



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)**

«Topographic anatomy and operative surgery»

Education program

Specialty 31.05.01 «General medicine»

**Form of study: full time**

year 3,4 semester 6,7  
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 45 hours  
control works ()  
pass-fail exam year 3, semester 6  
exam year 4, semester 7

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

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## ANNOTATION

The discipline "Topographic Anatomy and Operative Surgery" is intended for students enrolled in the educational program 31.05.01 "General Medicine". Discipline is implemented in 3-4 courses in the 6th and 7th semesters, is a basic discipline. The total complexity of the discipline is 252 hours, 7 credits.

In developing the work program of the discipline, the Federal State Educational Standard of Higher Education in the specialty 31.05.01 "General Medicine" and the student training curriculum were used.

The course program is based on the basic knowledge gained by students:

- the ability to abstract thinking, analysis, synthesis (GCC -1)
- the willingness to solve common tasks of professional activity with the use of information and bibliographic resources, biomedical terminology, information and communication technologies, taking into account the main requirements for information security (GPC – 1)

### **Course purpose:**

Formation of students' knowledge of topographic anatomy and operative surgery, the division of the human body into areas, the study of the main neurovascular bundles of each area, identifying the main symptoms of organ damage, the study of surgical instruments and its use in performing basic surgical procedures.

### **Tasks:**

1. Study of the role of topographic anatomy and operative surgery in medicine, the development of topographic anatomy abroad and in Russia, the relationship with clinical anatomy

2. Study of standard operating equipment, instruments, and modern methods of surgical interventions. Modern methods of anesthesia.

3. The study of the layered structure of areas of the human body, methods of connection and separation of tissues, operative access, operative procedure. Modern surgical instruments.

4. The study of topographic anatomy of the upper and lower extremities, head, neck, chest, abdomen, retroperitoneal space and pelvis. The study of the main surgical interventions in each of the listed areas, special surgical instruments used in these interventions.

Because of studying this discipline, students form the following general professional and professional competencies:

<b>Code and the wording of competence</b>	<b>Stages of competence</b>	
the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Knows	Fundamentals of systematization and analysis of data in accordance with the knowledge obtained in the subject of topographic anatomy and operative surgery
	Is able to	Analyze the results of their own activities to prevent professional errors based on the knowledge gained on the subject
	Possesses	Methods of analysis of the results of their own activities to prevent professional errors based on the knowledge gained in the subject
the capacity for the assessment of morphological and physiological states and pathological processes in the human body for solving professional tasks (GPC – 9)	Knows	Fundamentals of the structure and functioning of organs and systems of the human body to solve professional problems
	Is able to	To determine the localization of the organs of the human body and the most important anatomical structures for solving professional problems
	Possesses	Methods of examining the patient, determining the localization of organs of the human body, methods of studying the basic physiological functions for solving professional problems
the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)	Knows	Basics of management of patients with various nosological forms
	Is able to	Use educational and scientific literature to address the issues of determining the tactics of managing patients with various nosological forms
	Possesses	The ability to determine the tactics of managing patients with various nosological forms on the basis of scientific and educational medical literature

The following methods of active / interactive training are used to form the above competencies within the discipline "Topographic anatomy and operative surgery":

1. Provides for practical training using computer-based training programs.
2. Practicing practical skills on models

3. For the organization of independent work, the preparation of essays 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, occupation conference.

The share of practical classes conducted in interactive forms is 10% of the classroom time; self-extracurricular work - 33% of the time.

## **STRUCTURE AND CONTENT OF THEORETICAL PART OF THE COURSE (36 HOURS)**

### **I. Module I Introduction to topographic anatomy and operative surgery (6 hours).**

**Topic 1 (2 hours). Introductory section.** A brief historical sketch of the development of topographic anatomy and operative surgery in Russia and abroad. Great Russian doctors: I.V. Buyalsky (1789-1866), O.E. Mukhin, N.I. Pirogov, A.A. Bobrov, PI Dyakonov, V.N. Shevkunenko. Stages of development of topographic anatomy and operative surgery in Russia, connection with clinical anatomy. Modern schools in Russia and abroad.

**Topic 2 (2 hours). The equipment of the operating unit and surgical instruments.** Five groups of surgical instruments: to separate tissues, to stop bleeding, instruments for fixing, instruments for connecting tissues, instruments for special purposes. Anesthesia (general and local). Types of anesthesia (inhalation, non-inhalation, intubation, neuroleptanalgesia). Local anesthesia. Spinal anesthesia.

**Topic 3 (2 hours). The division of the human body into areas.** Outdoor landmarks. Layered structure of areas of the human body. Characteristics of each layer (skin, subcutaneous fat, superficial fascia, muscle, deep fascia, cellular space, neurovascular bundle of each area). Characteristics of the elements of the neurovascular bundle of each region, the projection lines of the neurovascular

bundles. Methods of connection and separation of tissues. Types of sutures, suture material. The concepts of online access, operational reception. Modern surgical instruments (laser scalpel, etc.)

## **Module II. Topographic anatomy of the upper and lower extremities.**

### **Operations on the limbs (8 hours)**

Topic 1 Topographic anatomy of the upper limb (2 hours) Dividing the upper limb by regions. Shoulder girdle Shoulder. The ulnar fossa. Forearm. Brush. Layer-by-layer structure of regions, main neurovascular bundles of each region, projection lines of main bundles. Pulsation points.

Cellular spaces of the hand and forearm (Pirogov-Paron space). Pathways of ulcers on the upper extremity. Symptoms of nerve damage to the upper limb.

### **Topic 2. Topographic anatomy of the lower limb (2 hours)**

The division of the lower limbs by region. Gluteal region, knee, popliteal fossa, tibia, foot. Layer-by-layer structure of areas, main neurovascular bundles of areas, their projection lines.

Channels of the lower extremity (inguinal, femoral, obturator, adductor, ankle, ankle, heel), the contents of the channels. Cellular spaces of the lower limbs. Pathways of ulcers on the lower limbs. Symptoms of damage to the nerves of the lower extremity.

### **Theme 3 Surgical intervention on the limbs (2 hours)**

Indications for surgery on the limbs. The suture of the tendons (suture Lange, Kuneo, Bloch and Bonnet, Kazakov, Rozov) - surgical instruments, suture material, types of sutures. Operations on vessels: vascular suture according to Carrel, according to Morozova - surgical instruments, suture material, types of sutures.

Operations with phlegmon and felon. Operations on the nerves: indications for surgical intervention, primary suture of the nerve - neurorrhaphy: surgical instruments, suture material, types of sutures. Operations for varicose veins of the lower extremity (indications, accesses, special tools, modern methods of operation).

#### **Topic 4. Principles of surgical interventions on bones and joints (2 hours)**

Principles of operations on the bones. Osteosynthesis (extramedullary and intramedullary). Osteotomy (linear, segmental). Trepanation of the skull (decompression and osteoplastic). Special surgical instruments used in bone and joint surgery.

Amputations: indications, types, special tools, calculation of the length of the skin flap during amputation, features of the treatment of neurovascular bundles.

#### **Module III Topographic anatomy of the head and neck. Surgical intervention on the head and neck (8 hours)**

##### **Topic 1 Topographic anatomy of the head (2 hours)**

Head division into areas. Outdoor landmarks. Features of the blood supply to the soft tissues of the head. Features layered structure of the soft tissues of the head. The concept of "scalp". Blood supply to the brain. Sines of the dura mater. Features of the venous outflow of the head. Cranial fossa (anterior, middle, posterior). Topography of the trigeminal and facial nerves (V and VII pairs of cranial nerves, Shipot triangle). Deep area of the face (neurovascular bundle, features of the venous **outflow**). **Features of the spread of purulent processes on the head.**

##### **Topic 2. Features of surgical intervention on the head (2 hours)**

Features of operations on the head. Primary surgical treatment of head wounds. Trepanation of the skull (decompression and osteoplastic, in the region of Shipo triangle). Special surgical instruments used for head surgery. Modern methods of surgical intervention on the head (minimally invasive, endovascular methods).

##### **Topic 3. Topographic anatomy of the neck (2 hours)**

The division of the neck into areas. Outdoor landmarks. Layered structure areas. Outer triangle of the neck (boundaries, landmarks, the main neurovascular bundle). Internal triangle of the neck (borders, landmarks, main neurovascular bundle). Topography of the neck organs (trachea, esophagus, thyroid gland). Points of determination of pulsation of blood vessels in the neck Fascia of the neck (5 fasciae according to Shevkunenko). Cellular spaces of the neck. Ways to spread

ulcers from the neck to the neighboring areas. The division of the neck into 3 floors: the topography of organs, neurovascular bundles of each floor, the value of the floors of the neck in practical surgery

#### **Topic 4. Features of surgical interventions on the neck (2 hours)**

Indications for surgery on the neck. Tracheostomy (indications, access, special tools). Operations on the thyroid gland (for cancer and diffuse and nodular goiter): indications, access, special tools Operations for phlegmon of the neck. Features of the spread of pus from the neck to the neighboring areas

#### **Module IV Topographic anatomy of the chest. Operations on the chest organs (4 hours)**

Topic 1 Topographic anatomy of the chest (2 hours) Areas of the chest, the boundaries of areas, external landmarks, layering. Intercostal space (neurovascular bundles, projection lines). Mammary gland (structure, characteristics of blood supply, lymph outflow). Features of metastasis in breast cancer. Pleural topography, pleural sinuses. Mediastinum (mediastinal organs, mediastinal cellulose, communication of the cellular tissue space of the mediastinum with the cellular tissue of the adjacent areas). Thoracotomy: indications, types, special tools

#### **Topic 2. Surgical intervention on the chest organs (2 hours)**

Indications for surgery on the chest. Surgery for purulent mastitis and breast cancer. Pleural puncture (indication, place of puncture, special tools). Closure of the wounds of the heart. Closure of lung wounds. Pericardial puncture (indications, special tools, execution technique). Modern thoracoscopic surgery

Module V. Topographic anatomy of the abdomen and retroperitoneal space. Operations on the abdominal organs and retroperitoneal space (6 hours)

#### **Topic 1 Topographic anatomy of the abdomen and retroperitoneal space (2 hours).**

The division of the anterolateral abdominal wall on the area, the boundaries of the areas, external reference points, "weak spots" of the anterolateral abdominal wall (white line of the abdomen, umbilical region, inguinal region, pararectal line), layer-by-layer structure and blood supply of the anterolateral abdominal wall.

