Causes of occurrence. Clinical manifestations. Tactics of treatment of patients. Minimally invasive interventions. Cholecystectomy. Laparoscopic cholecystectomy and from mini-access. Indications for choledochotomy and methods of its completion. Endoscopic papillosphincterotomy, retrograde cholangiopancreatography (ERCP) and litoextraction. Postcholecystectomy

syndrome. Pathogenesis, classification, clinical manifestations, diagnosis, treatment.

### **Lesson 9. Acute pancreatitis (4 hours)**

Clinical anatomy of the pancreas. Definition of acute pancreatitis. Classification by etiology, severity. Pathogenesis. Phases of acute pancreatitis. Pancreatic necrosis, phases of the flow of pancreatic necrosis. Pathological anatomy. Clinical manifestations. Diagnosis. Differential diagnosis. Tactics of treatment. The content of conservative and surgical treatment.

Purulent complications of acute pancreatitis, diagnosis and treatment. Detoxification methods. Outcomes of the disease.

### **Lesson 10. Chronic pancreatitis (4 hours)**

Etiology. Morphology. Classification. Clinical manifestations. Stages of chronic pancreatitis. Complications. Diagnosis and recommended clinical examinations. Principles of conservative treatment. Surgical treatment: indications and methods.

### **Lesson 11. Herniology (4 hours)**

Clinical anatomy of the anterior abdominal wall and diaphragm, inguinal and femoral canal. Definitions of abdominal hernia. Elements of abdominal hernia. Etiology and pathogenesis of hernia of the anterior abdominal wall. Clinical manifestations. Classification. Differential diagnosis. Surgical treatment of inguinal, femoral and umbilical hernias.

Postoperative hernia: causes of development. Clinical manifestations, diagnosis. Surgical treatment of postoperative hernia of the anterior abdominal wall. Causes of recurrence of postoperative hernia. Features of surgical treatment of hernia in children.

Diaphragmatic hernia, pathogenesis, clinic, diagnosis, treatment.

Complications of hernia: inflammation, irreducibility, coprosthesis, incarceration (strangulation): the definition of concepts. Clinic, diagnosis, treatment.

Strangulated hernia, the mechanism of fecal and elastic strangulation, pathological changes in the strangulated organ. Types of strangulation: retrograde, near-wall. Clinical manifestations, diagnosis and differential diagnosis of

strangulated hernia. Features operational techniques, the determination of the viability of the strangulated intestine. Therapeutic tactics for: questionable diagnosis; forced and imaginary reposition. False reducing the hernia.

Strangulated hernia: clinic, diagnosis, types of infringements. Differential diagnosis. Features of surgical intervention.

### **Lesson 12. Portal hypertension syndrome (4 hours)**

Clinical anatomy of the portal vein system, porto-caval anastomoses. Pathogenesis and classification of portal hypertension syndrome (PHS). Complications (esophageal varices and ascites, bacterial peritonitis). Clinical manifestations. Diagnosis. Conservative and surgical treatment.

Cirrhosis of the liver. Etiology, pathogenesis, classification, clinical manifestations, diagnosis, causes of PHS.

Budd-Chiari Syndrome. Etiology, pathogenesis, classification, clinic, diagnosis, causes of PHS.

Pathogenesis of esophageal-gastric bleeding in PHS. Principles of treatment of bleeding from esophageal varices (EV). Drug treatment, obstructive techniques, methods of endoscopic hemostasis.

Principles of treatment of ascites.

### **Lesson 13 Test lesson (6 hours)**

### **Lesson 14 Obliterating arterial diseases (4 hours)**

Obliterating atherosclerosis of the lower extremities. Leriche syndrome. Thromboangiitis obliterans. Raynaud's disease and syndrome. Stratifying aortic aneurysm. Pathogenesis. Classification. Clinical manifestations. Diagnosis. Differential diagnosis. Surgical tactics.

Diabetic foot syndrome. Pathogenesis. Classification. Clinical manifestations. Diagnosis. Tactics of treatment.

### **Lesson 15 Нарушения мезентериального кровоснабжения (4 часа)**

Clinical anatomy and features of the blood supply to the small, large and rectal intestines. Acute disorders of mesenteric circulation. Etiology, pathogenesis, clinic, diagnosis. Methods of laboratory and instrumental diagnosis of acute disorders of

the mesenteric circulation. Differential diagnosis. Complications. Surgical tactics for acute disorders of the mesenteric circulation. Types of operations, especially preoperative preparation and postoperative management of patients. Principles of anticoagulation and thrombolytic therapy. Forecast. Tactics of treatment for acute disorders of the mesenteric circulation.

Chronic disorders of the mesenteric circulation. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis. Complications. Tactics of treatment for chronic disorders of the mesenteric circulation.

### **Lesson 16 Surgical diseases of the esophagus (4 hours)**

Clinical anatomy of the esophagus and diaphragm. Features of the structure of the mucous membrane of different parts of the digestive tract. Hernia of the esophageal opening of the diaphragm. Pathogenesis. Classification. Clinical manifestations. Diagnostics. Tactic treatment. Surgical treatment.

Gastroesophageal reflux disease. Reflux esophagitis. Barrett's esophagus. Pathogenesis. Morphological changes. Clinical manifestations. Diagnosis. Tactic of treatment.

Achalasia of the esophagus and other diseases leading to impaired patency of the esophagus Pathogenesis. Clinic. Diagnostics. Tactic treatment.

### **Lesson 17 Educational examination of patients and writing educational history of the disease (4 hours)**

### **Lesson 18 Stomach cancer (4 hours)**

Determination of gastric cancer. Clinical anatomy of the stomach. Pathways of lymphatic drainage from the stomach and duodenum. Predisposing factors for the development of gastric cancer. Clinical manifestations. Etiology. Classification. Diagnosis. Differential diagnosis. Tactics of treatment of patients in various stages of the disease. Indications for surgical treatment. Types of surgical interventions.

Complications of gastric cancer. Clinical manifestations, diagnosis, tactics of treatment measures.

### **Lesson 19 Abdominal trauma (4 hours)**

Clinical anatomy of the peritoneum, abdominal organs and retroperitoneal space. Causes of abdominal injuries. Classification. Closed abdominal trauma and wounding. Clinical manifestations for damage to the parenchymal abdominal organs. Clinical manifestations of injuries of the hollow organs of the abdominal cavity. Diagnosis. Treatment tactics.

Damage to the retroperitoneal organs (duodenum, pancreas, ascending colon). Clinic. Diagnostics. Tactics of therapeutic measures

### **Lesson 20 Chest injury (4 hours)**

Clinical anatomy of the chest walls, pleura, pleural cavity, mediastinum. Causes of chest injuries. Classification. Closed chest trauma and wounding. Pathogenesis of penetrating and non-penetrating wounds of the pleural cavity. Rib fractures. Pneumothorax, classification (open, closed, valve). Hemopneumothorax, classification. Emphysema subcutaneous and mediastinum. Clinical manifestations. Diagnosis. Tactic of treatment.

### **Lesson 21 Injuries of the mediastinal organs (4 hours)**

Heart contusions. Heart wounds. Causes. Classification. Clinical picture. Diagnosis. Pericardial puncture technique to eliminate cardiac tamponade. Features of surgical treatment of the heart wounds (access, revision of the pericardial cavity, methods for temporary and final arrest of bleeding from the heart wound, drainage of the pericardial cavity and pleural cavity, suturing of the pericardial and chest wounds).

Damage to the esophagus. Causes. Classification. Clinical manifestations. Diagnosis. Treatment.

Mediastinitis. Causes for the development. Classification. Clinical picture. Diagnosis. Treatment (scope and principles of corrective therapy, operative accesses for anterior mediastinitis, posterior mediastinitis, diffuse mediastinitis).

### **Lesson 22 Urolithiasis (4 hours)**

Clinical anatomy of the urinary system. Determination of urolithiasis. Classification of stones. Stone formation conditions.



Complications of urolithiasis. Renal colic. Causes of occurrence. Clinical manifestations. Diagnosis. Tactic of treatment.

Kidney cysts, hydronephrosis, kidney block, chronic kidney disease, acute renal failure, chronic calculous pyelonephritis, coral stones. Clinical manifestations. Diagnosis. Tactics of treatment measures. Lithotripsy (distant and contact) and lithoextraction.

Concretions of the bladder. Clinic, Diagnosis. Treatment tactics.

### **Lesson 23 Acute and chronic urinary retention (4 hours)**

Clinical anatomy of the urinary organs. Definition of acute and chronic urinary retention. Causes of AUR. Clinical manifestations. Diagnosis. Differential diagnosis with anuria. Tactic treatment.

Chronic urinary retention. Clinical manifestations. The value of BPH in the development of chronic urinary retention. Diagnosis. Tactic of treatment.

Hematuria syndrome. Definition of microhematuria and macrohematuria. The reasons. Clinical manifestations. Diagnosis. Differential diagnosis. Tactic of treatment. Bladder tamponade. Causes. Clinical manifestations. Diagnosis. Tactic of treatment.

### **Lesson 24 Damage to the urinary organs (4 hours)**

Damage to the kidneys, ureters, bladder, urethra, penis. Etiology, pathogenesis, clinic, diagnosis and treatment. Complications (peritonitis, urinary flow into retroperitoneal tissue, anuria), causes, clinical presentation, diagnosis, treatment. Urethral strictures, causes, clinical presentation, diagnosis, treatment.

### **Lesson 25 Presentation of the course educational history of disease (4 hours)**

### **Lesson 26 Test session (6 hours)**

## **III. TRAINING AND METHODOLOGICAL SUPPORT OF INDEPENDENT WORK OF STUDENTS**

The working program of an educational discipline (WPED) presents the main content of lectures and lessons, evaluation tools: terms and concepts necessary for mastering the discipline.

During possessing the “Faculty surgery, Urology” course, the student will have to do a large amount of independent work, which includes preparation for seminars and writing an essay.

Practical trainings help students to deeper learn the material, to acquire the skills of creative work with documents and original sources.

At the introductory classes or in the curriculum, the teacher informs about the goals and objectives of this academic discipline, about thematic plans of lectures and lessons, recommended literature.

Before starting to prepare for the lesson, the student should be acquainted with its plan and list of recommended literature.

Starting the preparation for the practical lesson, the student needs to review the lecture notes, relevant sections of textbooks and tutorials, and then to work with additional literature, to make notes from recommended sources.

In the process of studying the recommended material, it is necessary to understand the construction of the theme being studied, highlight the main points, trace their logic and thereby get into the essence of the problem being studied.

It is necessary to take notes of the material being studied, which allows us to include both visual and motor memory, allows us to accumulate an individual fund of auxiliary materials for quick repetition, which was read to mobilize accumulated knowledge. The main forms of writing: a plan (simple and detailed), extracts, theses.

