

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
Petro Mohyla Black Sea National University  
Medical Institute  
Department of Anatomy, Clinical Anatomy and Operative Surgery,  
Pathomorphology and Forensic Medicine



Approved"  
Director  
NM  
2020

Course Description

CLINICAL ANATOMY AND OPERATIVE SURGERY

field of knowledge 22 «Health care»  
in the specialty 222 «Medicine»

Developer	Cherno VS
Head of the Department	Cherno VS
Guarantor of the educational program	Klimenko MO
Director of the Institute	Grishchenko GV
Chief of EMD	Shkirchak SI

## 2. Description of the discipline

Characteristic	Characteristics of the discipline	
Name of discipline	Clinical anatomy and operative surgery	
Field of knowledge	22 "Health Care"	
Specialty	222 "Medicine"	
Specialization (if any)		
Educational program	Medicine	
Level of higher education	Master	
Discipline status	Normative	
Year of study	2nd	
Academic year	2019-2020	
Semester numbers:	Full-time	Correspondence form
	4th	
Total number of ECTS credits / hours	3 credits / 90 hours	
Course structure: – lectures – seminars (practical, laboratory, semi-group) – hours of independent work of students	Full-time	Correspondence form
	10 hours	
	30 hours 50 hours	
Percentage of classroom load	52%	
Language of instruction	English	
Form of intermediate control (if any)		
Form of final control	4th semester - differential test	

## **Abstract of the discipline**

Clinical anatomy and operative surgery occupy an important place in the system of medical training and treatment. Based on the knowledge acquired by students in the study of such basic disciplines as normal human anatomy and histology, pathological histology and anatomy, normal and pathological physiology, designed to equip the future physician with the knowledge necessary to establish the correct diagnosis, treatment tactics, rational surgical intervention. determining the patterns of development of compensatory and adaptive changes in the body, as well as possible complications and methods of their surgical correction.

Clinical anatomy and operative surgery are located at the junction of theoretical and clinical disciplines. It is designed to equip the student with the knowledge necessary to work in the clinic - this is the essence of the applied aspects of the subject.

The study of clinical anatomy and operative surgery includes two interrelated sections. General operative surgery is taught in the lecture course in terms of anatomical and physiological justifications of surgical interventions, based on the structural and systemic principle, based on the latest advances in theoretical and clinical medicine.

Special clinical anatomy and operative surgery are the subject of practical classes. When studying clinical anatomy, special attention should be paid to issues of individual and age variability in the structure of human organs and systems (native material), to firmly master their applied aspects in diagnosis, as well as in developing an individual treatment plan for patients. The issues of providing emergency care in extreme situations are singled out.

**The subject study of the discipline** "Clinical anatomy and operative surgery" are structural and functional features of the shape, structure, origin, development of the human body, topographic relationships of parts and organs of the body, taking into account age, gender and individual differences.

## **2. PURPOSE AND TASKS OF THE COURSE**

**Goal** - acquisition by each student of specific knowledge of clinical anatomy, necessary to substantiate the clinical diagnosis, understanding the pathogenesis of various diseases, the development of possible complications, as well as choosing the most rational methods of surgery, mastering techniques and skills of surgery.

**Task** -

Δ formation of knowledge on the clinical anatomy of parts, organs and systems of the human body;

Δ ability to interpret topographic-anatomical relationships from the standpoint of variational and age clinical anatomy;

Δ formation of skills to apply knowledge of clinical anatomy to substantiate the diagnosis and understand the pathogenesis of various pathological processes;

Δ formation of skills to choose the most rational methods of surgical intervention;

Δ possession of the technique of performing basic surgical interventions on human corpses, experimental animals and simulators.

**Expected learning outcomes.**

**As a result of studying the discipline, students have:**

-Determine the role of knowledge of topographic anatomy, methods of surgical access and techniques in the training of physicians.

-Classify surgical operations.

-Identify modern surgical instruments

-Demonstrate the technique of primary surgical treatment of wounds

-Distinguish between different types of transplantation and explantation of organs and tissues.

- Explain the topographic and anatomical basis of the clinical picture of pathological processes on the head and neck
- Analyze the age features of the topographic anatomy of the head and neck
- Demonstrate different methods of treating head and neck wounds
- Determine the principles of decompression and osteoplastic trepanations of the skull, surgery for various forms of goiter.
- Demonstrate the exposure and ligation of the external and common carotid arteries, tracheotomy.
- Explain the topographic and anatomical basis of the clinical picture of diseases of the thoracic cavity
- Analyze the age features of the topographic anatomy of the thoracic cavity
- Explain the choice and methods of surgery for breast cancer
- Choose and demonstrate various methods of treatment of chest wall wounds, rib resection
- Offer access and surgery depending on lung pathology
- Distinguish the surgical anatomy of heart defects and surgical methods of their correction
- Determine the mechanisms and methods of extracorporeal circulation.
- Interpret the principles of desobliterating operations in coronary heart disease
- Substantiate the optimal methods of laparotomies in various diseases of the abdominal cavity
- Substantiate the optimal methods of operations for abdominal wall hernias
- Master different methods of operations for abdominal wall hernias
- Demonstrate bowel resection and various types of enteroanastomosis, gastrostomy, removal of the appendix.
- Substantiate the topographic and anatomical basis of methods of organ-saving operations on the stomach.
- Determine the principles of gastrectomy, operations on the liver, gallbladder, bile ducts, pancreas, kidneys and ureters, laparoscopic interventions on these organs.
- Substantiate the choice of methods of operations on the bladder, prostate, rectum, uterus, testicle, external genitalia.

According to the requirements of the educational and professional program, students must:

**Know:**

- topographic and anatomical relationships of human organs and systems;
- topography and syntax of human organs;
- age features of clinical anatomy of an organism and surgical anatomy of congenital malformations;

**Be able:**

- identify modern surgical instruments;
- demonstrate mastery of the technique of performing basic surgical interventions on human simulation organs, simulators and experimental animals;
- demonstrate the technique of primary surgical treatment of wounds on simulated human organs, simulators and experimental animals.