Abdominal cavity (floors of the abdominal cavity, organs of the upper and lower floors, covering their peritoneum, blood supply to the abdominal cavity, large and small omentum).

Retroperitoneal space: the organs of the retroperitoneal space, the pathways of dissemination of the retroperitoneal phlegmon. Types of laparotomy: indications, features of access. Special tools. Endoscopic surgery

## **Topic 2. Operations for hernia of the anterolateral wall of the abdomen (2 hours)**

Features of operations for hernia of the anterolateral abdominal wall. The technique of operations for oblique inguinal hernias (dissection of the hernial ring, separation of the hernial sac, plasticity of the inguinal canal according to Bobrov, according to Girard, according to Girard-Spassokukotsky, according to Kimbarovsky, according to Martynov, according to Ru). Technique of operations for direct inguinal hernias (Bassini plastics). Technique of operations for femoral hernias (Bassini femoral method, Ruggio Reich inguinal method). Modern methods of surgical interventions for hernias of the anterolateral wall of the abdomen (use of the mesh)

## **Topic 3 Operations on the organs of the abdominal cavity and retroperitoneal space (2 hours)**

Indications for surgery on the abdominal organs. Features of surgery on the intestines. Types of intestinal anastomoses (especially the stitches on the small and large intestines). Special tools used in bowel surgery. Appendectomy (indications, access, technique). Cholecystectomy (indication, access, technique). Stomach operations: suturing of perforated ulcers, surgery for gastric cancer (gastrectomy), gastrectomy, gastrostomy (permanent and temporary) - indications, technique. Opening of retroperitoneal phlegmon, especially drainage of phlegmon of the retroperitoneal space. Endoscopic methods of surgical interventions on the abdominal organs (endoscopic appendectomy, cholecystectomy, removal of polyps, arrest of bleeding from the veins of the esophagus, stomach ulcers, etc.)

## **Module VI Topography of the pelvis and perineum. Operations on the pelvic**



## **organs (4 hours)**

Topic 1. Topography of the pelvis and perineum (2 hours)

Bones, ligaments and muscles of the pelvis. Fascia pelvis. Topography of the male and female pelvic organs. Cell space of the male and female pelvis. Blood supply to the pelvic organs. Features of the blood supply to the uterus and appendages. Bladder: blood supply, features of peritoneum coverage. Features lymphatic drainage from the pelvic organs. Rectum: features of blood supply, features of peritoneum covering

## **Topic 2 Operations on the pelvic organs (2 hours)**

Indications for surgery on the pelvic organs. Puncture of the bladder (indications, technique). Surgery for ectopic pregnancy (indications, prompt access, technique of execution, special tools).

Surgery for hemorrhoids (indications, technique, special tools). Operations at paraproctitis (types of incisions, drainage features). Surgery for dropsy and varicocele.

## **II. STRUCTURE AND CONTENT OF PRACTICAL PART OF THE COURSE (90 HOURS)**

### **1 SEMESTR (54 HOURS)**

**Section 1 "General issues of topographic anatomy and operative surgery" (9 hours)**

#### **Topic 1. Introductory lesson (3 hours)**

Typical operating equipment. Surgical instruments (5 groups). Modern surgical instruments. Suture material

#### **Topic 2. Online access and operational reception (3 hours).**

Types of operational access. Methods of connection and separation of tissues. Langer's lines - features of incisions (coarse postoperative scars). Types of seams, technique of removing seams. Testing seams on models

#### **Theme 3. The division of the human body into areas (3 hours).**

The boundaries of the region, exterior landmarks, layered structure of the region, neurovascular bundles of the region, projection lines of the neurovascular bundles

## **Section 2. Upper Limb (9 hours)**

### **Theme 1. The shoulder girdle (3 hours).**

Shoulder girdle: scapular region, subclavian region, axillary region. Free upper limb: deltoid region, shoulder joint, shoulder, elbow joint area. Borders of regions, layer-by-layer structure of regions, main neurovascular bundles of regions and their projection lines

### **Topic 2. Free upper limb (3 hours).**

Free upper limb: forearm, wrist area, hand. Borders of regions, layer-by-layer structure of regions, main neurovascular bundles of regions and their projection lines. Cellular spaces of the hand and forearm. Pathways of pus on the upper limb.

### **Theme 3. The final lesson on the topic “Upper limb” (test control, work with models) (3 hours).**

## **Section 3. Topography of the lower limbs (9 hours)**

### **Topic 1. Gluteal region, hip, thigh (3 hours).**

Gluteal region, hip joint, thigh (femoral triangle, femoral canal, obturator canal, adductor canal, posterior surface of the thigh). Borders of the region, layered structure, neurovascular bundles of the region, contents of the canals, projection lines of the neurovascular bundles

### **Topic 2. Knee joint, popliteal fossa, tibia (3 hours).**

Knee joint, popliteal fossa, shin (ankle-knee canal, ankle joint, foot, heel canal, plantar canal). The boundaries of the region, layered structure, neurovascular bundles of the region, the contents of the channels, the projection lines of the neurovascular bundles. Cellular spaces of the foot, the pathways of distribution of pus on the lower limbs

### **Theme 3. The final lesson on the lower limbs (test control, work with models) (3 hours).**

## **Section 4. Operations on the limbs (6 hours)**

### **Topic 1. The seam of tendons, blood vessels, nerves (3 hours).**

The seam of tendons, blood vessels, nerves: indications, technique of execution, special tools

**Topic 2. Operations on the limbs (3 hours).**

Amputations, felon and phlegmon of the extremities, osteosynthesis, osteotomy, trephination (indications for operations, quick access, instrumentation). Surgery for varicose veins of the lower extremity.

**Section 5. Topographic anatomy of the head (9 hours)**

**Topic 1. General questions of topographic anatomy of the head -1 (3 hours).**

The division into areas, especially the blood supply to the soft tissues of the head and brain, the sinuses of the dura mater. Features layered structure of the soft tissues of the head. The deep area of the face (borders, external reference points, the main neurovascular bundle area).

**Topic 2. General issues of topographic anatomy of the head -2 (3 hours).**

The base of the skull, cranial fossae, the topography of the trigeminal and facial nerves, the Shipot triangle - boundaries, of practical importance.

**Theme 3. The final lesson on topographic anatomy of the head (test control, work with models) (3 hours).**

**Section 6. Topographic anatomy of the neck (9 hours)**

**Topic 1. General questions of topographic anatomy of the neck -1 (3 hours).**

The division of the neck into triangles. Sleepy and submaxillary neck triangles. Fascia and cellular tissue spaces of the neck (main neurovascular bundles of the medial and lateral triangles of the neck). Neck floors

**Topic 2. General questions of topographic anatomy of the neck -2 (3 hours).**

Topography of the neck: Trachea, esophagus, thyroid, neurovascular bundles. The arrangement of the neck organs on the floors

**Theme 3. The final lesson on topographic anatomy of the neck (test control, work with models) (3 hours).**

**Section 7. Grade 1 semester (3 hours)**

**2 SEMESTER (54 HOURS)**

## **Section 8. Surgical intervention on the head (6 hours)**

### **Topic 1. Head surgery - 1 (3 hours).**

Features of primary surgical treatment of wounds of soft tissues of the head.

Trepanations (indications, accesses, types of trepanations, special tools)

### **Topic 2. Head surgery - 2 (3 hours).**

Trepanation in the area of the Shipov triangle (indications, accesses, types of trepanations, special tools)

## **Section 9. Surgical interventions on the neck (6 hours)**

### **Topic 1. Operations on the neck - 1 (3 hours).**

Tracheostomy (indications, accesses, types of tracheostomy, special tools).

Operations on the thyroid gland (indications, accesses, special tools).

### **Topic 2. Operations on the neck - 2 (3 hours).**

Cellulitis of the neck (cuts, ways of spreading pus from the neck to the neighboring areas).

## **Section 10. Topographic anatomy of the chest (6 hours).**

### **Theme 1. Borders, chest marks, layered structure of intercostal spaces, neurovascular bundle of intercostal spaces (3 hours).**

Topographic anatomy of the breast. Layer structure, blood supply, lymphatic drainage features, metastasis pathways for breast cancer. Pleural cavity: parietal and visceral pleura, pleural sinuses. Properties of serous membranes. The organs of the chest: heart, lungs, esophagus; mediastinum: borders, division into areas, the message.

### **Topic 2. Operations on the chest organs (3 hours).**

Thoracotomy, thoracoscopy: indications, types, technique, special tools.

Operations on the mammary gland: purulent mastitis, benign breast neoplasms, malignant tumors of the breast. Indications, technique, possible complications.

Pleural puncture: indications, types, technique, special tools. Closure of the wound of the heart, lung Quick access, execution technique, special tools, possible complications. Pericardial puncture: indications, technique, special tools.

## **Section 8. Surgical intervention on the head (6 hours)**

### **Topic 1. Head surgery - 1 (3 hours).**

Features of primary surgical treatment of wounds of soft tissues of the head.  
Trepans (indications, accesses, types of trepanations, special tools)

### **Topic 2. Head surgery - 2 (3 hours).**

Trepanation in the area of the Shipot triangle (indications, accesses, types of trepanations, special tools)

## **Section 9. Surgical interventions on the neck (6 hours)**

### **Topic 1. Operations on the neck - 1 (3 hours).**

Tracheostomy (indications, accesses, types of tracheostomy, special tools).  
Operations on the thyroid gland (indications, accesses, special tools).

### **Topic 2. Operations on the neck - 2 (3 hours).**

Cellulitis of the neck (cuts, ways of spreading pus from the neck to the neighboring areas).

## **Section 10. Topographic anatomy of the chest (6 hours).**

### **Theme 1. Borders, chest marks, layered structure of intercostal spaces, neurovascular bundle of intercostal spaces (3 hours).**

Topographic anatomy of the breast. Layer structure, blood supply, lymphatic drainage features, metastasis pathways for breast cancer. Pleural cavity: parietal and visceral pleura, pleural sinuses. Properties of serous membranes. The organs of the chest: heart, lungs, esophagus; mediastinum: borders, division into areas, the message.