In the process of preparation, it is important to compare the sources, think over the material being studied and build an algorithm of actions, carefully consider your oral presentation.

At a practical lesson, each participant must be ready to speak on all points of the plan, to be as active as possible when considering them. The presentation must be convincing and reasoned, and a simple reading of notes is not allowed. It is

important to show your own attitude to what is being said, express your personal opinion, understanding, substantiate it and draw the right conclusions from what has been said. You can refer to your records, directly to the original sources, use the knowledge of monographs and publications, facts and observations of modern life, etc.

A student who did not have time to speak at a lesson can present a prepared essay to the teacher for verification and, if necessary, answer the teacher's questions on the theme of lesson to get a credit score.

The educational and methodological support of students' independent work on the academic discipline “Faculty surgery, Urology” is presented in Appendix 1 and includes:

- the characteristic of tasks for independent work of students and methodical recommendations for their implementation;
- requirements for the formalization and presentation of the results of independent work;
- criteria for evaluation of the performance of independent work.

#### IV. CONTROL OF ACHIEVEMENT OF COURSE GOALS

N p/p	Controlled modules / sections / themes of academic discipline	Codes and stages of the formation of competencies		Evaluation tools - name	
				current control	intermediate evaluation
1	<b>Module 1.</b> Emergency surgical assistance  <b>Module 2</b> Selected Questions of Planned Surgery  <b>Module 3</b> Herniology  <b>Module 4</b> Surgical diseases of the genitourinary system	willingness to collect and analyze patient complaints, his medical history, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of the disease; (PC-5)	Knows	EO-1 Interview	Questions of final control 1 semester -1-10
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
2	<b>Module 1.</b> Emergency surgical assistance  <b>Module 2</b> Selected Questions of Planned Surgery  <b>Module 3</b> Herniology  <b>Module 4</b> Surgical diseases of the genitourinary system	the ability to determine in a patient the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health Problems, X revision (PC-6);	Knows	EO-1 Interview	Questions of final control 1 semester -11-36
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
3	<b>Module 1.</b> Emergency surgical assistance  <b>Module 2</b> Selected Questions of Planned Surgery  <b>Module 3</b> Herniology  <b>Module 4</b> Surgical diseases of the genitourinary system	ability to determine tactics of management of patients with different nosological forms (PC-8);	Knows	EO-1 Interview	Questions of final control 1 semester -1-36
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
5	<b>Module 1.</b> Emergency surgical assistance  <b>Module 2</b> Selected Questions of Planned	willingness to provide medical care for sudden acute diseases, conditions, exacerbation of	Knows	EO-1 Interview	Questions of final control 1 semester -15-30
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3	EO2

	<p>Surgery</p> <p><b>Module 3</b> Herniology</p> <p><b>Module 4</b> Surgical diseases of the genitourinary system</p>	<p>chronic diseases that are not accompanied by a threat to the patient's life and do not require emergency medical care (PC-10)</p>		<p>Report</p>	<p>Colloquium</p>
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Control and methodological materials, as well as criteria and indicators which are necessary for the evaluation of knowledge and skills, and characterizing the stages of the formation of competencies in the process of mastering the educational program are presented in Appendix 2.

## V. LIST OF EDUCATIONAL LITERATURE AND INFORMATIONAL-METHODICAL REQUIREMENTS FOR THE DISCIPLINE

### Primary

1. Front Line Surgery / Springer International Publishing AG 2017  
<https://link.springer.com/book/10.1007/978-3-319-56780-8#editorsandaffiliations>
2. Laparoscopic surgery in middle- and low-income countries: gasless lift laparoscopic surgery / Springer US 2015  
<https://link.springer.com/article/10.1007/s00464-015-4433-1>
3. Techniques in Coloproctology / Springer International Publishing 2016  
<https://link.springer.com/journal/10151>
4. Functional Urologic Surgery in Neurogenic and Oncologic Diseases / Springer International Publishing Switzerland 2016  
<https://link.springer.com/book/10.1007/978-3-319-29191-8#editorsandaffiliations>

### Additional

1. Laparoscopic surgery for rectal cancer: the verdict is not final yet! / Springer International Publishing 2017  
<https://link.springer.com/article/10.1007/s10151-017-1594-z>
2. Surgical Endoscopy / Springer US 2016  
<https://link.springer.com/journal/464>

### The list of resources of the information-telecommunication network “Internet”

1. Российское общество хирургов / <http://xn----9sdbbejx7bdduahou3a5d.xn--plai/>
2. Школа современной хирургии / <http://www.websurg.ru/>
3. Главный хирургический портал / <http://www.operabelno.ru/>
4. Врач - хирург Медицинский хирургический портал / <http://xupypr.org/>

5. WebSurg / <http://www.websurg.com/?lng=ru>

MED-EDU.ru - Медицинский портал /  
<http://www.medvideo.org/surgery/...>

## VI. LIST OF INFORMATION TECHNOLOGIES AND SOFTWARE

<b>The location of the computer equipment on which the software is installed, the number of jobs</b>	<b>List of licensed software</b>
Multimedia auditorium Vladivostok Russian island, Ayaks 10, building 25.1, RM. M723 Area of 80.3 m2 (Room for independent work)	Windows Seven enterprise SP3x64 Operating System Microsoft Office Professional Plus 2010 office suite that includes software for working with various types of documents (texts, spreadsheets, databases, etc.); 7Zip 9.20 - free file archiver with a high degree of data compression; ABBYY FineReader 11 - a program for optical character recognition; Adobe Acrobat XI Pro 11.0.00 - software package for creating and viewing electronic publications in PDF; WinDjView 2.0.2 - a program for recognizing and viewing files with the same format DJV and DjVu.

In order to provide special conditions for the education of persons with disabilities all buildings are equipped with ramps, elevators, lifts, specialized places equipped with toilet rooms, information and navigation support signs.

## METHODOLOGICAL RECOMMENDATIONS ON THE COMPLETING THE DISCIPLINE

The purpose of the practical classes is to consolidate the knowledge gained by students in lectures, the modeling of practical situations, and also to test the effectiveness of students' independent work.

Practical lesson usually includes interviewing students for seminars. This allows the teacher to recognize the level of students' knowledge of lecture course materials, basic textbooks, knowledge of current problems and the current situation

in the modern educational space. Further, the ability of students to apply their theoretical knowledge to solving practical problems is revealed.

It is advisable to begin the preparation for the practical lesson by repeating the material of the lectures. It should be borne in mind that the lecture course is limited in time and does not allow the lecturer to consider in detail all aspects of the issue being studied. Therefore, it is required to independently expand knowledge of both theoretical and practical nature. At the same time, the lectures provide a good guide for the student to search for additional materials, since they set a certain structure and logic for studying a particular question

When working independently, the student should first of all study the material presented in the recommended literature and / or teacher's educational literature and monographs. It is necessary to draw students' attention to the fact that not only basic textbooks are included in the library list, but also more in-depth sources on each theme of the course. A consistent study of the subject allows the student to form a stable theoretical base.

An important part of the preparation for the practical class is the work of students with scientific and analytical articles that are published in specialized periodicals. They allow you to broaden your horizons and get an idea of current problems, possible ways to solve them and / or trends in the area under study.

The final step of preparing a student for practical training should be the acquaintance with the results of scientific research relevant to each topic.

## **VII. CLASSROOM, EQUIPMENT AND MATERIAL REQUIREMENTS FOR THE DISCIPLINE**

<b>Name of equipped auditoria and classes for independent work</b>	<b>List of basic equipment</b>
School of Biomedicine Aud. M 508 - 20 jobs	Accreditation and Simulation Center: Couch Complete set to simulate accidents Traumatic injury kit Unhealthy Foot Care Kit Simulator for the treatment of bedsores and patient care (basic) Dummy for care of the patient, Man Interactive laparoscopic simulator for practicing basic skills MU0008



	<p>Model of the knee for arthroscopy with a marker panel, MU0049          Simulator gastroscopy and catheterization of the bile duct, MU0077          Interactive training complex for endoscopy MU0020          Set of pneumatic tires          Multimedia auditory:          Screen with an electric drive 236 * 147 cm Trim Screen Line; DLP Projector, 3000 ANSI Lm, WXGA 1280x800, 2000: 1 EW330U Mitsubishi; document camera CP355AF Avervision, video camera MP-HD718 Multipix; The subsystem of specialized fixing equipment CORSA-2007 Tuarex; Video switching subsystem: Audio switching and sound amplification subsystem: power amplifier, wireless LAN based on 802.11a / b / g / n access points 2x2 MIMO (2SS).</p>
<p>Reading rooms of the FEFU Scientific Library with open access to the library fund. (Building A - Level 10)</p>	<p>Monoblock HP RgoOpe 400 All-in-One 19.5 (1600x900), Core i3-4150T, 4GB DDR3-1600 (1x4GB), 1TB HDD 7200 SATA, DVD +/- RW, GigEth, Wi-Fi, BT, usb kbd / mse, Win7Pro (64-bit) + Win8.1Pro (64-bit), 1-1-1 Wty Internet access speed 500 Mbit / s. Jobs for people with disabilities are equipped with braille displays and printers; equipped with: portable devices for reading flat-printed texts, scanning and reading machines with a video optimizer with the ability to adjust color spectra; magnifying electronic loops and ultrasonic markers</p>

Practical training is conducted at clinical bases.

**Clinical bases:**

Medical Center of the Federal State Autonomous Educational Institution of Higher Professional Education "Far Eastern Federal University";

Regional State Autonomous Healthcare Institution "Regional Clinical Hospital №2";

Regional State Autonomous Institution of Health "Vladivostok Clinical Hospital № 4";



THE MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal State autonomous education institution of higher education  
**«Far Eastern Federal University»**  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

**TRAINING AND METHODOLOGICAL SUPPORT  
INDEPENDENT WORK OF TRAINEES**

in discipline «**Faculty surgery. Urology**»  
Educational program  
Preparation for 31.05.01. General Medicine  
**Form of training full-time**

**Vladivostok  
2016**

Independent work includes:

1. Library and homework with educational literature and lecture notes,
2. Preparation for practical exercises,
3. Performance of an individual task
4. Preparation of the essay
5. Preparation for testing and control interview.

The procedure for the performance of independent work by students is determined by the schedule of independent work on the academic discipline

#### **Schedule of independent work on the academic discipline**

<b>N p/p</b>	<b>Date / Deadline</b>	<b>Type of independent work</b>	<b>Estimated time to complete (hour)</b>	<b>Form of control</b>
<b>7 semester</b>				
1	2-3 week	Essay	6	EO-3-Report, speaking on the practical class
2	4-15 week	Presentation of essay	18	EO-3-Report, speaking on the practical class
3	17-18 week	Preparing to exam	12	EO-1-Interview PW-1 - Test
<b>8 semester</b>				
1	2-3 week	Essay	18	EO-3-Report, speaking on the practical class
2	4-14 week	Presentation of essay	27	EO-3-Report, speaking on the practical class
3	15-18 week	Preparing to exam	27	EO-1-Interview PW-1 - Test

#### **Topics of reports and essays**

There are 72 hours of independent work on the discipline, within the framework of these hours 1 essay is carried out on the proposed topics.