The developed work program corresponds to the educational-professional program (OPP) and is focused on the formation of competencies:

- general: GC.1; GC..2; GC..3; GC..10:
- ability to abstract thinking, analysis and synthesis, ability to learn and master modern knowledge;
- ability to apply knowledge in practical situations;
- knowledge and understanding of the subject area and understanding of professional activity;
- skills of using information and communication technologies;
- special (professional, subject): PC.3; PC.6; PC.11:

- ability to establish a preliminary and clinical diagnosis of the disease;
- ability to determine the principles and nature of treatment of diseases;
- skills of medical manipulations.

**Learning outcomes:** the knowledge that students receive from the discipline "Clinical Anatomy and Operative Surgery" is basic for the block of disciplines that provide natural science (block of general training OK13) and professional-practical (block of professional training OK44) training.

Integrative final program learning outcomes, the formation of which is facilitated by the discipline:

- the ability to analyze information about the layered structure of the human body, its constituent systems, organs and tissues; demonstrate mastery of moral and ethical principles of attitude to a living person and his body as an object of anatomical and clinical research;
- options for variability of organs, malformations;
- interpret gender, age and individual features of the structure of the human body;
- explain the patterns of development and features of the structure of human organs and systems at the macro and microscopic levels;
- to predict the interdependence and unity of structures and functions of human organs, their variability under the influence of environmental factors;
- to determine the topographic and anatomical relationships of human organs and systems;
- to determine the impact of social conditions and labor on the development and structure of the human body.

According to the educational-professional program, the expected program learning outcomes (PLO) include the above skills, which are included in PLO 11, PLO 12, PLO 20 OPP:

**PLO 11.** Collect data on patient complaints, medical history, life history (including professional history), in a health care facility, its unit or at the patient's home, using the results of the interview with the patient, according to the standard scheme of the patient's survey. Under any circumstances (in a health care facility, its unit, at the patient's home, etc.), using knowledge about the person, his organs and systems, according to certain algorithms:

- collect information about the general condition of the patient (consciousness, constitution) and appearance (examination of the skin, subcutaneous fat layer, palpation of lymph nodes, thyroid and mammary glands);
- assess the psychomotor and physical development of the child;
- examine the condition of the cardiovascular system (examination and palpation of the heart and superficial vessels, determination of percussion boundaries of the heart and blood vessels, auscultation of the heart and blood vessels);
- examine the condition of the respiratory organs (examination of the chest and upper respiratory tract, palpation of the chest, percussion and auscultation of the lungs);
- examine the condition of the abdominal cavity (examination of the abdomen, palpation and percussion of the intestines, stomach, liver, spleen, palpation of the pancreas, kidneys, pelvic organs, finger examination of the rectum);
- examine the condition of the musculoskeletal system (examination and palpation);
- examine the state of the nervous system;
- examine the condition of the genitourinary system.

**PLO 12.** Evaluate information on the diagnosis in the health care institution, its unit, using a standard procedure, using knowledge about the person, his organs and systems, based on the results of laboratory and instrumental studies (according to list 4).

**PLO 20.** Provide emergency medical care, under any circumstances, using knowledge of the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on a diagnosis of emergency (list 3) for a limited time according to the defined tactics using standard schemes.

### **.3. Curriculum of the discipline**

The educational process is organized according to the European Credit Transfer and Accumulation System (ECTS).

The curriculum consists of three blocks:

## **CONTENT OF THE PROGRAM OF THE COURSE**

Block 1.

### **Section 1. "Introduction to Clinical Anatomy and Operative Surgery".**

*Topic 1. Introduction to clinical anatomy and operative surgery ..*

History of the development of the discipline "Clinical Anatomy and Operative Surgery". Subject field and tasks of clinical anatomy. Methods of topographic and anatomical research. Subject field and tasks of operative surgery. Classification of surgical operations. Stages of surgical interventions. Principles of surgical interventions

*Topic 2. Primary surgical technique.*

Surgical instruments and suturing equipment. Technique of separation and connection of tissues. Modern suture material and stitching machines. Seams. Nodes Temporary and permanent cessation of bleeding. Classification and principles of local anesthesia. Principles of primary surgical treatment of wounds.

### **Section 2. "Clinical anatomy and surgical surgery of the head and neck"**

*Topic 1. Clinical anatomy and operative surgery of the head.*

Clinical anatomy of the brain. Clinical anatomy of meninges and interstitial spaces. Scheme of craniocerebral topography. Primary surgical treatment of wounds of the cerebral head. Hematomas of the cerebral head. Skull trepanation (decompression and bone-plastic). Anthotomy.

The concept of surgery for aneurysms, intracranial hematomas and hemorrhages, tumors of the cranial cavity. Endovascular interventions. Cranio navigation.

Clinical anatomy of the facial parts of the head. Clinical anatomy of the parotid gland. Clinical anatomy of facial tissue spaces, ways of spreading inflammatory processes. Clinical anatomy of the paranasal sinuses. Primary surgical treatment of facial wounds. Opening of the maxillary sinus (maxillofacial).

*Topic 2. Clinical anatomy and operative surgery of the neck and neck.*

Clinical anatomy of areas (triangles) of the neck. Clinical anatomy of fascia and fibrous spaces of the neck, ways of spreading inflammatory processes. Vessels and nerves of the neck. Exposure and ligation of the external and common carotid arteries. Vagosympathetic blockade by OV Vyshnevsky and MN Burdenko. Primary surgical treatment of neck wounds. Operations for inflammatory and purulent processes of the neck. Middle and lateral cysts and fistulas of the neck, methods of their surgical treatment. Carotid artery aneurysms and technique of operations at them. Operations for phlebectasia of jugular veins. Operations for crooked neck.

Clinical anatomy of the neck (larynx, trachea, pharynx, esophagus, thyroid gland). Tracheostomy and conicotomy. Tracheal intubation. Thyroid surgery. Surgical access to the cervical esophagus.

Block 2.