### **Topic 2. Operations on the chest organs (3 hours).**

Thoracotomy, thoracoscopy: indications, types, technique, special tools.  
Operations on the mammary gland: purulent mastitis, benign breast neoplasms, malignant tumors of the breast. Indications, technique, possible complications.  
Pleural puncture: indications, types, technique, special tools. Closure of the wound of the heart, lung Quick access, execution technique, special tools, possible complications. Pericardial puncture: indications, technique, special tools.

### **Topic 2. Basics of operative surgery of the abdominal organs (3 hours).**

The wall structure of the colon and small intestine. The concept of "clean" and "dirty" seams. Intestinal anastomoses: types, execution technique, special tools, possible complications. Closure of colon and small intestine wounds: indications, technique of implementation, possible complications. Testing the imposition of intestinal anastomoses on models.

### **Topic 3. Operations on the abdominal organs (3 hours).**

Gastric resections: indications, types, prompt access, technique of implementation, possible complications. Brown anastomosis: indications, technique. Closure of a perforated ulcer. Vagotomy: indications, types, prompt access, technique of execution, possible complications. Appendectomy: indications, types, prompt access, technique of implementation, possible complications.

Cholecystectomy: indications, types, prompt access, technique of execution, special tools, possible complications. Modern operations for choledocholithiasis. (endoscopic lithoextraction and stenting).

Gastrostomy: indications, types, prompt access, technique of execution, possible complications. Modern methods of gastrostomy.

### **Modern methods for stenosing processes of the abdominal organs (stenting).**

## **Section 13. Topography of the pelvis and perineum (6 hours)**

### **Topic 1. Topography of the pelvis and perineum (3 hours).**

Floors of the pelvis, pelvic organs (uterus, bladder, rectum). Features of the blood supply to the pelvic organs. Covering the peritoneum of the pelvic organs. Features of the venous and lymphatic drainage from the rectum. Cellular spaces of the pelvis.

### **Topic 2 Operations on the pelvic organs (3 hours)**

Surgery for ectopic pregnancy. Bladder puncture. Rectum operations (hemorrhoids, rectal polyps, rectal cancer). Operations at paraproctitis indications, accesses, technique of execution, possible complications, special tools.

## **Section 14. Lumbar region and retroperitoneal space (6 hours)**

### **Topic 1. Topography of the lumbar region and retroperitoneal space (3 hours).**

Topography of the lumbar region and retroperitoneal space: boundaries, landmarks, layered structure. Blood supply to the retroperitoneal space. Retroperitoneal fiber: the way pus spreads.

**Topic 2. Surgical interventions on the retroperitoneal organs (3 hours).**

Surgery for acute and chronic pancreatitis. Nephrectomy. Retroperitoneal phlegmon indications prompt access, technique of execution, special tools, possible complications.

**Section 15. Test lesson (3 hours)**

Test control, practicing practical skills on models, Overlaying inter-intestinal anastomoses. Suturing wounds of the small and large intestine special tools.

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

The main content of the topics, evaluation tools are presented in the work program: terms and concepts necessary to master the discipline.

In the course of mastering the course “Topographic anatomy and operative surgery”, the student will have to do a large amount of independent work, which includes preparation for seminars and writing an essay.

Practical exercises help students to deeper learn the material, to acquire the skills of creative work on documents and primary sources.

Plans for practical classes, their topics, recommended literature, the purpose and objectives of its study are communicated by the teacher at the introductory classes or in the curriculum for the discipline.

Before proceeding to the study of the topic, it is necessary to familiarize yourself with the main questions of the practical training plan and list of recommended literature.

Starting the preparation for the practical lesson, it is necessary first to refer to the lecture notes, sections of textbooks and teaching aids in order to get a general idea of the place and importance of the topic in the course being studied. Then work with additional literature, make notes on the recommended sources.

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

It is necessary to keep records of the material being studied in the form of an outline, which, along with the visual, includes the motor memory and allows you to accumulate an individual fund of auxiliary materials for a quick repetition of what you read, to mobilize accumulated knowledge. The main forms of record: 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 should be ready to speak on all the questions posed in the plan, to be as active as possible in their consideration. The speech should be convincing and reasoned, and simple reading of the abstract 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 notes of notes and lectures, directly to primary 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 practical lesson can present a prepared summary to the teacher for verification and, if necessary, answer the teacher's questions on the topic of the practical lesson in order to get a credit score on this topic.

The educational and methodological support of the independent work of students in the discipline "Hospital surgery, pediatric surgery" is presented in Appendix 1 and includes:

- characteristics of tasks for independent work of students and methodological recommendations for their implementation;
- requirements for the presentation and presentation of the results of independent work;
- criteria for assessing the performance of independent work.

#### **IV. MONITORING ACHIEVEMENT OF COURSE GOALS**

<b>Code of competence</b>		<b>Stages of competence formation</b>			
№ п/п	Controlled modules / sections / themes of academic discipline	Codes and stages of the formation of competencies		Evaluation tools - name	
				current control	intermediate evaluation
1	Module I Introduction to topographic anatomy and operative surgery.	the ability and willingness to analyze the results of	Knows	EO-1 Interview	Questions of final control 7 semester - 1-

	<p>Module II. Topographic anatomy of the upper and lower extremities. Operations on the limbs.</p> <p>Module III Topographic anatomy of the head and neck. Surgical intervention on the head and neck.</p> <p>Module IV Topographic anatomy of the chest. Operations on the organs of the chest.</p> <p>Module V. Topographic anatomy of the abdomen and retroperitoneal space. Operations on the abdominal organs and retroperitoneal space.</p> <p>Module VI Topography of the pelvis and perineum. Operations on the pelvic organs.</p>	his own activity to prevent professional errors (GPC-5)			36
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
2	<p>Module I Introduction to topographic anatomy and operative surgery.</p> <p>Module II. Topographic anatomy of the upper and lower extremities. Operations on the limbs.</p> <p>Module III Topographic anatomy of the head and neck. Surgical intervention on the head and neck.</p> <p>Module IV Topographic anatomy of the chest. Operations on the organs of the chest.</p> <p>Module V. Topographic anatomy of the abdomen and retroperitoneal space. Operations on the abdominal organs and retroperitoneal space.</p> <p>Module VI Topography of the pelvis and perineum. Operations on the pelvic organs..</p>	the capacity for the assessment of morphological and physiological states and pathological processes in the human body for solving professional tasks (GPC – 9)	Knows	EO-1 Interview	Questions of final control 7 semester - 1-38
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
	<p>Module I Introduction to topographic anatomy and operative surgery.</p> <p>Module II. Topographic anatomy of the upper and lower extremities. Operations on the limbs.</p> <p>Module III Topographic anatomy of the head and neck. Surgical intervention on the head and neck.</p> <p>Module IV Topographic anatomy of the chest. Operations on the organs of the chest.</p> <p>Module V. Topographic anatomy of the abdomen and retroperitoneal space. Operations on the abdominal organs and retroperitoneal space.</p> <p>Module VI Topography of the pelvis and perineum.</p>	the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)	Knows	EO-1 Interview	Questions of final control 7 semester - 36-110
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium

*Approximate types of assessment tools: interview on situational tasks, written or computer testing, standard calculations, individual tasks, abstract, essay, etc.*

Control and methodological materials, as well as criteria and indicators necessary for the assessment 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 INFORMATION AND METHODOLOGICAL PROVISION OF DISCIPLINE

### Main literature

1. Nikolaev A.V., Topographic Anatomy and Operative Surgery [Электронный ресурс] / Nikolaev A.V. - М. : ГЭОТАР-Медиа, 2018. - 672 с. - ISBN 978-5-9704-4549-5 - Режим доступа: <http://www.studmedlib.ru/book/ISBN9785970445495.html>

### Дополнительная литература

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>

### Electronic resources

1. Russian Society of Surgeons / <http://xn----9sdbbejx7bdduahou3a5d.xn--p1ai/>
2. School of Modern Surgery / <http://www.websurg.ru/>
3. The main surgical portal / <http://www.operabelno.ru/>
4. Doctor - Surgeon Medical Surgical Portal / <http://xupypr.org/>
5. WebSurg / <http://www.websurg.com/?lng=ru>
6. MED-EDU.ru - Medical portal / <http://www.medvideo.org/surgery/>

## **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.

### **Lecture - visualization**

The lecture is accompanied by the display of tables, slides, which contributes to a better perception of the presented material. Lecture - visualization requires certain skills - verbal presentation of the material must be accompanied and combined with the visual form. The information presented in the form of charts on the board, tables, slides, allows you to formulate problematic issues, and contribute to the development of professional thinking of future professionals.

### **Lecture - conversation.**

Lecture-conversation, or how else in pedagogy this form of education is called “dialogue with the audience,” is the most common form of active learning and allows you to involve students in the learning process, as there is direct contact with the teacher audience. Such contact is achieved in the course of the lecture, when students are asked questions of a problem or informational nature, or when I ask students to ask me questions themselves. Questions are offered to the entire audience, and any student can offer his own answer, another can complement it. At the same time, from lecture to lecture I identify more active students and try to activate students who are not participating in the work. This form of lecture allows you to engage students in work, increase their attention, thinking, gain collective experience, learn how to formulate questions. The advantage of the lecture-conversation is that it allows you to draw students' attention to the most important issues of the topic, to determine the content and pace of presentation of educational material.

### **Lecture - press conference**

At the beginning of the lesson, the teacher calls the topic of the lecture and asks students to ask him in writing questions on this topic. Each student must within 2-3 minutes formulate the most interesting questions on the topic of the lecture, write them on a piece of paper and pass the note to the teacher. The teacher within 3-5 minutes sorts the questions according to their semantic content and begins to give a lecture. The presentation of the material is presented in the form of a coherent disclosure of the topic, and not as an answer to each question asked, but during the

lecture the corresponding answers are formulated. At the end of the lecture, the teacher conducts a final assessment of the questions, revealing the knowledge and interests of the students.