#### **Essays**

1. Disruption of the mesenteric circulation as one of the manifestations of universal atherosclerosis. Clinic. Diagnosis. Treatment. Forecast.
2. Surgical intervention for varicose veins of the lower extremities

3. The concept of trophic ulcers of the lower extremities and modern ideas about treatment
4. Lymphostasis: etiology, pathogenesis, clinical manifestations and treatment.
5. Modern methods of treatment of external abdominal hernia.
6. Tactical errors in patients with acute appendicitis.
7. Features of the clinical manifestations of acute appendicitis in children, pregnant women, the elderly.
8. Acute cholecystitis in gerontological patients.
9. Endoscopic surgical treatment of cholelithiasis and their complications.
10. Hernia of the esophageal orifice of the diaphragm (etiology, classification, pathogenesis, clinic, diagnosis and treatment)
11. Atherosclerotic lesion of great vessels. Indications and methods of surgical treatment.
12. Chronic venous insufficiency.
13. Trophic ulcers of the limbs. Etiology. Modern view on the problem
14. Chronic ischemic bowel disease, modern methods of diagnosis and treatment.
15. Acute peritonitis. Diagnostics. Modern approaches to the treatment of diffuse peritonitis.
16. Intra-abdominal complications after emergency appendectomy: classification, clinical manifestations, diagnosis, treatment
17. Complications in the arterial abdominal wall after emergency appendectomy: classification, clinical manifestations, diagnosis, treatment.
18. Postoperative paresis of the gastrointestinal tract: causes, clinical manifestations, diagnosis and treatment.
19. The compartment syndrome. Pathogenesis. Complications. Clinical manifestations. Diagnosis. Treatment.
20. Nutritional fistula in the pathology of the gastrointestinal tract: indications for formation and types, methods of imposing and caring for fistulas.

21. Eversion of the intestines: causes, classification, diagnosis and treatment.
22. Syndrome of systemic inflammatory response. Modern concepts of sepsis. Classification of sepsis (sepsis, severe sepsis, septic shock). Principles of treatment.
23. Oblique/indirect inguinal hernia. Clinical manifestations. Diagnosis. Treatment.
24. Straight/direct inguinal hernia. Clinical manifestations. Diagnosis. Treatment.
25. Femoral hernia. Clinical manifestations. Diagnosis. Treatment
26. Strangulated inguinal hernia. Clinical manifestations. Diagnosis. Treatment.
27. Complications of acute appendicitis. Pylephlebitis and appendicular infiltrate. Clinical manifestations. Diagnosis. Treatment.
28. Subphrenic abscess. Etiology. Pathogenesis. Clinic. Diagnostics. Treatment.
29. Perforated gastric and duodenal ulcer. Clinical manifestations. Diagnosis. Treatment.
30. Surgical tactics for bleeding from the stomach and duodenum. Conservative and surgical methods of hemostasis.
31. Achalasia of the esophagus. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.
32. Acute intestinal obstruction. Etiology. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.
33. Acute calculous cholecystitis. Pathogenesis. Clinical manifestations. Diagnosis. Treatment
34. Cholelithiasis. Choledocholithiasis. Clinical manifestations. Diagnosis. Treatment.
35. Mechanical jaundice. Etiology. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.

36. Liver cirrhosis. Etiology. Pathogenesis. Complications. Clinical manifestations. Diagnosis. Treatment.
37. Portal hypertension syndrome. Pathogenesis. Complications. Clinical manifestations. Diagnosis. Treatment.
38. Budd-Chiari Syndrome. Pathogenesis. Complications. Clinical manifestations. Diagnosis. Treatment.
39. Blunt force abdominal trauma. Complications. Clinical manifestations. Diagnosis. Treatment.
40. Penetrating wounds of the abdominal cavity. Complications. Clinical manifestations. Diagnosis. Treatment.
41. Blunt force thoracic trauma. Complications. Clinical manifestations. Diagnosis. Treatment.
42. Penetrating wounds of the chest. Complications. Clinical manifestations. Diagnosis. Treatment.
43. Varicose veins of the lower extremities. Pathogenesis. Complications. Clinical manifestations. Diagnosis. Treatment.
44. Chronic venous insufficiency. Pathogenesis. Complications. Clinical manifestations. Diagnosis. Treatment.

#### **Approximate topics of essays on urology.**

1. Modern methods of diagnosis of diseases of the male and female urinary system.
2. X-ray examination in urology.
3. Differential diagnosis between renal colic and acute surgical diseases of the abdominal organs.
4. Blood transfusion. Determination of the blood ABO group and Rh-factor.
5. Changes in the organs of the urinary system in diseases of the female genital organs.
6. Anatomy and physiology of the human urinary system
7. Renal colic (clinical manifestations, diagnosis, treatment)

8. Treatment of benign prostatic hyperplasia. Conservative and surgical methods. Transurethral resection of the prostate gland (TUR) and adenomectomy. Complications of adenomectomy.
9. Urolithiasis. Pathogenesis. Clinical manifestations. Diagnostics. Prevention. Treatment.
10. Penetrated, blunt, combined and concomitant kidney damage. Clinical manifestations. Diagnosis. Treatment.
11. Damage to the ureters and their consequences, strictures. Clinical manifestations. Diagnosis. Treatment.
12. Intra and extra peritoneal damage to the bladder. Clinical manifestations. Diagnosis. Treatment.
13. Ruptures and strictures of the urethra. Clinical manifestations. Diagnosis. Treatment.
14. Injuries to the penis, scrotum and its contents. Clinical manifestations. Diagnosis. Treatment.
15. Fournier's gangrene. Etiology. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.
16. Acute urinary retention. Etiology. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.
17. Nephrolithiasis. Complications of nephrolithiasis. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.
18. Acute and chronic pyelonephritis. Etiology. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.
19. Hydronephrosis and ureterohydronephrosis. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.
20. Acute renal failure. Etiology. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.
21. Chronic renal failure. Etiology. Pathogenesis. Clinical manifestations. Diagnosis. Treatment.

22. Hydrocele. Clinical manifestations. Diagnosis. Treatment and operations by Winckelmann's and von Bergman's technique. Indications. Technique of operation.
23. Varicocele. Pathogenesis. Clinic. Diagnostics. Treatment. Operation of Ivanissevich.
24. Closure of the rupture of the bladder, drainage of pelvic cellular space according to Buyalskiy-McWhorter in extravasation of urine.

### **Guidelines for writing and design of the essay**

Essay - the creative activity of the student, which reproduces in its structure the research activities to solve theoretical and applied problems in a particular branch of scientific knowledge.

The essay is a model of scientific research. It is an independent work in which a student solves a problem of a theoretical or practical nature, applying the scientific principles and methods of this branch of scientific knowledge. The result of this scientific search can have not only subjective, but also objective scientific novelty, and therefore can be presented for discussion by the scientific community in the form of a scientific report or a message at a scientific-practical conference, as well as a scientific article.

The abstract is carried out under the direction of the supervisor and involves the acquisition of skills for building business cooperation based on ethical standards of scientific activity. Purposefulness, initiative, disinterested cognitive interest, responsibility for the results of their actions, conscientiousness, competence - personality traits that characterize the subject of research activities corresponding to the ideals and norms of modern science.

The essay is an independent educational and research activity of the student. The supervisor provides advisory assistance and evaluates the process and results of activities. He provides approximate themes of essay, clarifies with the student



the problem and theme of research, helps to plan and organize research activities, assigns time and a minimum number of consultations.

Traditionally there was a certain structure of the abstract, the main elements of which in order of their location are the following:

1. Title page.
2. The task.
3. Table of Contents
4. List of symbols, symbols and terms (if necessary).
5. Introduction.
6. The main part.
7. Conclusion.
8. Bibliographic list.
9. Appendixes

The title page lists: educational institution, graduating department, author, scientific advisor, research theme, place and year of the essay.

The name of the essay should be as short as possible and fully comply with its content.

The table of contents reflects the names of the structural parts of the essay and the pages on which they are located. The table of contents should be placed at the beginning of work on one page.

The presence of a detailed introduction - an obligatory requirement for the abstract. Despite the small volume of this structural part, its writing causes considerable difficulties. However, a qualitatively executed introduction is the key to understanding the entire work, which testifies to the professionalism of the author.

Thus, the introduction is a very important part of the essay. The introduction should start with a justification of the relevance of the chosen theme. From how the author of the essay can choose a theme and how correctly he understands and evaluates this theme from the point of view of modernity and social significance, it characterizes his scientific maturity and professional preparedness.

In addition, in the introduction it is necessary to isolate the methodological basis of the essay, to name the authors, whose works constituted the theoretical basis of the study. A review of the literature on the theme should show the authors thorough acquaintance with special literature, his ability to systematize sources, critically examine them, highlight the essential, determine the most important in the current state of knowledge.

The introduction reflects the importance and relevance of the chosen topic, defines the object and subject, purpose and objectives, and the chronological framework of the study.

Introduction should be completed by setting out general conclusions about the scientific and practical significance of the theme, its degree of scrutiny and providing with sources, then hypothesis is proposed.

The main part describes the essence of the problem, reveals the theme, determines the author's position, factual material is given as an argument and for illustrations of put forward provisions. The author needs to demonstrate the ability of sequential presentation of material while its analysis. Preference is given to the main facts, rather than small details.

The essay ends with the final part, which is called "conclusion". This part of the essay synthesizes scientific information, which is accumulated in the main part. This synthesis is a consistent, coherent presentation of the results obtained and their relation to a common goal and specific tasks that were set and formulated in the introduction. It is here that contains the so-called "output" knowledge, which is new in relation to the original knowledge. The conclusion may include suggestions of a practical nature, thereby increasing the value of theoretical materials.

So, in conclusion, the student should a) present the findings of the study; b) reflect the theoretical and practical significance, the novelty of the abstract; c) indicate the possibility of applying the results of the study.

After the conclusion it is accepted to place the bibliographic list of the used literature. This list is one of the essential parts of the essay and reflects the independent creative work of the author.

The list of sources used is placed at the end of the work. It is made or in alphabetical order (by the name of the author or the name of the book), or in the order in which the references appear in the text of the written work. In all cases, the full title of the work, the names of the authors or the editor of the publication are indicated if the writing team involved a group of authors, data on the number of volumes, the name of the city and publisher in which the work was published, year of publication, number of pages.