### **Section 3. "Clinical anatomy and operative surgery of areas and organs of the thoracic cavity."**

*Topic 1. Clinical anatomy and operative surgery of the chest wall.*

Clinical anatomy of the chest wall. Clinical anatomy of the breast. Malformations of the breast: Surgery on the breast with mastitis, benign and malignant tumors.

Rib resection.

*Topic 2. Clinical anatomy and operative surgery of the lungs and mediastinum.*



Clinical anatomy of the pleura and lungs, anterior and posterior mediastinum. Pleural puncture. Types of pneumothorax. Pneumothorax closure technique Operative accesses to the thoracic cavity. Pulmonectomy. Resection of the lobe (zone) and lung segment.

Operations for stenosis and atresia of the esophagus. Esophageal plastic surgery of the small and large intestine. The concept of modern operations for esophageal cancer

*Topic 3. Clinical anatomy and operative heart surgery*

Clinical anatomy of the heart and heart. Surgical access to the heart. Surgery for heart injuries. Surgical treatment of ischemic disease (endocoronary interventions, coronary artery bypass grafting). Principles of extracorporeal circulation (artificial circulation devices). Congenital and acquired heart defects, principles of their surgical treatment. Heart transplantation.

***Section 4. "Clinical anatomy and operative surgery of areas and organs of the abdominal cavity"***

*Topic 1. Clinical anatomy and operative surgery of the anterior-lateral abdominal wall.*

Clinical anatomy of the anterior-lateral wall of the abdomen (layered structure of the sites, blood supply, innervation, venous and lymphatic outflow).

The concept and classification of hernias of the anterior-lateral abdominal wall. Clinical anatomy of the inguinal area and inguinal canal. Surgical anatomy of congenital, oblique and direct inguinal hernias. Operations for oblique and direct inguinal hernias. Surgical treatment of congenital, pinched and sliding hernia.

Clinical anatomy of the femoral canal, umbilical region and white line of the abdomen. Surgical anatomy of femoral, umbilical hernia and hernia of the white line of the abdomen. Surgical treatment of femoral, umbilical hernias and hernias of the white line of the abdomen.

Endoscopic anatomy of the anterior-lateral abdominal wall. Laparoscopic methods of treatment of hernias of the anterior-lateral abdominal wall.

*Topic 2. Clinical anatomy and operative surgery of the abdominal cavity.*

Abdominal cavity: parts. Abdominal cavity: walls, contents. Clinical anatomy of the peritoneum. Peritoneal cavity, its contents. Options for the relationship of internal organs to the peritoneum. Floors of the peritoneal cavity. Bags, channels, nooks.

Clinical anatomy of the stomach, liver, gallbladder and bile ducts, small intestine, colon, spleen. Surgical access to the abdominal organs. Intestinal sutures. Intestinal resection. Types of enteroanastomosis: end to end, side to side, end to side.

Operations on the stomach: dissection, suture of the stomach, suturing of perforated gastric ulcer, gastrostomy, gastroenterostomy, resection, vagotomy and drainage operations.

Operations on the liver (liver suture, liver resection), gallbladder and bile ducts (cholecystectomy - methods and techniques). Laparoscopic methods of cholecystectomy. Surgical anatomy of atresia of the gallbladder and bile ducts. Operations for atresia of the biliary tract.

Removal of the spleen (splenectomy).

Operational access to the appendix. Removal of the appendix. Ways to handle his stump. Retrograde removal of the appendix. Laparoscopic appendectomy. Intestinal operations (enterostomy, colostomy, unnatural anus).

*Topic 3. Clinical anatomy and operative surgery of the lumbar region and retroperitoneal space.*

Clinical anatomy of the lumbar region. Lumbar triangle. Clinical anatomy of the retroperitoneal space: fascia, cellular spaces, content. Clinical anatomy of organs and vessels of the retroperitoneal space (kidneys, adrenal glands, ureters, pancreas, abdominal aorta, inferior vena cava). Operational access to the organs of the retroperitoneal space. Paranephric blockade. Kidney surgery (kidney dissection, kidney resection, kidney removal, opening of the renal pelvis). The concept of kidney transplantation, plastic surgery on the ureters. Operations for congenital malformations of the kidneys and ureters.

Principles of operation on the pancreas in acute and chronic pancreatitis.

***Section 5. "Clinical anatomy and surgical surgery of the walls and pelvic organs."***

***Topic 1. Clinical anatomy and operative surgery of pelvic walls and organs.***

Clinical anatomy of the pelvis. Fascia and cellular spaces of the pelvis. Clinical anatomy of the male and female pelvis (bladder, prostate and seminal vesicles, uterus and its appendages, rectum).

Operational access to the pelvic organs. High opening of the bladder. Puncture and catheterization of the bladder. Suprapubic transvesical adenomectomy.

Operations for ectopic pregnancy. Cesarean section. Classification of paraproctitis. Principles of operations for acute and chronic paraproctitis. Surgery for hemorrhoids. Rectal surgery for atresia of the anus and intestine. Surgical anatomy of congenital malformations of the colon: megacolon and Hirschsprung's disease. Operations for megacolon and Hirschsprung's disease.

Block 3.

***Section 6. "Clinical anatomy and operative surgery of the spine and extremities."***

***Topic 1. Clinical anatomy and operative surgery of the spine, spinal cord and its membranes.***

Clinical anatomy of the spine. Physiological and pathological bends of the spine. Clinical anatomy of the spinal cord, spinal nodes and spinal nerves. Clinical anatomy of meninges and interstitial spaces.

Operational access to various parts of the spine. Lumbar puncture. Surgical anatomy and methods of surgical treatment of scoliosis. Surgical anatomy and methods of surgical treatment of intervertebral hernias. Surgical anatomy of congenital malformations of the spinal cord and spine.

***Topic 2. Clinical anatomy and operative surgery of the upper extremities***

Clinical anatomy of the upper extremity: upper arm, axilla, shoulder, elbow, forearm, wrist and hand.

Projection lines of the subclavian artery, axillary artery, vascular-nervous bundle of the shoulder, radial and ulnar arteries. Fascia and cellular spaces of the upper limb.