**Practical training in the discipline "Hospital surgery, pediatric surgery"**

Practical exercises - a collective form of consideration of educational material. Seminars, which are also one of the main types of practical exercises, intended for in-depth study of the discipline, held interactively. At the workshop on the topic of the seminar, questions are sorted out and then, together with the teacher, they hold a discussion, which is aimed at consolidating the material under discussion, developing skills to debate, develop independence and critical thinking, the students' ability to navigate through large information flows, to develop and defend their own position on problematic issues academic disciplines. As active learning methods are used in practical classes: a press conference, a detailed conversation, dispute. A detailed conversation involves preparing students for each issue of the lesson plan with a list of recommended compulsory and additional literature recommended for all. Reports are prepared by students on pre-proposed topics.

Dispute in the group has several advantages. The dispute may be called by the teacher during the course of the lesson or planned by him in advance. In the course of the controversy, students form resourcefulness, quick thinking reaction.

Press conference. The teacher instructs 3-4 students to prepare short reports. Then one of the participants in this group makes a report. After the report, students ask questions that are answered by the speaker and other members of the expert group. Based on the questions and answers, a creative discussion takes place with the teacher.

**VII. LIST OF INFORMATION TECHNOLOGIES AND SOFTWARE**

The location of the computer equipment on which the software is installed, the number of jobs	List of licensed software
Multimedia auditorium Vladivostok Russian island, Ayaks 10, building 25.1, RM.	Windows Seven enterprise SP3x64 Operating System Microsoft Office Professional Plus 2010 office suite that includes software for working with various

M723 Area of 80.3 m2 (Room for independent work)	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.
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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.

## LOGISTICS DISCIPLINE

For practical work, as well as for the organization of independent work, students have access to the following laboratory equipment and specialized classrooms that meet the current sanitary and fire regulations, as well as safety requirements during training and scientific and industrial works:

<b>Name of the equipped rooms and rooms for independent work</b>	<b>List of main equipment</b>
690922, Primorsky Krai, Vladivostok, island Russian, the Saperny Peninsula, Ajax, 10, RM. M 516	Class of topographic anatomy and operative surgery Set of surgical large (1 PC.) Package d / disposal CL. B (yellow) with screed, 50*60 cm Needles W 204/3 DS 70 (130) Disposable robe (sleeve: knitted cuff) Disposable gloves, non-sterile (size M) Disposable, non-sterile gloves (size S) Disposable, non-sterile gloves (size L) Pointed scissors (2 PCs.) Spatula neurosurgical 2-sided small (2 PCs .) Suture Polyester braided M 3.5 (0) a coil of 10 meters PR-VA Russia Dacron braided white M 3 (2/0) 200 meters tape, PR-VA Russia Functional model of the knee joint "luxury" (1 PC .) Model of knee joint, 12 parts (1 PC.) Posters of the abdominal cavity – plastic) - laminated Chest posters ( plastic) - laminated Fake hernia (1 PC .) Dummy brush (collapsible) (1 PC.) Laryngoscope intubation (1 PC.)



<p>Multimedia audience</p>	<p>Monoblock Lenovo C360G-i34164G500UDK; projection Screen Projecta Elpro Electrol, 300x173 cm; Multimedia projector, Mitsubishi FD630U, 4000 ANSI Lumen 1920 x 1080; Flush interface with automatic retracting cables TLS TAM 201 Stan; Avervision CP355AF; lavalier Microphone system UHF band Sennheiser EW 122 G3 composed of a wireless microphone and receiver; Codec of videoconferencing LifeSizeExpress 220 - Codeconly - Non-AES; Network camera Multipix MP-HD718; Two LCD panel, 47", Full HD, LG M4716CCBA; Subsystem of audiocommentary and sound reinforcement; centralized uninterrupted power supply</p>
<p>Reading rooms of the Scientific library of the University open access Fund (building a - 10)</p>	<p>Monoblock HP Loope 400 All-in-One 19.5 in (1600x900), Core i3-4150T, 4GB DDR3-1600 (1x4GB), 1TB HDD 7200 SATA, DVD+/-RW, GigEth, wifi, BT, usb kbd/mse, Win7Pro (64-bit)+Win8.1Pro(64-bit), 1-1-1 Wty Speed Internet access 500 Mbps. Jobs for people with disabilities equipped with displays and Braille printers.; equipped with: portable reading devices flatbed texts, scanning and reading machines videovelocity with adjustable color spectrums; increasing electronic loops and ultrasonic marker</p>
<p>690922, Primorsky Krai, Vladivostok, Aleutian street 57 690049, Vladivostok, street Russian 55 690034, Vladivostok, Voropaeva str., 5 690922, Primorsky Krai, Vladivostok, island Russian, the Saperny Peninsula, the village of ayaks, 10</p>	<p>State budgetary institution of health care "Primorsky regional clinical hospital №1» Regional State Autonomous Health Institution " Regional Clinical Hospital №2»; Regional State Autonomous Healthcare Institution "Vladivostok Clinical Hospital № 4»; Medical center of the Federal state Autonomous educational institution of higher education "far Eastern Federal University".</p>



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 STUDENTS**

in discipline **«Topographic anatomy and operative surgery»**  
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>
7 semester				
1	2-3 weeks	Essay Individual task	6	EO-3-Report, speaking on the practical class
2	4-15 weeks	Presentation on the essay Presentation of the results of an individual task	6	EO-3-Report, speaking on the practical class
3	17-18 weeks	Preparing to exam	24	EO-1-Interview PW-1 - Test
8 semester				
1	2-3 weeks	Essay Individual task	12	EO-3-Report, speaking on the practical class
2	4-14 weeks	Presentation on the essay Presentation of the results of an individual task	15	EO-3-Report, speaking on the practical class
3	15-18 weeks	Preparing to exam	45	EO-1-Interview PW-1 - Test

### **Topics of reports and abstracts**

For the discipline of 108 hours of independent work, within the framework of these hours 2 oral reports are carried out on the proposed topics.

## **Section 1. General Topographic Anatomy and Operative Surgery**

1. Equipment of the modern operating rooms
2. Sterility zones in a modern surgery unit
3. Surgical instruments, division into 5 groups. Modern surgical instruments
4. Modern laparoscopic instruments
5. Types of anesthesia, modern anesthesia machines
6. Tools for separating tissue. Use in surgery
7. Tools for connecting tissues. Modern suture material
8. Tools for fixing tissue, using in surgery
9. Hemostatic tools. Modern ways to stop bleeding
10. Special tools. Bone Surgery Instruments.
11. The craniotomy. Special tools for craniotomy
12. Langer's lines: application in modern surgery
13. Skin suture: types of sutures, features of suturing and removal of sutures.
14. Modern methods of treatment of coarse postoperative scars.
15. Modern operating device: modern operating tables.
16. Modern dressing
17. Modern methods of controlling the sterility of the operating room.
18. The history of the development of operative surgery in Russia and abroad
19. Outstanding Russian and foreign surgeons
20. N.I. Pirogov - the founder of topographic anatomy and operative surgery
21. The concept of "outdoor landmarks." Outside landmarks of the limbs, chest, anterolateral abdominal wall
22. Layered structure of the region. Characteristic layers (for example, the deltoid region, gluteal region, temporal region, etc.)

## **Section 2 Upper Limb**

1. Features of the blood supply to the upper limb
2. Brachial plexus: division into bundles. Symptoms of nerve damage to the upper limb

3. Cellular space of Pirogov. Practical value in purulent surgery
4. Brush. Tendon sheaths of flexors and extensors of fingers - practical value in purulent surgery
5. Panaritiums. Classification, methods of treatment
6. Hand phlegmon. Treatment methods
7. Axillary area. Post axillary fiber with adjacent areas
8. Axillary area. Groups of lymph nodes in the armpit
9. Ulnar fossa. Neurovascular bundles of the ulnar fossa
10. Phlegmon of hand. Ways to spread.
11. Subclavian area. Syntopy of the neurovascular bundle of the subclavian area: practical application in surgery
12. Brachial plexus. Nerves formed from the lateral bundle of the brachial plexus
13. Brachial plexus. Nerves formed from the medial bundle of the brachial plexus
14. Brachial plexus. Nerves formed from the posterior bundle of the brachial plexus
15. Cutaneous innervation of the hand.

### **Section 3 Lower Limb**

1. Features of the blood supply to the lower limbs
2. Channels of the lower limb. Use in surgery
3. Gluteal area. Cellular spaces of the region, pathways of cellulitis
4. Innervation of the lower limb. Symptoms of damage to the nerves of the lower limb
5. Popliteal fossa. Neurovascular bundle popliteal fossa
6. Knee joint. Knee ligaments
7. Subcutaneous veins of the lower limb
8. Phlegmon foot. Ways to spread
9. Suprapiriforme and infrapiriforme spaces. Synthesis of neurovascular bundles
10. Lead channel (Gunter channel). Structure, contents
11. Locking channel. Structure, contents
12. Femoral canal. Structure, contents

13. Cruropopliteal canal (Grubber canal). Structure, contents
14. Ankle canal. Structure, contents
15. Heel channel. Structure, contents
16. Plantar channel. Structure, contents
17. Surgery for varicose veins of the lower extremity. Modern methods of treatment of varicose veins
18. Modern methods of treatment of fractures of the lower extremities
19. Amputation. Classification, indications, special tools
20. Hip joint. Prosthetics

#### **Section 4 Head**

1. The skull. Cranial fossa
2. Topography of the trigeminal nerve (V pair)
3. Topography of the facial nerve (VII pair)
4. Dura mater sine
5. Shipot Triangle
6. Deep face area. Practical value in surgery
7. Blood supply to the soft tissues of the skull
8. Blood supply to the brain
9. Decompression craniotomy. Indications, special tools
10. Osteoplastic trepanation of the skull. Indications, special tools
11. Trepanation in the area of the Shipot triangle. Indications, special tools, possible complications
12. Features of incisions in facial cellulitis

#### **Section 5 Neck**

1. Medial neck triangle. Primary neurovascular bundle
2. Lateral triangle of the neck. Primary neurovascular bundle
3. Fascia neck (5 fascias by Shevkunenko). Application in practical surgery
4. Floor neck. Application in practical surgery
5. Thyroid gland. Features of the blood supply
6. Trachea. Structure, types of tracheostomy