### **Criteria for evaluation of the abstract.**

Evaluation criteria for the abstract: the novelty of the text; the validity of the choice of source; the degree of reveal of the essence of the issue; compliance to the design requirements.

#### **The novelty of the text:**

- a) the relevance of the research theme;
- b) novelty and independence in the formulation of the problem, the formulation of a new aspect of the well-known problem;
- c) the ability to work with research, critical literature, to systematize and structure the material;
- d) the appearance of the author's position, independence of assessments and judgments;
- e) stylistic unity of the text.

#### **The degree of disclosure of the essence of the question:**

- a) the plan compliance with the theme of the abstract;
- b) compliance of the content to the theme and plan of the essay;
- c) completeness and depth of knowledge on the theme;
- d) the validity of the methods and methods of working with the material;
- e) the ability to generalize, draw conclusions, compare different points of view on one issue (problem).

**The validity of the choice of sources:** a) evaluation of the used literature: the use of the most famous works on the research topic (including journal publications of recent years, recent statistics, summaries, references, etc.).

**Compliance with the design requirements:**

- a) the correctness of references to the used literature, references;
- b) assessment of literacy and presentation culture (including spelling, punctuation, stylistic culture), knowledge of terminology;
- c) compliance with the requirements for the volume of the abstract.

**The reviewer should clearly state** the remark and questions, preferably with references to the work (possible on specific pages of the work), to research and evidence that the author did not take into account.

**The reviewer can also indicate** whether the student has addressed the theme earlier (essays, written works, creative works, olympiad works, etc.).

**The reviewer can also indicate** whether the student has addressed the theme earlier (essays, written works, creative works, olympiad works, etc.).

**The rating “Excellent”** is set if all the requirements for writing and presenting the abstract are fulfilled: the problem is indicated and its relevance is justified, a brief analysis of various points of view on the problem under consideration is made and own position is logically presented, conclusions are formulated, the theme is fully revealed, the volume is met, the requirements are met to the external design, given the correct answers to additional questions.

**Evaluation of “Good”** - the basic requirements for the essay are met, but there are some shortcomings. In particular, there are inaccuracies in the presentation of the material; there is no logical sequence in the judgments; not sustained volume of the abstract; there are omissions in the design; Additional questions are incomplete answers.

**Assessment “Satisfactory”** - there are significant deviations from the requirements for essay. In particular, the theme is only partially revealed; factual

errors in the content of the abstract or when answering additional questions; there is no output.

**The rating of “Unsatisfactory”** - the theme of the essay is not revealed, there is a significant lack of understanding of the problem or the student’s abstract is not presented.



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**SCHOOL OF BIOMEDICINE**

**ASSESSMENT FUND**

**«Faculty surgery. Urology»**  
Educational program  
Preparation for 31.05.01. General Medicine  
**Form of training full-time**

**Vladivostok**  
**2016**

## PASSPORT OF TRAINING COMPLEX OF DISCIPLINE

is filled in accordance with the Regulations on the Funds of Evaluation Tools of Educational Programs of Higher Education - Bachelor's Programs, Specialties, FEFU Magistrates, approved by order of the Rector on 12/05/2015 No. 12-13-850.

<b>Code of competence</b>	<b>Stages of competence formation</b>	
willingness to collect and analyze patient complaints, his medical history, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of the disease; (PC-5)	Knows	General principles of clinical examination of surgical and urological patients. Clinical manifestations and features of the main surgical and urological syndromes. Diagnostic capabilities of laboratory and instrumental methods of examination of surgical and urological patients.
	Is able to	To conduct an interview and examination of the patient using laboratory, instrumental, histological, morphological, cytological and other methods of research. to evaluate the patient's condition in order to make a decision about the need for medical care;
	Possesses	Skill in conducting examination of a surgical and urological patient and filling in medical records, interpreting the results of laboratory, instrumental diagnostic methods, making a preliminary diagnosis
the ability to determine in a patient the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health Problems, X revision (PC-6);	Knows	The main symptoms and syndromes, the main nosological forms of surgical and urological diseases, the International Statistical Classification of Diseases and Problems Related to Health (X Revision), an algorithm for determining the nosological forms in accordance with this classification.
	Is able to	Formulate a clinical diagnosis; make a preliminary diagnosis - to synthesize information about the patient in order to determine the pathology and the causes of it; use the International Statistical Classification of Diseases and Health Issues (X Revision) to classify the identified symptoms and syndromes, the main nosological forms of surgical and urological diseases
	Possesses	Skill of forming a clinical diagnosis; making a preliminary diagnosis - the synthesis of patient information in order to determine the pathology and the causes of it; use of the International Statistical Classification of Diseases and Related Health Issues (X revision) for the classification of identified symptoms and syndromes, the main nosological forms of surgical and urological diseases
ability to determine tactics of management of patients with	Knows	Laws of the pathological process in surgical and urological diseases, injuries, blood loss, clinical

different nosological forms (PC-8);		picture, features of the course and possible complications of the most common surgical and urological diseases occurring in typical form
	Is able to	Identify the main symptoms and syndromes common to surgical and urological diseases, make a conclusion about the nature of the pathological process and draw up a plan for the examination and treatment of the identified surgical pathology
	Possesses	Methods for identifying the main symptoms and syndromes of surgical diseases, skills of working with reference books, educational literature and other medical information sources
willingness to provide medical care for sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the patient's life and do not require emergency medical care (PC-10)	Knows	The main stages of the treatment of patients with the most common types of surgical and urological diseases, the basis of the medical staff activity at all stages of the treatment of surgical patients.
	Is able to	Identify the clinical signs of surgical and urological diseases that require emergency medical care, complete the entire study of wound infection, select a method for treating wounds according to the wound process phase, select the tools for performing PSD, assist with pathological processes and soft tissue injuries, fractures and dislocations , provide first aid for surgical diseases that do not require emergency medical care.
	Possesses	The main medical diagnostic and therapeutic measures to provide first medical aid in emergency and life-threatening conditions

### CONTROL OF ACHIEVEMENT OF COURSE GOALS

N p/p	Controlled modules / sections / themes of academic discipline	Codes and stages of the formation of competencies	Evaluation tools - name		
			current control	intermediate evaluation	
1	<b>Module 1.</b> Emergency surgical assistance  <b>Module 2</b> Selected Questions of Planned Surgery  <b>Module 3</b> Herniology  <b>Module 4</b> Surgical diseases of the genitourinary system	willingness to collect and analyze patient complaints, his medical history, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of the disease; (PC-5)	Knows	EO-1 Interview	Questions of final control 1 semester -1-10
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium



2	<b>Module 1.</b> Emergency surgical assistance	the ability to determine in a patient the main pathological conditions, symptoms, disease syndromes, nosological forms in accordance with the International Statistical Classification of Diseases and Health Problems, X revision (PC-6);	Knows	EO-1 Interview	Questions of final control 1 semester -11-36
	<b>Module 2</b> Selected Questions of Planned Surgery		Is able to	PW-1 Test	PW-1 Test
	<b>Module 3</b> Herniology		Possesses	EO-3 Report	EO2 Colloquium
3	<b>Module 1.</b> Emergency surgical assistance	ability to determine tactics of management of patients with different nosological forms (PC-8);	Knows	EO-1 Interview	Questions of final control 1 semester -1-36
	<b>Module 2</b> Selected Questions of Planned Surgery		Is able to	PW-1 Test	PW-1 Test
	<b>Module 3</b> Herniology		Possesses	EO-3 Report	EO2 Colloquium
5	<b>Module 1.</b> Emergency surgical assistance	willingness to provide medical care for sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the patient's life and do not require emergency medical care (PC-10)	Knows	EO-1 Interview	Questions of final control 1 semester -15-30
	<b>Module 2</b> Selected Questions of Planned Surgery		Is able to	PW-1 Test	PW-1 Test
	<b>Module 3</b> Herniology		Possesses	EO-3 Report	EO2 Colloquium
	<b>Module 4</b> Surgical diseases of the genitourinary system				

## The scale of assessment the level of formation of competences

Code and formulation of competence	Stages of the formation of competencies		Criteria	Indicators	Credits
willingness to collect and analyze patient complaints, his medical history, examination results, laboratory, instrumental, pathological and other studies in order to recognize the condition or establish the presence or absence of the disease; (PC-5)	Knows (threshold level)	General principles of clinical examination of surgical and urological patients. Clinical manifestations and features of the main surgical and urological syndromes. Diagnostic capabilities of laboratory and instrumental methods of examination of surgical and urological patients.	Knowledge of the general principles of clinical examination of surgical and urological patients. Clinical manifestations and features of the main surgical and urological syndromes. Diagnostic capabilities of laboratory and instrumental methods of examination of surgical and urological patients	Formed and structured systematic knowledge of the general principles of clinical examination of surgical and urological patients. Clinical manifestations and features of the main surgical and urological syndromes. Diagnostic capabilities of laboratory and instrumental methods of examination of surgical and urological patients	65-71
	Is able to (advanced)	To conduct an interview and examination of the patient using laboratory, instrumental, histological, morphological, cytological and other methods of research. to evaluate the patient's condition in order to make a decision about the need for medical care;	Ability to conduct an interview and examination of the patient using laboratory, instrumental, histological, morphological, cytological and other methods of research. to evaluate the patient's condition in order to make a decision about the need for medical care;	Ready and can conduct an interview and examination of the patient using laboratory, instrumental, histological, morphological, cytological and other methods of research. to evaluate the patient's condition in order to make a decision about the need for medical care;	71-84
	Possesses (high)	Skill in conducting examination of a surgical and urological patient and filling in medical records, interpreting the results of laboratory, instrumental diagnostic methods, making a preliminary diagnosis	Skill availability to conduct examination of a surgical and urological patient and filling in medical records, interpreting the results of laboratory, instrumental diagnostic methods, making a preliminary diagnosis	Formed skill of conducting examination of a surgical and urological patient and filling in medical records, interpreting the results of laboratory, instrumental diagnostic methods, making a preliminary diagnosis	85-100
the ability to determine in a patient the main pathological conditions, symptoms, disease syndromes,	Knows (threshold level)	The main symptoms and syndromes, the main nosological forms of surgical and urological diseases, the International Statistical Classification of	Knowledge of the main symptoms and syndromes, the main nosological forms of surgical and urological diseases, the International Statistical	Formed and structured systematic knowledge of the main symptoms and syndromes, the main nosological forms of surgical and	65-71