Surgical access to the subclavian and axillary arteries, brachial artery and median nerve, ulnar artery and nerve, radial arteries and nerve.

Fascia and cellular spaces, ways of distribution of purulent processes. Ways of distribution of purulent processes on the upper extremity. Principles of operations in the treatment of various panaritiums and phlegmon of the hand, forearm and elbow, shoulder and upper arm.

Clinical anatomy of the shoulder, elbow, wrist, metacarpophalangeal, interphalangeal joints and their ligaments (projection of joint fissures, joint capsule, its weak points, synovial torsions, blood supply and innervation) collateral blood.

***Topic 3. Clinical anatomy and operative surgery of the lower extremities***

Clinical anatomy of the lower extremity: buttocks, thighs, popliteal fossa, shins, feet. Projection lines of the sciatic nerve. gluteal area, femoral and popliteal arteries, great saphenous vein, vascular-nervous bundles of the leg and foot. Surgical access to the femoral and popliteal arteries, sciatic nerve in the middle third of the thigh, anterior and posterior tibial arteries and tibial nerves at different levels.

Fascia and cellular spaces, ways of distribution of purulent processes on the lower extremity. Principles of operations in the treatment of various panaritiums and phlegmon of the foot, leg, thigh and buttocks.

Clinical anatomy of the hip, knee, ankle joints (projection of joint fissures, joint capsule, capsule weaknesses, synovial torsions, blood supply and innervation, collateral circulation of the joints).

***Topic 4. Surgical interventions on the extremities***

Principles and techniques of primary surgical treatment of limb wounds. Operations on vessels of extremities. Connection of vessels. Desobliteration of the main arteries and revascularization of



organs and tissues (embolectomy (thromboembolectomy), endarterectomy (thrombendarterectomy), resection of the artery with direct anastomosis, reimplantation or plastic artery, bypass shunting, prosthetics, prosthetics, endoplasty). Operations on the abdominal aorta and inferior vena cava. Endovasal embolization of arteries. Microsurgical technique.

Operations on veins (venesection, endovasal installation of coffee filters). Puncture and catheterization of central veins. Operations for varicose veins of the lower extremities.

Operations for aneurysms.

Principles of operations on tendons osteotomy, bone grafting (tendon suturing, tenoplasty, tenolysis, tenotomy, tenodesis).

Principles of operations on peripheral nerves (neurolysis, nerve suture, neurotomy, plasticity and nerve movement).

Bone surgeries (extra- and intramedullary osteosynthesis, osteotomy, bone grafting).

Operations on the shoulder, elbow, hip, knee, ankle joints (puncture and arthroscopy, arthrotomy, arthrolysis, arthroplasty, arthrodesis, arthrosis, endoprosthesis).

General principles of amputation. Classification of amputations. Amputations and exarticulations on the upper limb (amputation of the phalanges of the fingers, wrist bones, forearms and shoulders).

Amputations and exarticulations on the lower extremity (Garanjo toe exarticulation, Sharpe's foot amputation. Lisfranc's foot amputation, Shopar's foot amputation, Saim's foot exarticulation, shin-leg amputation of the shin by MI Pignasty, fascia, fascia ).

#### 4. STRUCTURE OF THE COURSE

Types of educational activities of students according to the curriculum are:

- lectures;
- practical training;
- independent work of students (VTS);
- individual work of students (IRS).

The topics of the lecture course reveal the problematic issues of the relevant sections of human anatomy.

Practical classes include:

- students' mastery of the structure of organs, systems of human organs;
- determination on anatomical preparations topographic and anatomical relationships of organs and systems of human organs;
- assessment of age, gender and individual characteristics of the structure of human organs;
- solution of situational problems that have clinical and anatomical justification.

Assimilation of the topic is controlled in practical classes in accordance with specific goals.

Names of sections and topics	Number of hours					
	Full-time					
	total	including				
L.		Pract	Lab	ISW	SDL	
<b>Block 1. Section 1. "Introduction to clinical anatomy and operative surgery"</b>						
<b>Topic 1.</b> Introduction to clinical anatomy and operative surgery.		2	2			2
<b>Topic2.</b> Primary surgical technique.						2
Together under section 1		<b>2</b>	<b>2</b>			<b>4</b>
<b>Section 2. "Clinical anatomy and surgical surgery of the head and neck"</b>						
<b>Topic 1.</b> Clinical anatomy and operative surgery of the head			6			6

<b>Topic 2.</b> Clinical anatomy and operative surgery of the neck and neck.			2			4
Together under section 2			<b>8</b>			<b>10</b>
<b>Block 2. Section 3. Clinical anatomy and operative surgery of areas and organs of the thoracic cavity</b>						
<b>Topic 1.</b> Clinical anatomy and operative surgery of the chest wall		2	2			3
<b>Topic 2.</b> Clinical anatomy and operative surgery of the lungs and mediastinum.			2			3
<b>Topic 3.</b> Clinical anatomy and operative surgery of the heart.						4
Together under section 3		<b>2</b>	<b>4</b>			<b>10</b>
<b>Section 4. "Clinical anatomy and operative surgery of areas and organs of the abdominal cavity"</b>						
<b>Topic 1.</b> Clinical anatomy and operative surgery of the anterior-lateral abdominal wall.		2	2			3
<b>Topic 2.</b> Clinical anatomy and operative surgery of abdominal organs.			8			5
<b>Topic 3.</b> Clinical anatomy and operative surgery of the lumbar region and retroperitoneal space.			2			5
Together under section 4		<b>2</b>	<b>12</b>			<b>thirt een</b>
<b>Section 5. "Clinical anatomy and surgical surgery of the walls and pelvic organs."</b>						
<b>Topic 1.</b> Clinical anatomy and operative surgery of pelvic walls and organs.		2	2			4
Together under section 5		<b>2</b>	<b>2</b>			<b>4</b>
<b>Block 3. Section 6. "Clinical anatomy and operative surgery of the spine and extremities"</b>						
<b>Topic 1.</b> Clinical anatomy and operative surgery of the spine, spinal cord and its membranes.		2	2			2
<b>Topic 2.</b> Clinical anatomy and operative surgery of the upper extremities.						2
<b>Topic 3.</b> Clinical anatomy and operative surgery of the lower extremities.						2
<b>Topic 4.</b> Surgical interventions on the extremities						3
Together under section 6 (block 3)		<b>2</b>	<b>2</b>			<b>9</b>
Final control						
<b>Total hours for the discipline "Clinical Anatomy and Operative Surgery"</b>	<b>90</b>	<b>10</b>	<b>30</b>			<b>50</b>