7. Special instruments for tracheostomy
8. Possible complications of tracheostomy
9. Resection of the thyroid gland in Nikolaev (indications, technique of execution)
10. Surgery for thyroid cancer
11. Phlegmon neck. Ways to spread

### **Section 6 Chest**

1. Topography of the intercostal neurovascular bundle
2. Mammary gland. Features of lymphatic drainage
3. Breast surgery: mastitis, cancer
4. Pleural sinuses. Application in practical surgery
5. Pleural puncture. Indications, technique, special tools
6. Sewing the wound of the heart. Modern techniques
7. Closure of a lung wound. Modern techniques
8. Mediastinum. Mediastinitis, modern treatment methods
9. Puncture of the pericardium. Indications, methods of implementation

### **Section 7 Anterolateral abdominal wall**

1. "Weaknesses" of the anterolateral wall of the abdomen
2. Blood supply to the anterolateral abdominal wall
3. Modern methods of treatment of hernia of the anterolateral abdominal wall
4. Ventral hernia. Modern methods of surgical treatment

### **Section 8 Abdominal, retroperitoneal space**

1. Features of the blood supply to the abdominal organs
2. Features of the structure of the wall of the small and large intestine
3. Intestinal anastomoses. Types, technique, possible complications
4. Enteroanastomosis according to Brown. Application in modern surgery
5. Endoscopic appendectomy
6. Endoscopic cholecystectomy
7. Modern surgery for portal hypertension
8. Porto-caval anastomoses. Application in practical surgery

9. Resection of the stomach. Indications, types, technique of implementation, possible complications
10. Vagotomy. Indications, types
11. Modern treatment of gastric polyps
12. Segmental structure of the liver. Types of liver resections. Indications, technique
13. Retroperitoneal space. The organs of the retroperitoneal space, the pathways of dissemination of phlegmon of the retroperitoneal space
14. Retroperitoneal phlegmon. Surgical treatment

### **Section 9 Pelvis and perineum**

1. Floors of the pelvis. Practical application in surgery
2. Cellular spaces of the pelvis. Practical application in surgery
3. Features of the blood supply to the pelvis and perineum
4. Surgery for ectopic pregnancy (endoscopic)
5. Surgery for hemorrhoids. Modern surgical treatment of hemorrhoids
6. Paraproctitis. Modern methods of treatment
7. Modern methods of treatment of rectal polyps
8. Modern methods of treatment of colorectal cancer
9. Puncture of the bladder. Indications, technique, possible complications

### **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.

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

For the preparation of the presentation is recommended to use: Power Point, MS Word, Acrobat Reader, LaTeX beamer. The simplest program for creating presentations is Microsoft PowerPoint. For the preparation of the presentation it is necessary to process the information collected when writing the essay.

The sequence of preparation of the presentation:

1. Clearly state the purpose of the presentation.
2. Determine what the presentation format will be: live presentation (then how long it will be) or e-mail (what the presentation context will be).

3. Select the entire content of the presentation and build a logical chain of presentation.

4. Identify key points in the content of the text and highlight them.

5. Determine the types of visualization (pictures) for displaying them on slides in accordance with the logic, purpose and specificity of the material.

6. Choose the design and format the slides (the number of pictures and text, their location, color and size).

7. Check the visual perception of the presentation.

The types of visualization include illustrations, images, charts, tables. The illustration is a representation of a real-life visual. The images - as opposed to illustrations - are a metaphor. Their purpose is to cause an emotion and create an attitude towards it, to influence the audience. With the help of well-designed and presented images, information can remain permanently in a person's memory. The diagram is a visualization of quantitative and qualitative relationships. They are used for convincing data demonstration, for spatial thinking in addition to the logical one. Table - specific, visual and accurate data display. Its main purpose is to structure information, which sometimes facilitates the perception of data by the audience.

### **Guidelines for writing and design of the practical class**

Monitoring the results of independent work is carried out in the course of conducting practical exercises, oral surveys, interviews, solving situational problems, examinations, including through testing.

1. The student should prepare for the practical lesson: repeat the lecture material, read the necessary section on the topic in the textbook.

2. Lesson begins with a quick frontal oral survey on a given topic.

3. In the classroom students work with lecture notes, slides.

4. For classes, you must have a notebook for recording theoretical material, a textbook.

6. At the end of the lesson, homework is given on the new topic and it is proposed to compile tests on the material that has been studied, which were studied in the lesson (summary).
7. The presentations and the activity of the students in the classroom are evaluated by the current assessment.

### **Guidelines for the preparation of the report**

1. Independent student selection of the report topic.
2. Selection of literary sources on the chosen topic from the recommended basic and additional literature offered in the work program of the discipline, as well as work with the resources of the Internet information and telecommunications network specified in the work program.
3. Work with the text of scientific books, textbooks is reduced not only to the reading of the material, it is also necessary to analyze the selected literature, compare the presentation of the material on the topic in different literary sources, pick up the material so that it reveals the topic of the report.
4. The analyzed material is outlined, the most important thing is that it should not be simply a conscientious rewriting of source texts from selected literary sources without any comments and analysis.
5. Based on the analysis and synthesis of literature, the student draws up a plan for the report, on the basis of which the text of the report is prepared.
6. The report should be structured logically, the material is presented in one piece, coherently and consistently, conclusions are drawn. It is desirable that the student could express his opinion on the formulated problem.
7. The report takes 7-10 minutes. The report is told, but not read on paper.

### **Guidelines for working with literature**

1. It is necessary to make an initial list of sources. The basis may be a list of references recommended in the course work program. For convenience, you can create your own file of selected sources (authors' last name, title, publication characteristics) as a working file in a computer. This card index has the advantage,

because it allows you to add sources, replace, if necessary, one with another, remove those that were not relevant topics. The initial list of references can be supplemented using the electronic catalog of the FEFU library, and do not hesitate to contact the library staff for help.

2. Working with literature on one topic or another, one must not only read, but also learn the method of studying it: make a brief summary, algorithm, scheme of the read material, which allows it to be quickly understood and remembered. It is not recommended to literally rewrite the text.

### **Criteria for evaluation of the oral report**

Oral report on the discipline "Hospital surgery, pediatric surgery" is evaluated by the point system: 5, 4, 3.

"5 points" is exposed to a student, if he expressed his opinion on the formulated problem, argued it, having precisely defined its content and components, is able to analyze, summarize the material and draw correct conclusions using basic and additional literature, freely answers questions, which indicates what he knows and owns the material.

"4 points" is given to a student if he presents material on the chosen topic coherently and consistently, gives arguments to prove one or another position in the report, demonstrates the ability to analyze the main and additional literature, but admits some inaccuracies in the wording of concepts.

"3 points" are given to a student if he has conducted an independent analysis of the main and additional literature, however, certain provisions of the report are not always sufficiently argued, mistakes are made in presenting the material and not always fully answering additional questions on the topic of the report.

### **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**

**FUND ASSESSMENT TOOLS**

TRAINING COMPLEX OF DISCIPLINE

**« Topographic anatomy and operative surgery»**

Educational program

Preparation for 31.05.01. General Medicine

**Form of training full-time**

**Vladivostok  
2016**

**Passport of the Fund Assessment Tools** 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.

Code and the wording of competence		Stages of competence	
the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Knows	Fundamentals of systematization and analysis of data in accordance with the knowledge obtained in the subject of topographic anatomy and operative surgery	
	Is able to	Analyze the results of their own activities to prevent professional errors based on the knowledge gained on the subject	
	Possesses	Methods of analysis of the results of their own activities to prevent professional errors based on the knowledge gained in the subject	
the capacity for the assessment of morphological and physiological states and pathological processes in the human body for solving professional tasks (GPC – 9)	Knows	Fundamentals of the structure and functioning of organs and systems of the human body to solve professional problems	
	Is able to	To determine the localization of the organs of the human body and the most important anatomical structures for solving professional problems	
	Possesses	Methods of examining the patient, determining the localization of organs of the human body, methods of studying the basic physiological functions for solving professional problems	
the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)	Knows	Basics of management of patients with various nosological forms	
	Is able to	Use educational and scientific literature to address the issues of determining the tactics of managing patients with various nosological forms	
	Possesses	The ability to determine the tactics of managing patients with various nosological forms on the basis of scientific and educational medical literature	

#### IV. MONITORING ACHIEVEMENT OF COURSE GOALS

Code of competence		Stages of competence formation			
№ п/п	Controlled modules / sections / themes of academic discipline	Codes and stages of the formation of competencies	Evaluation tools - name		
			current control	intermediate evaluation	
1	Module I Introduction to topographic anatomy and operative surgery. Module II. Topographic anatomy of the upper and lower extremities.	the ability and willingness to analyze the results of his own activity to prevent professional	Knows	EO-1 Interview	Questions of final control 7 semester - 1-36
			Is able to	PW-1	PW-1

	<p>Operations on the limbs.</p> <p>Module III Topographic anatomy of the head and neck. Surgical intervention on the head and neck.</p> <p>Module IV Topographic anatomy of the chest. Operations on the organs of the chest.</p> <p>Module V. Topographic anatomy of the abdomen and retroperitoneal space. Operations on the abdominal organs and retroperitoneal space.</p> <p>Module VI Topography of the pelvis and perineum. Operations on the pelvic organs.</p>	errors (GPC-5)		Test	Test
			Possesses	EO-3 Report	EO2 Colloquium
2	<p>Module I Introduction to topographic anatomy and operative surgery.</p> <p>Module II. Topographic anatomy of the upper and lower extremities. Operations on the limbs.</p> <p>Module III Topographic anatomy of the head and neck. Surgical intervention on the head and neck.</p> <p>Module IV Topographic anatomy of the chest. Operations on the organs of the chest.</p> <p>Module V. Topographic anatomy of the abdomen and retroperitoneal space. Operations on the abdominal organs and retroperitoneal space.</p> <p>Module VI Topography of the pelvis and perineum. Operations on the pelvic organs..</p>	<p>the capacity for the assessment of morphological and physiological states and pathological processes in the human body for solving professional tasks (GPC – 9)</p>	Knows	EO-1 Interview	Questions of final control 7 semester - 1-38
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
	<p>Module I Introduction to topographic anatomy and operative surgery.</p> <p>Module II. Topographic anatomy of the upper and lower extremities. Operations on the limbs.</p> <p>Module III Topographic anatomy of the head and neck. Surgical intervention on the head and neck.</p> <p>Module IV Topographic anatomy of the chest. Operations on the organs of the chest.</p> <p>Module V. Topographic anatomy of the abdomen and retroperitoneal space. Operations on the abdominal organs and retroperitoneal space.</p> <p>Module VI Topography of the pelvis and perineum.</p>	<p>the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)</p>	Knows	EO-1 Interview	Questions of final control 7 semester - 36-110
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium

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

Code and formulation of competence	Stages of the formation of competencies		Criteria	Indicators	Points
the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Knows (the threshold level)	the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Surely uses educational literature to analyze the activity of determining the topography of organs and anatomical structures of the human body and prompt access when setting indications for surgical treatment.	The ability to use educational literature for the analysis of activities to determine the topography of organs and anatomical structures of the human body and prompt access when setting indications for surgical treatment	65-71
	Is able to (advanced)	the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Surely he uses educational professional literature to analyze the activity on the determination of the topography of organs and anatomical structures of the human body and on operational accesses when setting indications for surgical treatment when setting indications for surgical treatment	The ability, based on educational and professional literature, to determine the topography of organs and anatomical structures of the human body and operative accesses when setting indications for surgical treatment	71-84
	Possesses (high)	the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	The ability to determine the topography of the organs of the human body and the optimal operational accesses for various pathologies.	The ability to determine the optimal surgical accesses when setting indications for surgical treatment.	85-100
the capacity for the assessment of morphological and physiological states and pathological processes in the human body for solving professional tasks (GPC – 9)	Knows (the threshold level)	Fundamentals of the structure and functioning of organs and systems of the human body to solve professional problems	The general plan of the structure of the human body, the location and interposition of organs, the basics of the functioning of organs and systems.	The general plan of the structure of the human body, the location and interposition of organs, the basics of the functioning of organs and systems.	65-71
	Is able to (advanced)	To determine the localization of the organs of the human body and the most important anatomical structures for solving professional problems	Ability to identify the symptoms of pathological processes, link them into syndromes and suggest a pathology in need of surgical treatment	Ability to identify the symptoms of pathological processes, link them into syndromes and suggest a pathology in need	71-84

				of surgical treatment	
	Possesses (high)	Methods of examining the patient, determining the localization of organs of the human body, methods of studying the basic physiological functions for solving professional problems	Confidently determines the location of the organs of the human body on the model, their projection on the surface of the body	Confidently determines the location of the organs of the human body on the model, their projection on the surface of the body	85-100
the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)	Knows (the threshold level)	Basics of management of patients with various nosological forms	Algorithm for deciding on surgical treatment for various pathologies	The ability to use educational literature to determine the indications for surgical treatment in various pathologies	65-71
	Is able to (advanced)	Use educational and scientific literature to address the issues of determining the tactics of managing patients with various nosological forms	Use recommendations and algorithms for making decisions about surgical treatment for various pathologies	Ability to use recommendations and algorithms for making decisions about surgical treatment for various pathologies	71-84
	Possesses (high)	The ability to determine the tactics of managing patients with various nosological forms on the basis of scientific and educational medical literature	Confidently determines the tactics of managing patients with various nosological forms on the basis of scientific and educational medical literature.	The ability to determine the tactics of managing patients with various nosological forms on the basis of scientific and educational medical literature	85-100

### Questions for assessing prior competencies

1. Define topographic anatomy and operative surgery.
2. Name the founders of operative surgery in Russia and abroad
3. Give the concept of "exterior landmarks", "topographic area", "area boundaries", "layered structure of the area."
4. What groups of surgical instruments do you know?
5. What are “sterility zones” in a modern operating unit?
6. How many sterility zones are isolated in a modern operating unit?
7. List the tools for tissue separation.
8. List the instruments to connect the tissue.

9. List the instruments for fixing tissue.
10. List hemostatic instruments.
11. List the special tools for craniotomy.
12. List special tracheostomy instruments.
13. What is the difference between amputation and limb exarticulation?
14. List the areas of the upper limb.
15. List the areas of the lower limb.
16. Name the main neurovascular bundle of the subclavian region.
17. The concept of the neurovascular bundle. Elements of the neurovascular bundle
18. Give an example of a radical and palliative surgery.
19. Ways of spreading phlegmon on the gluteal region
20. What are the boundaries of the lateral and medial triangles of the neck?
21. What are the symptoms of nerve damage of the upper limb
22. What are the symptoms of damage to the nerves of the lower extremity
23. Topography of the trigeminal and facial nerves
24. Deep face area (main neurovascular bundle)
25. "Weak places" of the anterolateral wall of the abdomen

Control tests are designed for students studying the course "Topographic anatomy and operative surgery."

Tests are necessary both for the control of knowledge in the process of the current intermediate certification, and for the assessment of knowledge, the result of which can be the setting of credit.

When working with tests, the student is invited to choose one answer from three to four proposed. At the same time, tests are unequal in complexity. Among the proposed there are tests 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 in the process and classroom, and independent work. The selection of tests necessary

for the control of knowledge in the process of intermediate certification is carried out by each teacher individually.

The results of the test tasks are assessed by the teacher on a five-point scale for issuing attestation or according to the "test" system - "no test". 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 by the student.

### **Questions for the exam in the discipline "Topographical anatomy and operative surgery" - 6, 7 semesters**

1. The role of N.I. Pirogov in domestic surgery
2. Stages of the formation of operative surgery in Russia and abroad
2. The device is a modern operating room. Sterility zones
3. Methods of anesthesia. The concept of "anesthesia", "anesthesia"
4. Online access, operational reception. Evaluation criteria for operational access
5. The division of the human body by region. Borders of the region, exterior landmarks, layered structure of the region
6. Characteristic layers of the area. Neurovascular bundle area (beam elements)
7. Surgical instruments. Classification.
8. Tissue separation tools
9. Tools for connecting fabrics
10. Tissue fixation tools
11. Hemostatic instruments
12. Special tools
13. Rules of separation and connection of tissues.

14. Skin sutures. Types, methods of imposing and removing skin seams
15. Scapular area. Borders, landmarks, layered structure, the main neurovascular bundle
16. Subclavian area. Borders, landmarks, layered structure, the main neurovascular bundle.
17. Axillary area. Borders, landmarks, layered structure, the main neurovascular bundle.
18. Deltoid area. Borders, landmarks, layered structure, the main neurovascular bundle.
19. Front shoulder area. Borders, landmarks, layered structure, the main neurovascular bundle.
20. Rear shoulder area. Borders, landmarks, layered structure, the main neurovascular bundle.
21. The ulnar fossa. Borders, landmarks, layered structure, the main neurovascular bundle.
22. Front forearm area. Borders, landmarks, layered structure, the main neurovascular bundle. Cellular space of Pirogov
23. Rear area of the forearm. Borders, landmarks, layered structure, the main neurovascular bundle.
24. Palmar surface of the hand. Borders, landmarks, layered structure, the main neurovascular bundle. Cell spaces
25. Rear brush. Borders, landmarks, layered structure, the main neurovascular bundle. Cell spaces
26. Radiocarpal joint
27. Gluteal area. Borders, landmarks, layered structure, the main neurovascular bundle. Cell spaces
28. Hip joint
29. Front hip area. Borders, landmarks, layered structure, the main neurovascular bundle.
30. Femoral canal. Structure, content, message



- 31.Locking channel. Structure, content, message
- 32.Lead channel. Structure, content, message
- 33.The inguinal canal. Structure, content, message
- 34.Rear hip area. Borders, landmarks, layered structure, the main neurovascular bundle.
- 35.Knee joint.
- 36.Popliteal fossa. Borders, landmarks, layered structure, the main neurovascular bundle.
- 37.Front calf area. Borders, landmarks, layered structure, the main neurovascular bundle.
- 38.The rear leg region. Borders, landmarks, layered structure, the main neurovascular bundle. Cruro-popliteal canal (Grubber canal)
- 39.Ankle canal. Structure, content, message
- 40.Heel channel. Structure, content, message
- 41.Plantar channel. Structure, content, message
- 42.Cellular spaces of the foot. Ways to spread phlegmon
- 43.Subcutaneous veins of the lower limb. Significance in practical surgery
- 44.Symptoms of damage to the nerves of the lower extremity
- 45.Symptoms of nerve damage to the upper limb
- 46.Brain and facial parts of the head. Borders, outdoor landmarks
- 47.Blood supply to the soft tissues of the head.
- 48.Layered structure of soft tissues of the head.
- 49.Skull base: cranial fossa
- 50.Blood supply to the brain
- 51.Dura mater sinuses
- 52.Mastoid area. Triangle Shipo
- 53.Deep face area. The main neurovascular bundle message
- 54.Topography of the trigeminal (V pair) and facial (VII pair) nerves
- 55.Lateral and medial triangles of the neck. Borders, external reference points, main neurovascular bundles

56. Fascia and cellular tissue spaces of the neck
57. Neck organs: thyroid and parathyroid glands, trachea, esophagus.  
Significance in practical surgery
58. Sleepy triangle. Primary neurovascular bundle
59. Blood supply to the neck. Topography of the common carotid artery, internal and external carotid arteries Молочная железа. Строение, особенности лимфатического оттока
60. Thorax. Borders, exterior landmarks. Topography of the intercostal space
61. Mediastinum. Organs of the mediastinum, the message. Fascial cellular tissue spaces of the mediastinum
62. Pericardium. A heart. Topography, blood supply
63. Thoracic trachea. Tracheal bifurcation. Major bronchi
64. Lung. Pleura. Elements of the roots of the lungs. Visceral and parietal pleura
65. Pleural sinuses. Thoracic lymphatic duct
66. The anterolateral wall of the abdomen. Borders, Landmarks
67. "Weaknesses" of the anterolateral wall of the abdomen
68. The upper floor of the abdominal cavity. Organs, peritoneum, blood supply, venous outflow
69. The lower floor of the abdominal cavity. Organs, peritoneum, blood supply, venous outflow
70. Stomach. Blood supply, structure, features of lymphatic drainage
71. Liver. Segmental structure, the gate of the liver, especially the venous outflow
72. Gall bladder and biliary tract. Structure, blood supply, covering the peritoneum
73. Duodenum. Structure, blood supply, covering the peritoneum
74. Spleen. Structure, blood supply, covering the peritoneum
75. Cecum and appendix. Structure, blood supply, covering the peritoneum
76. Distinctive features of the small and large intestine
77. Lumbar region. Borders, landmarks, layered structure