nosological forms in accordance with the International Statistical Classification of Diseases and Health Problems, X revision (PC-6);		Diseases and Problems Related to Health (X Revision), an algorithm for determining the nosological forms in accordance with this classification.	Classification of Diseases and Problems Related to Health (X Revision), an algorithm for determining the nosological forms in accordance with this classification.	urological diseases, the International Statistical Classification of Diseases and Problems Related to Health (X Revision), an algorithm for determining the nosological forms in accordance with this classification.	
	Is able to (advanced)	Formulate a clinical diagnosis; make a preliminary diagnosis - to synthesize information about the patient in order to determine the pathology and the causes of it; use the International Statistical Classification of Diseases and Health Issues (X Revision) to classify the identified symptoms and syndromes, the main nosological forms of surgical and urological diseases	Ability to formulate a clinical diagnosis; make a preliminary diagnosis - to synthesize information about the patient in order to determine the pathology and the causes of it; use the International Statistical Classification of Diseases and Health Issues (X Revision) to classify the identified symptoms and syndromes, the main nosological forms of surgical and urological diseases	Ready and can formulate a clinical diagnosis; make a preliminary diagnosis - to synthesize information about the patient in order to determine the pathology and the causes of it; use the International Statistical Classification of Diseases and Health Issues (X Revision) to classify the identified symptoms and syndromes, the main nosological forms of surgical and urological diseases	71-84
	Possesses (high)	Skill of forming a clinical diagnosis; making a preliminary diagnosis - the synthesis of patient information in order to determine the pathology and the causes of it; use of the International Statistical Classification of Diseases and Related Health Issues (X revision) for the classification of identified symptoms and syndromes, the main nosological forms of surgical and urological diseases	Skill availability to form a clinical diagnosis; making a preliminary diagnosis - the synthesis of patient information in order to determine the pathology and the causes of it; use of the International Statistical Classification of Diseases and Related Health Issues (X revision) for the classification of identified symptoms and syndromes, the main nosological forms of surgical and urological diseases	Formed skill of forming a clinical diagnosis; making a preliminary diagnosis - the synthesis of patient information in order to determine the pathology and the causes of it; use of the International Statistical Classification of Diseases and Related Health Issues (X revision) for the classification of identified symptoms and syndromes, the main nosological forms of surgical and urological diseases	85-100
ability to determine tactics of management of patients with different	Knows (threshold level)	Laws of the pathological process in surgical and urological diseases, injuries, blood loss,	Knowledge of the laws of the pathological process in surgical and urological diseases,	Formed and structured systematic knowledge of the laws of the	65-71

nosological forms (PC-8);		clinical picture, features of the course and possible complications of the most common surgical and urological diseases occurring in typical form	injuries, blood loss, clinical picture, features of the course and possible complications of the most common surgical and urological diseases occurring in typical form	pathological process in surgical and urological diseases, injuries, blood loss, clinical picture, features of the course and possible complications of the most common surgical and urological diseases occurring in typical form	
	Is able to (advanced)	Identify the main symptoms and syndromes common to surgical and urological diseases, make a conclusion about the nature of the pathological process and draw up a plan for the examination and treatment of the identified surgical pathology	Ability to identify the main symptoms and syndromes common to surgical and urological diseases, make a conclusion about the nature of the pathological process and draw up a plan for the examination and treatment of the identified surgical and urological pathology	Ready and can identify the main symptoms and syndromes common to surgical and urological diseases, make a conclusion about the nature of the pathological process and draw up a plan for the examination and treatment of the identified surgical and urological pathology	71-84
	Possesses (high)	Methods for identifying the main symptoms and syndromes of surgical and urological diseases, skills of working with reference books, educational literature and other medical information sources	Skill availability for identifying the main symptoms and syndromes of surgical and urological diseases, skills of working with reference books, educational literature and other medical information sources	Under the supervision of the teacher and using reference, educational literature, other medical information sources can identify and give a preliminary conclusion about the presence in a patient of epy characteristic symptoms and syndromes of surgical and urological diseases.	85-100
willingness to provide medical care for sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the patient's life and do not require emergency medical care (PC-10)	Knows (threshold level)	The main stages of the treatment of patients with the most common types of surgical and urological diseases, the basis of the medical staff activity at all stages of the treatment of surgical and urological patients.	Knowledge of the main stages of the treatment of patients with the most common types of surgical and urological diseases, the basis of the medical staff activity at all stages of the treatment of surgical and urological patients.	Formed and structured systematic knowledge of the main stages of the treatment of patients with the most common types of surgical and urological diseases, the basis of the medical staff activity at all stages of the treatment of surgical and urological patients.	65-71
	Is able to	Identify the clinical	Ability to identify	Ready and can to	71-84

	(advanced)	signs of surgical and urological diseases that require emergency medical care, complete the entire study of wound infection, select a method for treating wounds according to the wound process phase, select the tools for performing PSD, assist with pathological processes and soft tissue injuries, fractures and dislocations , provide first aid for surgical diseases that do not require emergency medical care.	the clinical signs of surgical and urological diseases that require emergency medical care, complete the entire study of wound infection, select a method for treating wounds according to the wound process phase, select the tools for performing PSD, assist with pathological processes and soft tissue injuries, fractures and dislocations , provide first aid for surgical diseases that do not require emergency medical care.	identify the clinical signs of surgical and urological diseases that require emergency medical care, complete the entire study of wound infection, select a method for treating wounds according to the wound process phase, select the tools for performing PSD, assist with pathological processes and soft tissue injuries, fractures and dislocations, provide first aid for surgical diseases that do not require emergency medical care.	
	Possesses (high)	The main medical diagnostic and therapeutic measures to provide first medical aid in emergency and life-threatening conditions	Possession of methods of instrumental wound dressing, imposition of drainage systems in the treatment of wounds, transport immobilization for fractures and dislocations, first aid for thermal injury, feeding the patients through the gastrostoma and enterostoma.	Under the supervision of the teacher can perform instrumental wound dressing, the imposition of drainage systems in the treatment of wounds, transport immobilization for fractures and dislocations, provide first aid for thermal injury, feed patients through gastrostoma and enterostoma.	

### Questions to evaluate the preliminary competencies

1. Nosocomial infection, concept. Sources. Ways of transmission. Prevention.
2. Asepsis. Prevention of contact contamination by microflora.
3. The concept of antiseptic. Types of antiseptics.
4. Local anesthesia. History of local anesthesia. Types of local anesthesia.  
Drugs for local anesthesia.
5. The concept of anesthesia. Stages of anesthesia.

6. Surgical operations. Classification of surgical interventions. Types of operations. Stages of surgical operations. Juristic basis of the operation.
7. Bleeding and blood loss. Bleeding mechanisms.
8. The reaction of the body to acute blood loss. Evaluation of the severity of blood loss. Clinical and laboratory diagnosis.
9. Hemorrhagic shock.
10. Ways to temporarily stop bleeding.
11. Ways to permanently stop bleeding.
12. Blood types classification. Immunological basis of blood transfusion.
13. Blood transfusion. Indications and contraindications for blood transfusion. Modern principles and rules of blood transfusion by the ABO system and the Rhesus system.
14. DIC - syndrome. Definition, causes, pathogenesis, clinical manifestations, stages, prevention, treatment.
15. Endogenous intoxication in surgery, causes, major toxic substances. Principles of treatment.
16. Stages of the wound process. Stage I, its periods. Principles of treatment in the first stage of the wound process.
17. Stages of the wound process. Stage II. Principles of treatment in the second stage of the wound process.
18. Syndrome of prolonged crushing of tissues (crash syndrome, positional compression syndrome), pathogenesis, clinic, diagnosis, treatment principles.
19. Fractures. Classification. Fracture healing
20. Thermal burns. Pathogenesis. Classification and clinical picture.
21. Burn disease. Stages, clinical presentation, criteria for transition from one stage of a burn disease to another. Principles of treatment of burn disease
22. Sepsis. Definition. Classification. Etiology and pathogenesis. The idea of the entrance gate, the role of macro - and microorganisms in the development of sepsis. The clinical picture, diagnosis, treatment principles

23. Acute hematogenous osteomyelitis, acute traumatic osteomyelitis. Etiology and pathogenesis. Clinical picture. Medical tactics.
24. Ulcers, fistulas, bedsores. Causes of occurrence. Classification. Prevention. Methods of local and general treatment.

### **Evaluation tools for current certification**

#### **Control tests are designed for students studying the course "Transfusiology"**

Tests are necessary both for the control of knowledge in the learning process, and for the evaluation of knowledge, for setting credits.

When working with tests, the student is invited to choose one option or a combination of answers from the answers given. At the same time, tests are unequal in their complexity. Among the proposed tests there are that contain several options for correct answers. The student must specify all the correct answers.

Tests are designed for both individual and collective decision. They can be used during classroom or independent work.

The results of the test tasks are evaluated by the teacher on a five-point score scale for issuing attestation or according to the system "credit" - "no credit". The mark "excellent" is set with the correct answer to more than 90% of the tests proposed by the teacher. A rating of "good" - with the correct answer to more than 70% of tests. A rating of "satisfactory" - with the correct answer to 50% of the tests proposed to the student.

#### **Examples of test tasks:**

##### **1. What complications are rare in diverticulosis of colon?**

- a. malignancy
- b. peritonitis
- c. diverticulitis
- d. bleeding
- e. intestinal pseudo-obstruction

**2. What arteries primarily affects atherosclerosis obliterans?**

- a. iliac arteries, aortic bifurcation
- b. that's right
- c. tibial arteries
- d. tibial arteries, popliteal artery
- e. popliteal artery, femoral artery

**3. What symptom is common for tumors and colonic diverticulitis?**

- a. anemia
- b. palpable tumor

**4. Is the hernia sac is located inside of a. Epigastrica inferior in case of a direct inguinal hernia?**

- a. not
- b. yes

**5. What is Mallory-Weiss syndrome?**

- a. pyloric stenosis
- b. persistent cardiac sphincter spasm
- c. "Kissing" duodenal ulcers
- d. fissure of the cardiac gastric mucosa

**6. What process is not the complication of acute pancreatitis?**

- a. pancreatic sclerosis
- b. pancreatic pseudocyst
- c. calcification of the pancreas
- d. pancreatic stone formation
- e. beta cell adenomas



**7. What access is best for draining subdiaphragmatic abscess?**

- a. lumbotomy
- b. two-stage transpleural
- c. thoracolaparotomy
- d. extra pleural extraperitoneal
- e. Fedorov laparotomy

**8. What is the Blumberg-Shchetkin symptom?**

- a. tenderness with abrupt tearing of palpating hand
- b. shirt symptom
- c. when pressing with the left hand in the left iliac region, a push with the right hand in the same place causes soreness in the right iliac region
- d. percussion tenderness in the right iliac region
- e. pain on palpation of the cecum in the position of the patient on the left side
- f. appearance or increase in pain in the position on the left side

**9. What is recommended in case of gangrene affecting one of the lung lobe?**

- a. lobectomy
- b. administration of antibiotics to the pulmonary artery
- c. complex therapy, including all of these treatments
- d. intensive care with endobronchial antibiotic administration
- e. daily sanitation of the bronchial tree through a bronchoscope