#### 4.2. Lecture topics

№	Topic	A few hours
1	Definition of the subject, tasks of topographic anatomy and operative surgery. History of the subject. Methods of topographic and anatomical research. Clinical anatomy of the cerebral and facial parts of the head. Meninges and interstitial spaces. Sinuses of the dura mater. Clinical anatomy of the face. Clinical anatomy of areas and organs of the neck. Fascia, cellular spaces. Vessels and nerves of the neck.	2
2	Clinical anatomy of the chest wall, breast Clinical anatomy of the lungs and mediastinal organs, heart and pericardial sac. Surgical access to the esophagus, lungs, heart.	2

3	Clinical anatomy of the anterolateral abdominal wall. Inguinal area and inguinal canal. Clinical anatomy of the abdominal cavity. The ratio of the peritoneum to the organs of the abdominal cavity. Bags of the upper floor of the abdominal cavity. Clinical anatomy of the stomach, pancreas, liver, gallbladder, bile ducts and spleen. Clinical anatomy of the duodenum, small and large intestines. Channels, nooks of the lower floor of the abdominal cavity.	2
4	Clinical anatomy of the lumbar region. Weaknesses of the lumbar region. Clinical anatomy of fascia and cellular spaces, organs of retroperitoneal space. Paranephric blockade. Clinical anatomy of the walls and pelvic organs. Fascia and cellular spaces of the pelvis. Age and gender features of the topographic anatomy of the pelvis. Clinical anatomy of the perineum. Clinical anatomy of the spine and spinal cord. Spinal cord membranes Spinal cord and spinal nerve roots. Lumbar puncture.	2
5	Clinical anatomy of the upper extremity. Fascia and fascial sheaths, cellular spaces. ways of distribution of purulent processes. Access to the axillary, subclavian, brachial arteries. Clinical anatomy of the lower extremity. Femoral triangle. The channel of the afferent muscles. Knee fossa. Fascia and fascial sheaths, cellular spaces. ways of distribution of purulent processes. Access to blood vessels and nerves.	2

#### 4.3. Topics of seminars not provided

#### 4.4. Topics of practical classes

№	Topic	Number of hours
1.	History of discipline development. Methods of topographic and anatomical research. Definition and tasks of topographic anatomy and its clinical significance. Surgical instruments, sutures and dressings.	2
2.	Topographic anatomy of the skull vault and mammary process. Topographic and anatomical signs of closed, open and penetrating trauma of the skull.	
3.	Clinically anatomy of meninges, cisterns and ventricles of the brain, cranial nerves. Projection of venous sinuses of the dura mater. Cronlein-Bruce scheme of craniocerebral topography. Topographic and anatomical features of intracranial hematomas of different origin, principles of skull trepanation.	2
4.	Clinically anatomy of the facial parts of the head. Blood supply, venous, lymphatic outflow and innervation, anatomical ways of spreading inflammatory processes in the face are their clinical significance. Topographic and anatomical features of the maxillary sinuses and their clinical significance. Topographic and anatomical substantiation of posterior tamponade of the nose, blockade of the branches of the trigeminal nerve.	2
5.	Fascia, cellular spaces of the neck. Vessels and nerves of the neck. Topographic and anatomical substantiation of localization of pharyngeal and pharyngeal abscesses, phlegmon of the neck and purulent mumps. Topographic and anatomical location of vocal cords and their clinical significance. Topographic anatomy of the neck, esophagus, trachea, thyroid gland, vagus nerve). Topographic and anatomical features of tracheotomy and conicotomy.	2
6.	Clinical anatomy of the chest wall, breast and pleura. Topographic and anatomical substantiation of localization of tumors and abscesses of the breast. Topographic and anatomical substantiation of pleural puncture in pneumothorax and pleurisy. Topographic and anatomical features of different types of pneumothorax. Diaphragm	2

7.	Clinically anatomy of the lungs and mediastinal organs. Clinical anatomy of the mediastinum and its organs.	2
8.	Clinically anatomy of the anterior-lateral abdominal wall. Topographic anatomy of inguinal and femoral canals. Surgical anatomy of straight, oblique and femoral hernia.	2
9.	Clinically anatomy of the upper floor of the abdominal cavity The ratio of the peritoneum to the organs of the abdominal cavity. Bags, channels, nooks. Topographic anatomy of the stomach, liver, gallbladder, bile ducts, duodenum, pancreas and spleen.	2
10.	Surgical anatomy of the stomach. Gastrostomy. Gastroenteromy. Gastric resection. Vagotomy and pyloroplasty. Suturing of perforated gastric ulcer	2
11.	Clinically anatomy of the lower floor of the abdominal cavity Clinical anatomy of the small and large intestines. Channels, mesenteric sinuses, nooks.	2
12.	Surgical anatomy of the small intestine. Resection of the small intestine. Surgical anatomy of the colon and appendix. Appendectomy. Technique of applying an unnatural waste	
thirteen.	Surgical anatomy of the lumbar region Weaknesses of the lumbar region. Clinical anatomy of fascia and cellular spaces, organs of retroperitoneal space. Topographic and anatomical substantiation of the spread of inflammatory processes in the retroperitoneal space.	2
14.	Surgical anatomy of the spine. Clinical anatomy of the spinal cord and its membranes. Topographic and anatomical substantiation of lumbar puncture Spine surgery. Retroperitoneal space. Surgical anatomy of the retroperitoneal space. Surgery on the kidneys and ureters.	2
15.	Clinical anatomy of the walls and organs of the pelvis and perineum. Fascia and cellular spaces of the pelvis. Age and sex features of the topographic anatomy of the pelvis. Topographic and anatomical substantiation of bladder puncture, bladder dissection. Topographic and anatomical substantiation of pelvic hernias	2