78. Retroperitoneal space. Organs, cellular spaces, pathways of cellulitis
79. Pancreas. Location, blood supply, structure
80. Pelvis Bones, muscles, ligaments of the pelvis. Pelvic floors
81. The peritoneal floor of the pelvis. Borders, organs, peritoneum coating, blood supply
82. The subperitoneal floor of the pelvis. Borders, organs, peritoneum coating, blood supply
83. Subcutaneous floor of the pelvis. Borders, organs, peritoneum coating, blood supply
84. Uterus, appendages. Blood supply, structure, covering the peritoneum
85. Bladder. Blood supply, structure, covering the peritoneum
86. The rectum. Blood supply, structure, covering the peritoneum
87. Cellular spaces of the pelvis. Ways to spread phlegmon.
88. Porto-caval anastomoses. Practical application in surgery
89. The principles of connection and separation of tissues. Application in practical surgery
90. Osteotomy. Types, indications, special tools, possible complications
91. Puncture of the knee joint. Indications, special tools, possible complications
92. The suture of the tendons. Indications, special tools, possible complications
93. Muscle suture. Indications, special tools, possible complications
94. Vascular suture. Indications, special tools, possible complications
95. Suture nerve. Indications, special tools, possible complications
96. Prompt access to the arteries and veins of the upper limb
97. Surgery for varicose veins of the lower extremity
98. Amputation. Classification, indications, technique, special tools, possible complications
99. Circular and flap hip amputation. Differences, execution technique, special tools, possible complications
100. The calculation of the length of the skin flap during amputations. The difference between exarticulation and limb amputations

101. Surgery for felons and phlegmons of the hand. Types of incisions, possible complications
102. Surgery for phlegmon of the foot. Ways to spread phlegmon
103. Features of primary surgical treatment of skull wounds.
104. Decompression craniotomy. Indications, technique, special tools
105. Osteoplastic trepanation of the skull. Indications, technique, special tools
106. Trepanation of the mastoid process. Indications, technique, special tools, possible complications
107. Surgery for purulent mastitis, retromammary phlegmon
108. Operations for breast cancer, sectoral resection of the breast
109. Pleural puncture. Indications, technique, possible complications
110. Suture wound lung. Indications, technique, possible complications
111. Thoracotomy. Types, indications, execution technique, special tools
112. Inguinal hernia. Types of operations for inguinal hernias, modern methods of inguinal hernia surgery
113. Umbilical hernia, hernia of the white line of the abdomen. Technique of execution, modern methods of operations
114. Elements of a hernia. Signs of vitality of the intestine with strangulated hernias
115. Laparotomy. Types, indications, general requirements of the laparotomy, special tools
116. Types of intestinal sutures. Features of suturing wounds of the large and small intestines
117. Types of intestinal anastomoses, comparative characteristics, stages of implementation. Enteroanastomosis according to Brown, use in surgery
118. The stages of resection of the small intestine. Indications, special tools
119. Gastrostomy. Types, indications, modern methods of imposing gastrostomy
120. Vagotomy. Indications, types, technique of implementation, possible complications

121. Appendectomy. Indications, access, types, technique of implementation, possible complications
122. Cholecystectomy. Indications, access, types, technique of implementation, possible complications
123. Liver resection. Anatomical and atypical liver resections. Indications, access, types, technique of implementation, possible complications
124. Splenectomy. Indications, access, types, technique of implementation, possible complications
125. Retroperitoneal phlegmon. Surgical approaches, possible complications
126. Surgery for ectopic pregnancy. Indications, access, types, technique of implementation, possible complications
127. Surgery for hemorrhoids. Indications, access, types, technique of implementation, possible complications
128. Surgery for dropsy of testicular membranes.
129. Bladder puncture. Indications, access, types, execution technique
130. Surgery for rectal polyps. Indications, access, types, technique of implementation, possible complications

**Situational tasks for the exam “Topographic anatomy and operative surgery”**

Task No. 1. A patient with a scalped wound in the fronto-parietal-occipital region was delivered to the surgical department. During the initial treatment of the wound, attention was paid to the extensive subperiosteal hematoma. In the postoperative period, the patient had a sequestration of a significant portion of the right parietal bone. Point out the possible causes of this complication. What features of the topography of this area should be kept in mind to explain this complication?

Task No. 2. A patient undergoing treatment in a therapeutic department for hypertension, suddenly showed signs of increased intracranial pressure. The

attending physician put leeches on the skin in the mastoid area. Explain why the mastoid area was chosen to fix leeches?

Task No. 3. A patient with a cut wound (5-6 cm.) Of the soft tissues of the temporal-parietal region was admitted to the surgical department. The bandage on the head and clothing were heavily soaked in blood. Specify the source of bleeding. What features of the topography of the soft tissues of the cranial vault can account for such heavy bleeding?

Task No. 4. A patient after the operation - trepanation of the mastoid process (antrotomy) developed peripheral facial nerve palsy. Give topographic and anatomical rationale for this complication.

Task No. 5. In a patient after removal of a lipoma in the parietal region, a postoperative wound was infected, and then a thrombosis of the upper sagittal sinus of the dura mater appeared. Specify the features of the topography of the vessels in the region of the cranial vault, which can explain the spread of infection from soft tissues into the cranial cavity.

Task No. 6. After opening the carbuncle of the occipital region, which is located outward from the external occipital protrusion, the patient began to experience heavy bleeding in the wound. Specify which vessels could be melted by the purulent process in this area?

Task No7. During the operation - trepanation of the mastoid process (arthrotomy) due to purulent mastoiditis in the depth of the wound, heavy bleeding began. Point out a possible source of bleeding and ways to stop bleeding.

Task No.8. After a car accident, three injured with head soft tissue bruises were delivered to the emergency hospital. In one of the victims, a massive diffuse hematoma is determined, in the other, the hematoma is localized within the parietal bone, in the third - minor bruises, represented by localized superficial hematomas (bumps). Determine the location of hematomas in all three affected patients.

Task No. A patient was admitted to the neurosurgical department with symptoms of a progressive increase in intracranial pressure. A tumor of the temporal lobe of the brain was diagnosed. The patient underwent palliative surgery to reduce intracranial pressure. Specify, what operation was made to the patient and its stages?

Task No. 10. In a patient, a fracture of the base of the skull is accompanied by bleeding from the nose and a symptom of "glasses." Indicate at the level of which of the cranial pits a skull base fracture occurred. Explain topographically, anatomically, the occurrence of the symptom of "glasses" and nosebleeds.

Task No. 11. A patient was admitted to the Department of Maxillofacial Surgery with the diagnosis: "Acute inflammation of the right parotid salivary gland." On examination, the presence of a dense infiltration anterior to the ear tristle, behind the mandibular fossa, the asymmetry of the oral slit is pronounced, the right nasolabial fold is smoothed. Specify the possible causes of this symptom.

Task No. 12. A patient with a cut wound of the lateral area of the face entered the surgical department, the wound is 4 cm long, located vertically at the level of the mandible branch 1.5-2 cm below the zygomatic arch. When revising the wound and stopping bleeding from the vessels of the subcutaneous fat, it was found that a clear liquid constantly fills the wound. What kind of education was damaged as a result of the injury and between which anatomical elements of the lateral area of the face does this formation occur?

Task No. 13. A patient with a torn wound of the lateral area of the face at the intersection of the anterior margin of the masticatory muscle and the lower edge of the mandible entered the surgical department, which caused severe bleeding and asymmetry of the oral cavity. Indicate what vessels and nerves are damaged.

Task No. 14. In the surgical department, the patient is diagnosed with the diagnosis: "Meningitis, thrombosis of the cavernous venous sinus." History:

furuncle in the area of the left nasolabial fold. Is it possible to link the presence of a purulent focus on the face with the subsequent disease? Specify the possible ways of spreading purulent infection.

Task No. 15. As a result of a road accident, the victim had a torn wound in the lateral area of the face to the left. On the radiograph - comminuted fracture of the branches of the lower jaw at the level of the neck of the articular process. During revision of the wound and removal of free bone fragments, severe bleeding suddenly began from the depth of the wound. Specify which vessel could be damaged by a sharp bone fragment, which vessel should be bandaged in case of difficulty when trying to stop bleeding in a wound.

Task No. 16. A patient with acute poisoning was delivered to the emergency hospital. For detoxification, it was decided to drain the thoracic lymphatic duct. Indicate guidelines that the surgeon should use to detect the thoracic lymphatic duct in the neck.

Task No. 17. A patient was admitted to the surgical department with the diagnosis: "Phlegmon of the right submandibular region". The surgeon decided to open the phlegmon. Indicate which lesions may occur in the region of the submandibular gland and the lower edge of the mandible.

Task No. 18. The patient was diagnosed with a foreign body in the cervical esophagus, which could not be removed during esophagoscopy. Indicate guidelines for determining operative access to the cervical esophagus.

Task No. 19. An ambulance crew delivered a patient in a state of asphyxia to the operating room. The surgeon decided to perform an upper tracheotomy. During the operation, it was found that the upper edge of the isthmus of the thyroid gland is located at the level of the lower edge of the thyroid cartilage. Specify what the surgeon should do, what tracheotomy to perform and the stages of this operation?



Task No. 20. After the operation of the lower tracheotomy, the patient had an abscess of cellular space of the anterior mediastinum. By what fascial cellular spaces can a pus spread and where?

Task No. 21. A patient with a malignant tumor of the parotid salivary gland, which caused bleeding, was admitted to the surgical department. Specify which vessel is damaged and what guidelines should the surgeon use to expose this vessel on the neck?