**10. What operation is optimal in the case of sub-compensated pyloric stenosis?**

- a. resection of 2/3 of the stomach
- b. gastrectomy
- c. selective proximal vagotomy
- d. antrumectomy

e. gastrojejunostomy

**11. What period of chemical burns of the esophagus and stomach is most dangerous for the development of complications: bleeding and perforation?**

a. acute (up to 2 weeks)

b. the period of the formation of cicatricial narrowing and epithelialization (3-4 weeks)

c. the period of formed stricture (2 months or more)

12. What is uncharacteristic for peritonitis in the first 24 hours?

a. dry tongue

b. Kullenkampf symptom

c. muscle tension of the abdominal wall and a positive Shchetkin-Blumberg symptom

d. tachycardia

e. lack of intestinal peristaltic

13. What processes in the gallbladder contribute to stone formation?

a. infection, bile stasis, metabolic disorders, bladder inflammation, gender, constitution

b. infection, bile stasis, metabolic disorders, inflammatory processes in the bladder, constitution, increased amount of bile acids

c. bile stasis, inflammatory processes in the bladder, inflammatory processes in the bladder, gender, increased amount of bile acids

d. infection, bile stasis, metabolic disorders, inflammatory processes in the bladder, increased amounts of bile acids

e. all right

14. What is characteristic of femoral artery thromboembolism?

- a. lack of pulsation of the femoral artery immediately under the pupart ligament, weakening of the pulsation of the popliteal artery
- b. lack of pulsation of the femoral artery immediately under the pupart ligament and in the Gunter canal, weakening the pulsation of the popliteal artery
- c. lack of pulsation of the femoral artery in the Gunter canal, weakening of the pulsation of the popliteal artery
- d. lack of pulsation of the femoral artery in the Gunter canal and popliteal artery, increased (compared with another limb) pulsation of the femoral artery
- e. lack of pulsation of the popliteal artery, increased (compared with another limb) pulsation of the femoral artery, the weakening of the pulsation of the popliteal artery

15. What contributes to the development of hernia of the anterior abdominal wall?

- a. structural features of the anterior abdominal wall in places of hernia
- b. elderly age
- c. all of the above
- d. progressive weight loss
- e. diseases that increase intra-abdominal pressure

16. In which of the following diseases does the pain in the lower third of the sternum decrease when the horizontal position changes to the vertical?

- a. acute myocardial infarction
- b. hiatal hernia
- c. basal pleurisy
- d. mitral valve prolapse
- e. pulmonary embolism

17. What complication can be expected on the first day after appendectomy?

- a. Douglas abscess
- b. adhesive obstruction
- c. peritonitis
- d. bleeding

18. In which section of the esophagus is the Gubarev valve?

- a. in abdominal narrowing
- b. in the area of pharyngeal constriction
- c. in the area of bifurcation contraction
- d. in the incisura cardiaca.

19. Which of the following stomach diseases is precancerous?

- a. acute ulcer
- b. Mallory-Weiss syndrome
- c. atrophic gastritis

20. What is a Richter's strangulation?

- b. strangulation of the intestine in the area of duodenal-jejunal flexure,
- c. strangulation of the wall of the hollow organ
- d. strangulation of twisted sigmoid colon
- e. strangulation of Meckel's diverticulum
- f. strangulation of the stomach in diaphragmatic hernia

21. At what location of the appendix can retroperitoneal phlegmon develop?

- a. ретроперитонеальном расположении червеобразного отростка
- b. медиальном расположении червеобразного отростка
- c. местном перитоните в правой подвздошной области
- d. расположении червеобразного отростка латерально от слепой кишки

22. What treatment option is indicated for a patient with gangrenous appendicitis?

- a. urgent surgery
- b. operation if there is no effect from conservative therapy
- c. conservative treatment
- d. delayed operation
- e. decision making depends on the age of the patient

23. With which of the following processes is necessary to differentiate the swelling of the intestine with peritonitis?

- a. разрывом кисты яичника
- b. внематочной беременностью
- c. острой кишечной непроходимостью

24. What type of intestinal obstruction is torsion?

- a. obturation
- b. mixed
- c. paralytic
- d. strangulation
- e. spastic

25. What examination should be performed first if you suspect an abscess of Douglas space?

- a. a. laparoscopy
- b. b. percussion and abdominal auscultation
- c. c. sigmoidoscopy
- d. d. digital rectal examination
- e. e. abdominal X-ray examination

26. Which of the listed symptoms is not early in case of abdominal hernia?

- a. acute pain
- b. acute onset of the disease
- c. sudden hernia failure
- d. high temperature
- e. pain and tension of hernial protrusion

**26. At what type of intestinal obstruction is conservative treatment applied?**

- a. a. dynamic
- b. volvulus
- c. c. obturation
- d. d. obturation gallstone
- e. nodulation

**27. Which of the following processes should differentiate channel inguinal hernia with?**

- a. testicular tumor
- b. hydrocele
- c. varicocele
- d. tumor of the spermatic cord
- e. all listed

**Situational tasks for the exam in the Faculty of Surgery, Urology (examples)**

**The standard answers to situational problems.**

1. 1. What is your “working” or clinical diagnosis?
2. Based on what clinical symptoms and other data available in the task did you make this diagnosis?
3. With which diseases is a differential diagnosis necessary?
4. What methods of examination (laboratory, instrumental) you assign to the patient. What are your goals for this assignment?
5. Expected test results for your clinical diagnosis.

## 6. Methods of treatment of this pathology.

### **Task number 1.**

Woman 32 years old. Second pregnancy - 34 weeks. A history of chronic calculous cholecystitis. About 8 hours ago there were small pains in the epigastric region. There was a single vomiting. After 1.5 hours, the pain shifted to the region of the right hypochondrium. Pain is permanent, without irradiation. Body temperature - 37.2 ° C. Leukocytes -  $11.6 \times 10^9 / l$ . The tongue is somewhat dry. The abdomen is enlarged due to the uterus. Palpation is tense and painful in the right hypochondrium. The symptom of Shchetkin-Blumberg is not pronounced, Rousing's is negative, Sitkovsky's is positive.

### **Task number 2**

A 23-year-old patient, after a weight lifting, found a protrusion in the right inguinal region, felt severe pain in the protrusion area. On examination, the general condition is satisfactory, there is an increase in the volume of tissues in the right inguinal region. Palpation found that the external inguinal ring is dilated, the spermatic cord is enlarged in diameter, sharply painful.

### **Task number 3**

Patient 62 years. He complained of pain in the calf muscles of the left leg, arising after walking 50-100 meters on foot and disappearing after a short rest. He fell ill 2 years ago when he first began to notice pain in his left leg during long walking. Subsequently, the number of meters that the patient could walk without rest progressively decreased. For medical care did not apply. Objectively: the left lower leg and foot are pale in color, the skin temperature is reduced. There is no hair on the legs. Toenails are dull, brittle. Pulsation on the right lower limb is determined at all points, on the left - only on the femoral artery. Positive Oppel 's symptom

## **Exam questions on the subject "Faculty Surgery, Urology"**

Appendicitis:

1. Acute appendicitis. Etiology. Pathogenesis. Clinic. Diagnostics. Differential diagnosis. Treatment.
2. Complications of acute appendicitis (appendicular infiltrate, appendicular abscess, pylephlebitis). Pathogenesis. Clinic. Diagnosis Treatment.
3. Complications of acute appendicitis (pylephlebitis, sepsis, peritonitis). Pathogenesis. Clinic. Diagnosis Treatment.
4. Chronic appendicitis. Pathogenesis. Clinic. Differential diagnosis. Indications for surgery. Types of surgery.
5. Anatomical - physiological information about the cecum and the appendix. The impact of the location of the appendix on the clinical picture of the disease.
6. Acute appendicitis. Clinic, diagnosis, differential diagnosis. Features of the development of acute appendicitis in children, pregnant women, the elderly and senile age. Treatment.
7. Acute appendicitis. Preparing patients for surgery. The choice of surgical access and anesthesia for acute appendicitis and its complications. Maintaining the postoperative period
8. Surgical accesses for acute appendicitis, complicated and not complicated. Technique of retrograde scion removal
9. Clinic, diagnosis, treatment of retrocecal and retroperitoneal appendicitis.
10. Pelvic appendicitis. Features, clinic, diagnosis, differential diagnosis. Treatment
11. Subphrenic abscess. Causes, features, clinic, diagnosis, differential diagnosis. Methods of operations.



Hernia:

1. Hernia of the abdomen. Definition of the concept. Elements of a hernia of an abdominal wall. Classification of hernia by origin, localization, development. Complications of hernia.

2. Hernia. Definition, etiology, pathogenesis. General symptomatology of free abdominal hernias. Anatomical features of sliding hernias. Prevention of hernia. Indications and contraindications for surgery. The results of treatment. Causes of recurrence

3. Inguinal hernia. Clinical anatomy of the inguinal canal. Straight and oblique inguinal hernia. Congenital inguinal hernia. Diagnostics and differential diagnostics. Prevention. Methods of operations.

4. Femoral hernia. Clinical anatomy of the femoral canal. Clinic. Diagnostics. Differential diagnosis. Prevention. Methods of operations.

5. Umbilical hernias and hernias of the white line of the abdomen. Clinical anatomy of the anterior abdominal wall. Clinic and diagnosis of umbilical hernia in childhood. Methods of operations

6. Irreducible hernia. The reasons. Clinic. diagnosis, treatment. Preparing patients for surgery. Maintaining the postoperative period. Prevention.

7. Irreducible hernia. The reasons. Clinic. Diagnostics. Tactics of the surgeon with a dubious diagnosis of hernia incarceration, with spontaneous reposition. Complications of Forced Reduction

8. Strangulated hernia. Types of strangulation (fecal, elastic, retrograde, parietal), pathological changes in the strangulated organ and general changes in the body with a strangulated hernia. The mechanism of strangulation. Clinic. Diagnosis, differential diagnosis. False strangulation. Treatment. Features surgical technology.

9. Strangulated hernia. Types of strangulations (fecal, elastic, retrograde, near-wall). Features of the treatment of strangulated hernias, preoperative preparation, features of the operative technique, determination of the viability of the strangulated organ and size of resection of the strangulated intestine

10. Postoperative hernia: causes of development. Clinic, diagnosis. Surgical treatment of postoperative hernia of the anterior abdominal wall. Causes of recurrence of postoperative hernia.

11. Clinical anatomy of the diaphragm. Diaphragmatic hernia, classification, pathogenesis, clinic, diagnosis. Treatment methods.

12. Complications of hernia: inflammation, invincibility, coprostasis, incarceration: the definition of concepts. Clinic, diagnosis, treatment.