#### 4.5. Topics of laboratory classes not provided

#### 4.6. Individual work

№ s / n	Name topics	Number hours
1	Surgical instruments, basics of surgical terminology. Narcosis. Intravenous barbiturate anesthesia for surgery on animals. Types of skin plastics. PHO wound. Method of closing skin defects. Types of plastics. Technique of basic surgical manipulations: injections, venipuncture, venesection.	6
2	Topographic and anatomical substantiation of skull trepanations (resection and bone-plastic trepanation). Trepanation of the air sinuses of the face. Surgical interventions on the face. Plastic surgery for splitting the hard palate and upper lip.	6
3	Vagosympathetic blockade. Blockade of the cervical and humeral plexuses. Tracheotomy, conicotomy.	10
4	Surgical interventions on the abdominal wall and abdominal organs. Operations on the pelvic organs.	17
5	Surgical interventions on the extremities	11
	Together	50

#### 4.7. Individual tasks

##### **ACCOUNTING FOR POINTS FOR INDIVIDUAL WORK (1 - 6 POINTS).**

- Active participation in the meetings of the scientific student group.
- Speeches with reports at meetings of the scientific student group.
- Making tables for practical and final classes.
- Assistance in preparing multimedia presentations.
- Production of anatomical models and models of anatomical preparations.
- Participation in scientific publications with the staff of the department.

#### **4.8. Tasks for independent work**

According to the work plan of extracurricular work.

### **5. METHODOLOGICAL SUPPORT**

#### **5.1. Questions for credit in the discipline "Clinical Anatomy and Operative Surgery"**

1. Classification of surgical interventions.
2. Topographic anatomy and operative surgery of the lumbar region and pelvic region.
3. Topographic anatomy of the hand. Topographic anatomy of fascial-cellular spaces of the palm. Surgical anatomy of the cell spaces and synovial sheaths of the hand. Vessels and nerves of the hand.
4. Technique of hernia excision according to the method of Spasokukotsky-Girard.
5. Gastzelstomy technique according to Witzel.
6. Topographic anatomy of the fronto-parieto-occipital area. Boundaries, layered structure, blood supply, innervation, lymph outflow. Cellular spaces.
7. Access to the kidney (incisions by Fedorov, Bergman-Israel). Kidney suture, kidney resection, nephrectomy.
8. Bone-plastic amputation of the thigh according to Gritti-Szymanowski. Indications, technique.
9. Technique of gastrostomy according to Toprover
10. Technique of suturing a wound of the small intestine.
11. Topographic anatomy of the lungs. Segmental and partial structure.
12. Topographic anatomy of the bladder. Cellular spaces of the bladder. Blood supply, innervation, lymph outflow.
13. Topographic anatomy of the anterior thigh. Vascular and muscular gaps. Femoral (Scarpovsky) triangle. Femoral canal. Drive channel (Guntherov).
14. Principles of gastrectomy, types, modifications.
15. Venipuncture technique.
16. Fascia of the neck according to V.M. Shevkunenko, triangles of the neck.
17. Technique of paranephric blockade according to AV Vishnevsky. Possible complications during execution.
18. Methods of treatment of skin, muscles, vessels, nerves, bones and periosteum during amputations and exarticulations. Vicious stump and the reasons for its formation.
19. Operations for umbilical hernias and hernias of the white line of the abdomen.
20. Technique of suturing a wound of the stomach.
21. The main furrows and convolutions of the brain. Topographic anatomy of a.meninga media. Arterial circle of the cerebrum.

22. Topographic anatomy of the uterus. Periuterine tissue space. Ways of spreading purulent processes. Topographic anatomy of the uterine appendages. Blood supply, innervation, lymph outflow.
23. Amputation in the middle third of the shoulder. Indications, technique.
24. Principles of lung surgery - lung suturing, segmental resection, lobectomy, pneumonectomy.
25. Bassini hernia technique.
26. Trepanation of the skull. Principles of decompression and osteoplastic operations.
27. Topographic anatomy of the rectum. Visceral peritoneal tissue.
28. Topographic anatomy of the axillary area (axillary fossa). The relationship of the fibrous spaces of the axillary area with the cellular spaces of adjacent areas.
29. Operations for benign and malignant tumors of the breast.
30. The technique of performing an intestinal anastomosis "end to end".
31. Topographic anatomy of the breast.
32. Surgical interventions for varicose veins of the lower extremity (Bebkok, Madelung).
33. Topographic anatomy of the fingers. Distribution of purulent processes.
34. Surgical anatomy of oblique, straight, sliding and congenital inguinal hernias.
35. Technique of performing posterior gastrointestinal anastomosis.
36. Topographic anatomy of the anterior-lateral abdominal wall. Layers, blood supply.
37. Catheterization of the bladder. Indications, technique. Possible complications during execution.
38. Topographic anatomy of the sole. The cellular spaces of the sole and their connection with the cellular spaces of adjacent areas.
39. Methods and techniques of cholecystectomy.
40. Gastrostomy technique according to Kader.
41. Topographic anatomy of the mediastinum. Divide it into sections (front, rear, middle). The ratio of organs to the mediastinum.
42. Topographic anatomy of the pelvic floor (pelvic diaphragm and urogenital diaphragm). Topographic anatomy of the pelvic area. "Floors" of the pelvis.
43. Topographic anatomy of the posterior thigh. Connection of cellular spaces of a hip with the next sites.
44. Topographic anatomy of the inguinal canal. Sexual features of the inguinal canal and its contents.
45. Technique of venesection.
46. Topographic anatomy of the intercostal spaces.
47. Parietal cellular spaces of the pelvis (prostatic, extrarectal lateral). Spread of hematomas.
48. Topographic anatomy of the forearm. Pirogov's tissue space and its connection with the spaces of the hand and elbow area.
49. Topographic anatomy of the gallbladder and bile ducts.
50. Technique of intestinal anastomosis - side by side.
51. Topographic anatomy of the inner surface of the anterior abdominal wall.
52. Principles of operations for phlegmons of the hand and forearm. Methods of anesthesia and incisions for panaritium, paronychia.
53. Isolation of the toes by Garanjo. Indications, technique.
54. Topographic anatomy of the cellular spaces of the neck
55. Technique of herniation by the method of Martinov.
56. Topographic anatomy of the mammary area. Trepanation triangle (Shipo). Age features
57. Topographic anatomy of the lumbar region. Boundaries, layered structure, blood supply, innervation, lymph outflow. Weaknesses
58. Topographic anatomy of the subclavian area
59. Pneumothorax. Elimination methods.
60. Technique of suturing a wound of the colon.
61. Arterial blood supply to the front of the head.