Task No. 22. A patient has cancer of the tongue root. During the radical operation, severe bleeding began in the wound, which was decided to stop the ligation of the lingual artery throughout. Specify in which triangles of the neck you can bare and bandage the lingual artery. What tissues do need to be moved apart?

Task No. 23. A patient was delivered with a fracture of the transverse processes of the VI and VII cervical vertebrae, an increasing hematoma in the supraclavicular region. What vessel was injured when bone damage occurred? Indicate guidelines for its location and doping.

Task No. 24. After removal of the left lobe of the thyroid gland in a patient, the voice timbre has changed dramatically. Indicate the damage of what formation and at what stage of the operation could cause such a condition.

Task No. 25. The foreign body of the esophagus caused perforation of its posterior wall at the level of the VII cervical vertebra, as a result of which phlegmon of the esophageal cellulose was formed. Specify the possible ways of dissemination of purulent leakage and determine the online access for the opening of the cellulitis of this space.

Task No. 26. A nursing mother addressed a surgeon to the surgeon regarding inflammation of the breast gland. The surgeon diagnosed Mastitis and suggested surgery. Specify what types of incisions should be made for this disease, give a topographic-anatomical rationale for these incisions.

Task No. 27. A patient has come to the oncologic center because of a disease of the mammary gland. The surgeon diagnosed breast cancer and recommended surgery. Specify the operation to be performed and state the basic principles of this operation.

Task No. 28. A patient was admitted with a diagnosis of "Chronic pleural empyema". The surgeon recommended an operation - thoracoplasty. What types of thoracoplasty do you know. What are the main stages of this operation?

Task No. 29. A patient has been diagnosed with aortic coarctation (congenital narrowing of the aorta at the level of the transition of the arch to the descending aorta). Indicate which arteries are involved in the development of the collateral circulation of blood, capable of filling the aorta below coarctation.

Task No. 30. Examination of the patient revealed pleural inflammation (pleurisy). In the chest X-ray examination the right pleural cavity, a fluid is determined, the level of which reaches the sixth rib along the mid-axillary line. Specify which side to puncture and name the necessary tools to perform this operation.

Task No. 31. On the chest radiograph a foreign body in the lumen of the right main bronchus was revealed. What topographic-anatomical features of the trachea and the main bronchi cause the ingress of a foreign body more often in the right than in the left bronchus.

Task No. 32. During esophagoscopy, the posterior wall of the esophagus was damaged at the level of the second narrowing. Specify where the esophagoscope could penetrate? What cellular space could an infection get into?

Task No. 33. After a road trauma of the chest, the patient developed chylothorax (lymphorrhoea) on the right. Is it possible to roughly indicate the level of damage to the thoracic lymphatic duct?

Task No. 34. An ambulance delivered a patient with massive throat bleeding. In the history - two weeks ago, the patient choked with fish bone, after which his state of health was poor, his body temperature increased from time to time. The patient could not be saved. At the autopsy it was revealed: necrosis with perforation of the esophageal wall at the level of the second narrowing. Indicate which vessel was a cause of bleeding and its relationship with the esophagus.

Task No. 35. Lung cancer was found in the patient during the examination. Recommended operation - resection of the lung. What do you know about the operational accesses during operations on the lungs and what are the basic principles of typical operations on the lungs?

Task No. 36. A patient with a penetrating chest wound (open pneumothorax) was admitted to the surgical department. The wound is 5x5 cm in size and located at the level of the fourth intercostal space along the posterior axillary line. Specify the order of suturing on the layers of the chest wall.

Task No. 37. The victim was delivered to the surgical department with a knife wound to the anterior chest wall, symptoms of acute blood loss. The wound is 2 cm in size in the transverse direction in the IV intercostal space, outwards from the left edge of the sternum. When revision of the wound the damage to the blood vessels of the chest wall, parietal pleura was found. Deeper underlying formation is not damaged. Indicate which vessels could be damaged?

Task No. 38. A patient was admitted to the oncology department with a diagnosis of "Cancer of the right lung." The patient is recommended pneumonectomy surgery. Specify access, the order of processing elements of the root of the lung.

Task No. 39. During the examination the patient was identified localized pathological process in the lungs. On the operating table after opening the chest cavity, the surgeon found that the inflammatory focus is localized within one lung

segment. Specify what technique the surgeon used and what elements of the segment should be processed during segmentectomy.

Task No. 40. On examination of the patient exudative pericarditis was revealed. It is recommended to perform a pericardial puncture. Specify the pericardium puncture site. What sinus do need to punctate? What pericardial sinuses do you know which formations form them?

Task No. 41. The patient has "blue heart disease" (Fallot's tetrad). Specify the pathology of the elements of the heart and blood vessels, which is observed in this pathology.

Task No. 42. After the examination, the patient was diagnosed in the oncologic dispensary: "esophageal cancer in the lower third" (from the trachea bifurcation to the diaphragm). The patient underwent radical surgery and created an artificial esophagus. Indicate: 1. What material is used to create an artificial esophagus; 2. Where can I place the artificial esophagus; 3. What kind of anastomosis can be used in this situation?

Task No. 43. After a radical surgery for esophageal cancer, an artificial esophagus was created according to Roux-Herzen. Indicate the steps of this operation.

Task No 44. During the examination the patient was diagnosed: "Diaphragmatic hernia." Indicate which holes and weak points of the diaphragm can leave a hernia?

Task No 45. A patient in serious condition was admitted to the surgical clinic. During the examination, the diagnosis was made: "Gangrene of the right lung". The patient underwent right-sided pneumonectomy. Point out: 1. The syntopy of the elements of the root of the right lung; 2. The order of processing elements of the lung root; 3. What kind of vessel damage can occur during the treatment of the right bronchus?

Task No 46. The anterior abdominal wall is the place where prompt access to the abdominal organs is performed. Specify groups of incisions of the anterior abdominal wall. What is considered for cuts?

Task No. 47. A patient with a diagnosis of Acute appendicitis was admitted to the surgical department. The patient was offered an operation. Specify the name of the

operation, localization of the abdominal wall incision according to Volkovich-Dyakonov and layer-by-layer topography of the wound.

Task No. 48. During the medical examination, minor protrusions were found in the patient in the area of the umbilical ring and inguinal canal. Name the weak spots in the abdominal wall where external abdominal hernias may extend.

Task No. 49. A patient with a diagnosis of ectopic pregnancy was admitted to the surgical department. For access to the abdominal cavity was made lower median laparotomy. When dissecting the white line, the front wall of the vagina of the rectus abdominis muscle was opened. Name the layered topography of the wound in the lower midline laparotomy and the features of the formation of the rectus abdominis vagina below the umbilical ring.

Criteria for the assessment of "pass" on the basis of the results of the academic semester:

1. Lack of passes for lectures and practical classes
2. Active work in the classroom.
3. Preparation of the message and presentation on the proposed topic.
4. Test credit test

Criteria for evaluating the oral response, colloquiums

“5 points” is given to a student, if he gives the right answers to the questions discussed, which are distinguished by the depth and completeness of the topic, can draw conclusions and summarize, give reasoned answers that are logical and consistent.

“4 points” is given to a student, if he gives the right answers to the questions discussed, which differs in the depth and completeness of the topic, knows how to draw conclusions and generalizations, but one or two mistakes are allowed in the answers.

“3 points” is given to a student, if he gives answers to the questions discussed, which do not fully reveal him, there is no logical structure of the answer, it makes several mistakes.

“2 points” is given to a student, if he gives answers to the questions discussed, which show that he does not own the material of the topic, cannot give reasoned answers, serious mistakes are made in the content of the answer.

Evaluation tools for current certification

Control tests are designed for students studying the course "Topographic anatomy and operative surgery."

Tests are necessary both for the control of knowledge in the process of the current intermediate certification, and for the assessment of knowledge, the result of which can be the setting of credit.

When working with tests, the student is invited to choose one answer from three to four proposed. At the same time, tests are unequal in complexity. Among the proposed there are tests that contain several options for correct answers. The student needs to specify all the correct answers.

Tests are designed for both individual and collective decision. They can be used in the process and classroom, and independent work. The selection of tests necessary for the control of knowledge in the process of intermediate certification is carried out by each teacher individually.

The results of the test tasks are assessed by the teacher on a five-point scale for issuing attestation or according to the "test" system - "no test". 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 by the student.

### **Examples of test items.**

#### Section 1. Introductory Issues

1. How many sterility zones are in the surgical unit (the correct answer is 4, four)
2. Indicate in which sterility zone the preoperative zone is located (2, two, second, number two, number 2)
3. Indicate in which zone of sterility the operating room is located (1, one, first, number one, number 1)
4. Indicate in which sterilization zone the sterilization site is located (2, two, second, number two, number 2)
5. Indicate which sterility zone anesthesia is located in (2, two, second, number two, number 2)
6. Indicate in which sterility zone the clean clothes pantry is located (3, three, third, number three, number 3)
7. Indicate in which sterility zone the storage room for the mobile X-ray unit is located (3, three, third, number three, number 3)

8. Indicate in which sterility zone the room for the heart-lung machine is located (2, two, second, number two, number 2)
9. Indicate in which zone of sterility the cabinet is located. branch (4, four, number four, number 4)
10. Indicate in which zone of sterility the cabinet for archival material is located (4, four, number four, number 4)
11. Indicate in which zone of sterility the laboratory is located (4, four, number four, number 4)
12. Indicate in which sterility zone is located the storeroom for cleaning items and disinfectants (3)
13. Indicate in which room of the operating unit the hands of the surgeon are washed (in the preoperative)
14. Indicate in which room of the operating unit donning of a sterile dressing gown (in the operating room)
15. Indicate in which room of the operating unit donning of sterile gloves occurs (in the operating room)
16. Indicate in which room of the operating unit the surgical field is covered with sterile laundry (in the operating room)
17. Indicate in which room of the operating unit the patient's analyzes are taken before the operation (in the laboratory)
18. Indicate in which room of the operating unit the operating table is located (in the operating room)
19. Indicate in which room of the operating unit the hand washing sink is located (in the preoperative).