### **Surgical diseases of the stomach and duodenum**

1. Clinical anatomy of the stomach and duodenum. Methods of examination of patients with diseases of the stomach and duodenum.
2. Duodenal ulcer: etiology, pathogenesis, pathological anatomy. Stages of development of a peptic ulcer. Clinic and diagnosis. The nature of the impairment of the main links of homeostasis.
3. Peptic ulcer: types of gastric ulcers. Features of the etiology and pathogenesis of gastric ulcers. Complications of gastric ulcers. Classification.
4. Peptic ulcer disease. Indications for surgical treatment. Methods of surgical treatment. Types of operations: resection of the stomach, SPV, draining operations and vagotomy. Methods of gastric resection: Billroth 1, Billroth 2 modified by Hofmeister-Finsterer, Roux. Maintaining the postoperative period.
5. Complications of peptic ulcers: bleeding, perforation, pyloroduodenal stenosis, penetration, malignancy of the ulcer. The pathogenesis of complications. Perforated gastric and duodenal ulcer: classification of perforations. Perforated ulcer clinic. Clinic atypical and covered perforations. Diagnostics and differential diagnostics. Medical tactic
6. The physiology of the digestive process in the stomach. Symptomatic ulcers: hormonal and medicinal, Zollinger-Ellison syndrome. Etiology and pathogenesis. Clinic, diagnosis. Features of surgical treatment.
7. Perforated gastric and duodenal ulcer. Classification, types of perforation. Clinic, differential diagnosis, surgical treatment. Maintaining the postoperative period.

8. Ulcer pyloric stenosis. Clinic, diagnosis, differential diagnosis. Water and electrolyte disorders, their prevention, treatment. Surgical tactics.
9. Gastric bleeding. Classification of bleeding and degree of blood loss. Pathogenesis of impairment of the main links of hemostasis. Clinic, diagnosis, differential diagnosis. Prevention. Conservative and surgical treatment of bleeding. Conducting postoperative treatment.
10. Preoperative preparation and management of the postoperative period in patients with diseases of the stomach, postoperative complication.
11. Blood supply of the stomach and duodenum. Etiology of GCC (bleeding ulcer of the stomach and duodenum, erosive and ulcerative gastritis, Mallory-Weiss syndrome, decaying gastric tumor, varicose veins of the stomach). Pathological anatomy. Clinic. Diagnostics. Conservative treatment of bleeding ulcers.
12. Gastric bleeding. Classification, clinic. Diagnostics. Tactics of managing patients. Differential diagnosis. Conservative treatment of bleeding ulcers. The value of fibrogastroduodenoscopy for diagnosis. Endoscopic methods to stop bleeding. Variants of surgical treatment of ulcer bleeding.
13. Precancerous diseases of the stomach. Clinic, diagnosis, treatment principles. Signs of malignancy of a stomach ulcer. Differential diagnosis of ulcers and stomach cancer.
14. Covered perforated and penetrating ulcers of the stomach and duodenum. Clinic, diagnosis and treatment.

### **Peritonitis.**

1. Peritonitis. Clinical anatomy of the abdominal cavity. Anatomical and physiological, histological information about the peritoneum. Classification of peritonitis (by clinical course, localization, the nature of the effusion, depending on the pathogen). Stages of peritonitis. Clinic. Diagnostics.
2. Acute purulent peritonitis. Pathological changes in acute purulent peritonitis. Pathogenesis. The significance of abnormal absorption from the abdominal cavity, intestinal paresis, hemodynamics, intoxication and hydroionic balance in the development of the clinical picture of peritonitis.

3. Acute peritonitis. Treatment. Preoperative preparation. Features of surgical intervention, management of the postoperative period.
4. Acute purulent peritonitis. Clinic. Etiology, diagnosis, differential diagnosis. Modern principles of antibiotic therapy and control of the syndrome of endogenous intoxication
5. Delimited peritonitis. Subphrenic abscess. Causes of occurrence. Clinic. Diagnosis, Treatment. Methods of surgical treatment.
6. Delimited peritonitis. Abscess of Douglas space. Inter-intestinal abscesses. Causes of occurrence. Clinic. Diagnostics. Treatment. Methods of surgical treatment.
7. Clinic, diagnosis, differential diagnosis of peritonitis. Tactics of managing patients, modern principles of complex treatment. Features of surgical intervention. Indications for drainage and tamponade of the abdominal cavity, laparotomy, programmed rehabilitation of the abdominal cavity. The role of emergency management, early diagnosis and treatment of peritonitis.
8. Abdominal sepsis, pathogenesis, clinic, diagnosis, treatment. Endogenous intoxication syndrome with peritonitis. Detoxification methods. Outcomes of the disease.
9. Tuberculous peritonitis. Classification, clinic, diagnosis of various forms, treatment.

#### **Acute intestinal obstruction.**

1. Acute intestinal obstruction. Definition Pathogenesis. Classification by origin, pathogenesis, anatomical localization, clinical development, an algorithm for examining patients
2. Dynamic intestinal obstruction. Etiology and pathogenesis. Dynamic intestinal obstruction as a symptom in acute diseases of the thoracic abdominal cavities and hilar space, chronic intoxication. Clinic, differential diagnosis, treatment principles

3. Mechanical intestinal obstruction. Classification: obturation, strangulation, mixed. Causes and pathogenesis. Clinic, diagnosis, differential diagnosis of types of mechanical intestinal obstruction. Features of surgical treatment.
4. Definitions of the concept of invagination: types, causes, pathogenesis. Invagination as a set of obstructive and strangulated intestinal obstruction: clinic, diagnosis, differential diagnosis. Types of operations. Indications for intestinal disinvagination.
5. Preoperative preparation and management of the postoperative period in patients with acute intestinal obstruction. Therapeutic measures for intoxication, intestinal paresis, water and electrolyte disorders, changes in the acid-base state. The postoperative period.
6. Compartment syndrome, pathogenesis, clinic, diagnosis, treatment.
7. Strangulated intestinal obstruction (volvulus, nodulation, restraint). Features of pathogenesis. Clinic. Diagnostics. Differential diagnosis. Treatment. Indications for bowel resection.
8. Obturation intestinal obstruction. The reasons. Pathogenesis. Clinic. Diagnostics. Differential diagnosis. Treatment.

**Патология желчевыводящих путей (ЖКБ. Механическая желтуха. Острый и хронический холецистит).**

1. Клиническая анатомия желчевыводящих путей. Определение ЖКБ. Классификация. Клиника. Алгоритм обследования больных. Диагностика. Дифференциальная диагностика. Осложнения ЖКБ. Тактика лечения
2. Желчнокаменная болезнь. Холедохолитиаз. Патогенез. Клиника. Диагностика. Осложнения. Механическая желтуха. Особенности предоперационной подготовки. Меры предупреждения холемических кровотечений.

3. Методы исследования при хирургических заболеваниях внепеченочных желчных путей (дооперационные, интраоперационные) и их значение для выбора метода операций
4. Желчнокаменная болезнь. Патогенез камнеобразования. Печеночная колика. Клиника, диагностика, лечение
5. Клиническая анатомия желчевыводящих путей. Холелитиаз, клиника, диагностика, лечение. Показания и виды дренирования общего желчного протока.
6. Методы и средства контрастной рентгенодиагностики заболеваний желчных путей.
7. Механическая желтуха. Причины возникновения. Патогенез. Классификация тяжести поражения. Нарушение основных звеньев гомеостаза. Диагностика. Дифференциальная диагностика. Лечение механической желтухи.
8. Механическая желтуха. Причины возникновения. Дифференциальная диагностика. Лечение механической желтухи. Медикаментозная терапия при механической желтухе, методы детоксикации. Эндоскопический метод лечения больных с механической желтухой, показания и выбор способа операции. Дренирующие операции. Стентирование желчевыводящих путей.
9. Острый холецистит. Этиология. Патогенез. Клиника. Диагностика. Лечение. Показания к операции и виды оперативных вмешательств при остром холецистите.
10. Острый холецистит. Этиология. Патогенез. Осложнения острого холецистита (эмпиема, перитонит, панкреатит). Клиника, диагностика, дифференциальная диагностика.
11. Хронический холецистит. Клиника. Диагностика. Дифференциальная диагностика. Лечение. Показания к хирургическому лечению при хроническом калькулезном холецистите. Виды операций.

12. Постхолецистэктомический синдром. Патогенез, классификация, клиника, диагностика, лечение.
13. Холангиты. Классификация. Этиология. Патогенез. Клиника. Диагностика. Дифференциальная диагностика. Лечение.
14. Малоинвазивные вмешательства при патологии внепеченочных желчевыводящих путей. Холецистэктомия. Лапароскопическая холецистэктомия и из мини-доступа. Показания к холедохотомии и методы ее завершения. Эндоскопическая папиллосфинктеротомия, РХПГ и литоэкстракция.

### **Заболевания поджелудочной железы**

1. Клиническая анатомия поджелудочной железы. Острый панкреатит. Классификация по этиологии, тяжести течения. Патогенез. Фазы клинического течения острого панкреатита. Отечная (интерстициальная) форма панкреатита. Патологическая анатомия. Профилактика. Диагностика. Дифференциальная диагностика. Тактика лечения. Содержание методов лечения.
2. Клиническая анатомия поджелудочной железы. Острый панкреатит. Фазы клинического течения острого панкреатита. Панкреонекроз, фазы течения панкреонекроза. Патологическая анатомия. Клиника. Диагностика. Дифференциальная диагностика. Тактика лечения. Содержание консервативного и хирургического методов лечения. Методы детоксикации. Исходы заболевания.
3. Клиническая анатомия поджелудочной железы. Острый панкреатит. Фазы клинического течения острого панкреатита. Осложнения острого панкреатита (отек забрюшинного пространства, эндогенная интоксикация, токсический гепатит, полиорганная недостаточность). Патогенез. Клиника, диагностика, лечение. Показания к

хирургическому вмешательству. Методы детоксикации. Исходы заболевания.

4. Клиническая анатомия поджелудочной железы. Острый панкреатит. Фазы клинического течения острого панкреатита. Гнойные осложнения острого панкреатита (флегмона забрюшинного пространства, перитонит, оментобурсит). Патогенез. Клиника, диагностика, лечение. Показания к хирургическому вмешательству. Методы детоксикации. Исходы заболевания.
5. Опухоли панкреатодуоденальной зоны. Клиника, топическая диагностика. Методы лечения с учетом локализации поражения органов.
6. Хронический панкреатит. Классификация по этиологии, клиническим проявлениям, по характеру клинического течения, по морфологическим признакам. Этиология. Патогенез. Клиника. Диагностика. Дифференциальная диагностика. Консервативное лечение.
7. Хронический панкреатит. Этиология. Патогенез. Клиника. Определение тяжести течения хронического панкреатита. Клинические стадии течения хронического панкреатита. Диагностика. Дифференциальная диагностика. Консервативное лечение.
8. Хронический панкреатит. Этиология. Патогенез. Осложнения хронического панкреатита. Диагностика. Дифференциальная диагностика. Малоинвазивные вмешательства при хроническом панкреатите, показания, техника выполнения.
9. Хронический панкреатит. Этиология. Патогенез. Хирургические осложнения хронического панкреатита. Диагностика. Дифференциальная диагностика. Оперативное лечение при хроническом панкреатите, показания, техника выполнения.