62. Access to the prostate gland. Indications, technique of adenomectomy. Possible complications during execution
63. Topographic anatomy of the posterior leg. Connection of fibrous spaces of a shin with cellular spaces of adjacent sites.
64. Technique of puncture of the knee joint.
65. Mastitis and their surgical treatment.
66. Technique of cholecystostomy.
67. Brain membranes. Wetlands. Hard meninges, its sinuses and processes
68. Principles of operations for hemorrhoids. Execution technique. Possible complications during execution
69. Topographic anatomy of the popliteal fossa. Connection of cellular spaces with adjacent areas.
70. Surgical accesses to abdominal organs, their topographic and anatomical substantiation.
71. Resection of the intestine. Types of intestinal anastomoses.
72. Topographic anatomy of the pancreas.
73. Topographic anatomy of the retroperitoneal space. Fascia and cellular spaces. Layered structure.
74. Topographic anatomy of the prostate and its appendages. Blood supply, innervation, lymph outflow.
75. Tracheostomy technique.
76. Principles of operations at suturing of a stomach.
77. Principles of primary surgical treatment of craniocerebral wounds.
78. Puncture of the bladder. Indications, technique. Possible complications during execution
79. Amputation and exarticulation in the interphalangeal and metacarpophalangeal joints.
80. The concept of hernia. Classification of hernias
81. Technique of appendectomy
82. Topographic anatomy of the temporal area. Boundaries, layered structure, blood supply, innervation, lymph outflow.
83. Topographic anatomy of the buttocks. Cellular spaces, their connection with the cellular spaces of neighboring areas
84. Topographic anatomy of the scapula. Collateral circulation at the level of the scapula.
85. Gastrostomy, types.
86. Technique of pleural puncture.
87. Topographic anatomy of the sleep triangle of the neck.
88. Access to the knee joint. Errors and complications.
89. Topographic anatomy of the pelvis. Borders. Bone pelvic ring. Pelvic muscles.
90. Channels, sinuses and bags of the abdominal cavity, their practical significance.
91. Principles and stages of surgical interventions.
92. The content and objectives of the course of topographic anatomy.
93. Meninges of the spinal cord. Topographic anatomy of the spinal cord. Pathology of the spine and spinal cord.
94. Bone-plastic amputation of the leg according to Pirogov. Indications, technique.
95. Resection of the rib.
96. Subtotal, subcapsular strumectomy according to OV Nikolaev.
97. Theoretical foundations and techniques of intestinal sutures. Suturing of intestinal wounds
98. Access to the popliteal artery. Ways of collateral circulation.
99. Topographic anatomy of the shoulder joint. Dislocations in the shoulder joint.
100. Topographic anatomy of the spleen. Ligament of the spleen. Blood supply, innervation, lymph outflow.
101. Features of primary surgical treatment of neck wounds.
102. Topographic anatomy of the heart and its vessels. Features of topography in children.
103. Laminectomy. Principles of surgery for spinal hernias, Spina bifida.

104. Topographic anatomy of the back of the foot.
105. Appendectomy. Technique, principles of formation of the stump of the appendix.
106. Topographic anatomy of the colon.
107. Topographic anatomy of the peritoneum. The course of the peritoneum. The relationship of organs to the peritoneum.
108. Topographic anatomy of the knee joint. Torsions of the knee joint.
109. Accesses to the shoulder joint. Errors and complications
110. Suture of the heart. Indications, technique.
111. Principles and types of vagotomies. Drainage operations.
112. Topographic anatomy of the parotid and masticatory area.
113. Topographic anatomy of the shoulder.
114. Access to the hip joint. Errors and complications
115. Technique of primary surgical treatment of wounds.
116. Topographic anatomy of the deep part of the face.
117. Topographic anatomy of the small intestine. Meckel's diverticulum.
118. Topographic anatomy of the spine. Borders, external landmarks, departments. Physiological and pathological curves of the spine. Spinal canal and its contents.
119. Operations on arterial trunks. Vascular suture (manual / mechanical).
120. Upper and lower tracheotomy.
121. Primary surgical treatment of maxillofacial wounds.
122. Scheme of cranio-cerebral topography of Cronlein-Bryusova and Egorov.
123. Amputation in the middle third of the forearm. Indications, technique.
124. Technique of puncture of the shoulder joint.
125. Topographic anatomy of the stomach.
126. Technique of vagosympathetic blockade according to Vishnevsky.
127. Topographic anatomy of the liver.
128. Topographic anatomy of the elbow joint.
129. Access to the femoral artery. Ways of collateral circulation.
130. Technique of performing an anterior gastrointestinal anastomosis.
131. Topographic anatomy of the deep part of the face.
132. Surgical anatomy of femoral hernias.
133. Topographic anatomy and operative surgery of the spine and extremities
134. Technique of elbow puncture
135. Operations concerning direct inguinal hernias.
136. Venous systems of craniocerebral and facial parts of the head, their connection.
137. Topographic anatomy of the thyroid gland.
138. Technique of lumbar puncture.
139. Access to the brachial artery. Ways of collateral circulation.
140. Operations concerning oblique inguinal hernias.
141. Primary surgical treatment of maxillofacial wounds.
142. Folds and pits of the peritoneum.
143. Accesses to the ulnar artery. Ways of collateral circulation.
144. Three-moment amputation of the hip for Pirogov. Indications, technique.
145. Gastroenterostomy. See. Measures to prevent the formation of a vicious circle.
146. Operative access to the carotid arteries in the carotid triangle.
147. Topographic anatomy of the larynx.
148. Accesses to the axillary artery. Ways of collateral circulation.
149. Ligation of the femoral artery.
150. Operations on femoral hernias.
151. Phlegmons of the face. Autopsies in inflammatory processes on the face