## **Синдром портальной гипертензии.**

1. Клиническая анатомия системы воротной вены. Синдром портальной гипертензии. Патогенез и классификация синдрома портальной гипертензии (по локализации портального блока, по уровню повышения давления в портальной системе). Клинические проявления и стадии течения патологического процесса. Портокавальные анастомозы. Диагностика. Дифференциальная диагностика.
2. Клиническая анатомия системы воротной вены. Кровеносная система печени. Цирроз печени. Этиология. Патогенез. Классификация по Чайлд-Пью. Стадии течения процесса. клиника, диагностика, причины возникновения синдрома портальной гипертензии. Осложнения цирроза печени. Диагностика. Дифференциальная диагностика.
3. Клиническая анатомия системы воротной вены. Кровеносная система печени. Цирроз печени. Этиология. Патогенез. Осложнения цирроза печени (печеночная энцефалопатия, гепаторенальный синдром, синдром гиперспленизма). Критерии выраженности печеночной энцефалопатии. Патогенез осложнений. Клиника осложнений. Диагностика. Дифференциальная диагностика. Лечение.
4. Клиническая анатомия системы воротной вены. Кровеносная система печени. Цирроз печени. Этиология. Патогенез. Осложнения цирроза печени (асцит, спонтанный бактериальный перитонит). Критерии выраженности асцита. Патогенез осложнений. Клиника осложнений. Диагностика. Дифференциальная диагностика. Лечение. Принципы лечения асцита.
5. Желудочно-кишечные кровотечения при синдроме портальной гипертензии. Патогенез. Портокавальные анастомозы. Варикозное расширение вен пищевода и желудка, критерии выраженности процесса. Клиника. Диагностика. Принципы лечения кровотечения из ВРВП. Медикаментозное лечение, обтурационные методики, методики эндоскопического гемостаза.

6. Синдром Бадда-Киари. Этиология, патогенез, классификация, клиника, диагностика, дифференциальная диагностика. Причины возникновения синдрома портальной гипертензии. Лечение.

### **Заболевания сосудов.**

1. Атеросклероз сосудов нижних конечностей. Клиника. Классификация по степени тяжести хронической ишемии конечностей. Диагностика. Лечение. Осложнения.
2. Синдром Рейно. Клиника. Классификация по степени тяжести хронической ишемии конечностей. Диагностика. Лечение. Осложнения.
3. Синдром диабетической стопы. Патогенез. Классификация по клиническим формам и по тяжести течения. Клиника. Диагностика. Тактика лечения.
4. Варикозная болезнь. Этиология. Патогенез. Патологическая анатомия. Клиника. Диагностика. Методы диагностики. Осложнения. Показания к операции.
5. Тромбофлебиты и флеботромбозы нижних конечностей. Этиология. Патогенез. Клиника. Диагностика. Лечение консервативное и хирургическое.
6. Посттромбофлебитическая болезнь. Понятие, клиника, дифференциальная диагностика. Лечение.

### **Нарушения мезентериального кровоснабжения.**

1. Клиническая анатомия и особенности кровоснабжения тонкой, толстой и прямой кишок. Острые нарушения мезентериального кровообращения. Этиология, патогенез, клиника, диагностика, Методы

лабораторной и инструментальной диагностики острых нарушений мезентерального кровообращения.

2. Клиническая анатомия и особенности кровоснабжения тонкой, толстой и прямой кишок. Острые нарушения мезентериального кровообращения. Диагностика. Дифференциальная диагностика. Хирургическая тактика при острых нарушениях мезентерального кровообращения. Виды операций, особенности предоперационной подготовки и послеоперационного ведения больных.
3. Хронические нарушения мезентериального кровообращения. Этиология, патогенез, клиника, диагностика, дифференциальная диагностика Осложнения. Тактика лечения при хронических нарушениях мезентериального кровообращения.

### **Хирургические заболевания пищевода.**

1. Клиническая анатомия пищевода и диафрагмы. Особенности строения слизистой оболочки различных отделов ЖКТ. Грыжа пищеводного отверстия диафрагмы. Патогенез. Классификация. Клиника. Диагностика. Тактика лечения. Оперативное лечение.
2. Гастроэзофагорезфлюксная болезнь. Рефлюкс-эзофагит. Пищевод Баррета. Патогенез. Морфологические изменения. Клиника. Диагностика. Тактика лечения.
3. Ахалазия пищевода и другие заболевания, приводящие к нарушению проходимости пищевода. Патогенез. Клиника. Диагностика. Тактика лечения.

### **Рак желудка.**

1. Клиническая анатомия желудка. Пути лимфооттока от желудка и двенадцатиперстной кишки. Определение рака желудка. Предрасполагающие факторы развития рака желудка. Клиника.

Этиология. Классификация. Диагностика. Дифференциальная диагностика.

2. Клиническая анатомия желудка. Пути лимфооттока от желудка и двенадцатиперстной кишки. Определение рака желудка. Стадии течения. Клиника Тактика лечения больных в различные стадии заболевания. Показания к операции. Виды оперативных вмешательств.
3. Осложнения рака желудка. Клиника, диагностика, тактика лечебных мероприятий.

### **Травма живота.**

1. Клиническая анатомия брюшины, органов брюшной полости и забрюшинного пространства Причины травм брюшной полости. Классификация. Закрытые травмы и ранения живота. Клиника при повреждении паренхиматозных органов брюшной полости.
2. Клиническая анатомия брюшины, органов брюшной полости и забрюшинного пространства Причины травм брюшной полости. Классификация Клиника повреждений полых органов брюшной полости. Диагностика. Тактика лечения
3. Закрытая травма живота. Причины травм брюшной полости. Повреждение печени и желчевыводящих путей. Клиника. Диагностика. Тактика лечения
4. Повреждения органов забрюшинного пространства (двенадцатиперстной кишки, поджелудочной железы, восходящего отдела толстой кишки). Клиника. Диагностика. Тактика лечебных мероприятий

### **Травмы грудной клетки и средостенья**

1. Клиническая анатомия грудной стенки, плевры, плевральной полости, Симптоматика повреждений груди (общие, местные и специфические) симптомы. Алгоритм диагностических мероприятий при травме груди.

2. Переломы ребер и грудины. Причины. Клиника. Диагностика. Осложнения. Нарушения каркасности грудной стенки. Лечение переломов ребер и грудины и их осложнений.
3. Пневмоторакс. Этиология. Классификация. Патогенез. Клиника. Диагностика. Первая помощь. Лечение.
4. Гемоторакс и гемопневмоторакс. Этиология. Классификация. Патогенез. Клиника. Диагностика. Лечение.
5. Подкожная эмфизема и эмфизема средостенья. Этиология. Патогенез. Клиника. Диагностика. Лечение.
6. Закрытая травма сердца (ушиб сердца). Этиология патогенез. Клиника и клинические периоды течения. Диагностика. Лечение.
7. Ранения сердца. Тампонада сердца. Причины. Классификация. Клиническая картина. Диагностика. Техника пункции перикарда для ликвидации тампонады сердца.
8. Особенности хирургического лечения ранений сердца (доступ, ревизия полости перикарда, методы временной и окончательной остановки кровотечения из раны сердца, дренирование полости перикарда и плевральной полости, ушивание раны перикарда и грудной клетки).
9. Клиническая анатомия средостенья. Повреждения пищевода. Причины. Классификация. Клиника. Диагностика. Лечение.
10. Медиастиниты. Причины развития. Классификация. Клиническая картина. Диагностика. Лечение (объем и принципы корригирующей терапии, оперативные доступы при передних медиастинитах, задних медиастинитах, диффузных медиастинитах).

### **Мочекаменная болезнь.**

1. Клиническая анатомия мочевыделительной системы. Определение МКБ. Классификация конкрементов. Условия камнеобразования.

2. Клиническая анатомия мочевыделительной системы. Осложнения мочекаменной болезни. Почечная колика. Причины возникновения. Клиника. Диагностика. Тактика лечения.
3. Клиническая анатомия мочевыделительной системы. Осложнения мочекаменной болезни. Кисты почек, гидронефроз, блок почек. Клиника, диагностика. Тактика лечебных мероприятий
4. Клиническая анатомия мочевыделительной системы. Осложнения мочекаменной болезни. ХПН, ОПН, хронический калькулезный пиелонефрит, коралловидные камни. Клиника, диагностика. Тактика лечебных мероприятий. Литотрипсия (дистанционная и контактная) и литоэкстракция.
5. Конкременты почек, мочеточников, мочевого пузыря. Клиника, Диагностика. Дифференциальная диагностика. Тактика лечебных мероприятий.

### **Острая и хроническая задержка мочи.**

1. Клиническая анатомия органов мочевого выделения. Острая задержка мочи. Причины. Клиника. Дифференциальная диагностика с анурией. Тактика лечения.
2. Клиническая анатомия органов мочевого выделения. Хроническая задержка мочи. Причины. Клиника. Значение ДГПЖ в развитии хронической задержки мочи. Диагностика. Тактика лечения.
3. Синдром гематурии. Определение микрогематурии и макрогематурии. Причины. Клиника. Диагностика. Дифференциальная диагностика. Тактика лечения.
4. Тампонада мочевого пузыря. Причины. Клиника. Диагностика. Тактика лечения.

### **Повреждения мочевыводящих органов**

1. Клиническая анатомия органов мочевого выделения. Травма почек. Классификация. Этиология. Патогенез. Клиника. Диагностика. Лечение
2. Клиническая анатомия органов мочевого выделения. Травма мочеточников. Классификация. Этиология. Патогенез. Клиника. Осложнения. Диагностика. Лечение.
3. Клиническая анатомия органов мочевого выделения. Травма мочевого пузыря. Классификация. Этиология. Патогенез. Клиника. Осложнения травмы мочевого пузыря. Диагностика. Лечение
4. Клиническая анатомия органов мочевого выделения. Травма уретры и пениса. Классификация. Этиология. Патогенез. Клиника. Осложнения травмы уретры и пениса. Диагностика. Лечение
5. Клиническая анатомия органов мочевого выделения. Стриктуры уретры, причины возникновения, клиника, диагностика, лечение