**Example "0" ticket.**

## Ticket № 0

1. Topographic anatomy of the fronto-parieto-occipital area. Boundaries, layered structure, blood supply, innervation, lymph outflow. Cellular spaces - maximum number of points - 20.
2. Access to the kidneys (sections of Fedorov, Bergman-Israel). Kidney suture, kidney resection, nephrectomy - maximum score - 20.
3. Bone-plastic amputation of the thigh by Gritti-Szymanowski. Indications, technique - maximum number of points - 20.
4. Gastrostomy technique according to Toprover - maximum number of points - 20.

**A total of a maximum of 80 points.**

**EXAMPLES TYPICAL TEST PROBLEMS ON VARIOUS TOPICS TO BE SOLVED IN PRACTICAL CLASSES:**

1. What forms the walls of the axilla?
  - A. Large and small pectoral muscles (mm. Pectorales major et minor).
  - B. Anterior dentate muscle (m. Serratus anterior).
  - B. The broadest muscle of the back (m. Latissimus dorsi), the subscapularis muscle (m. Subscapularis) and the large round muscle (m. Teres major).
  - D. Short head of the biceps brachii (caput brevis m. Bicipitis brachii) and beak-shoulder muscle (m. Coraco-brachialis).
  - D. Long head of the triceps muscle of the shoulder (caput longum m. Tricipitis brachii).
  
6. Name the nerves located in the elbow fossa.
  - A. Musculoskeletal nerve (n. Musculocutaneus).
  - B. Radial nerve (n. Radialis).
  - B. Elbow nerve (n. Ulnaris).
  - D. Medial cutaneous nerve of the shoulder (n. Cutaneus brachii medialis).
  - D. The median nerve (n. Medianus).
  
9. Name the branches of the deep palmar arterial arch (arcus palmaris profundus).
  - A. Common palmar finger arteries (aa. Digitales palmares communes).
  - B. Own finger arteries (aa. Digitales palmares propriae).
  - B. Elbow artery (a. Ulnaris).
  - D. Palmar metacarpal arteries (aa. Metacarpeae palmares).
  - D. Dorsal finger arteries (aa. Digitales dorsales).
  
25. What formed the medial wall of the vascular lacuna (lacuna vasorum)?
  - A. Femoral vein (v. Femoralis).
  - B. Upper pubic ligament (lig. Pubicum superius).
  - B. Lacunar ligament (lig. Lacunare).
  - M. Ileo-comb arc (arcus iliopectineus).
  - D. Comb ligament (lig, pectineale).
  
82. Select the area where the tendon helmet is significantly thinner.
  - A. Frontal region.
  - B. Temporal region.
  - B. Occipital region.
  - G. The parietal region.
  
111. Where is the ternary node?
  - A. On the posterior surface of the pyramid of the temporal bone.

- B. In the carotid canal of the pyramid of the temporal bone.
- B. In the area of the small wings of the cuneiform bone.
- G. In the area of the large wings of the cuneiform bone.
- D. In the triple indentation (impressio trigemini).

150. Specify the boundaries of the third fascia of the neck (according to VM Shevkunenko).

- A. The edge of the lower jaw.
- B. Sublingual bone.
- B. Anterior surface of the clavicle.
- G. Thoracic-clavicular-mammary muscle.
- D. Scapular-sublingual muscle.
- E. Posterior surface of the clavicle.

### **LIST OF PRACTICAL SKILLS THAT A STUDENT SHOULD MASTER WHILE STUDYING THE DISCIPLINE**

1. To demonstrate ability to use the general surgical tools for opening of fabrics, auxiliary, for a temporary stop of bleeding, for connection of fabrics, for the maintenance and fixing of fabrics.
2. Demonstrate the ability to dissect soft tissues.
3. Demonstrate the ability to tie surgical knots.
4. Demonstrate the ability to connect soft tissues.

### **6. PROCEDURE AND CRITERIA FOR EVALUATION OF THE FINAL CONTROL.**

#### **Criteria for admission to the final control.**

**Students who have been present at all practical classes and lectures, or have completed missed classes in the prescribed manner, and scored the minimum number of points, as well as passed practical skills are allowed to take the final control. The sum of points for admission (current performance + practical skills + individual work). Students who have debts at the end of the semester, liquidate it only with the permission of the dean of the faculty.**

1. The final control is carried out after the end of practical classes in the form of a differential test according to the schedule of the educational and methodical department of ChNU.
2. Final control consists of testing theoretical knowledge and practical skills. The maximum number of points for the final control is 80 points, the minimum - 50.
3. Rearrangement of the final control is carried out 2 times.
4. The general success of the discipline consists of:
  - a) current performance;
  - b) practical skills;
  - c) individual work;
  - e) final control (differentiated test, oral answer).

**The sum of points for a semester makes: current success - 70-120 points, final control of 50-80 points, individual work is estimated by additional - 1-6 points, but Together no more than 200 points.**

#### **Distribution of points received by students**

**A positive assessment in each practical session can be from 4.7 to 8 points. A score below 4.7 points means "unsatisfactory", the lesson is not credited and must be practiced in the prescribed manner. At the final control (dizalika) the student can receive a maximum of 80 points. The final control is considered credited if the student scored at least 50 points.**

### Assessment of student performance

Type of activity (task)	Maximum number of points
Topic 1	8
Topic 2	8
Topic 3	8
Topic 4	8
Topic 5	8
Topic 6	8
Topic 7	8
Topic 8	8
Topic 9	8
Topic 10	8
Topic 11	8
Topic 12	8
Topic 13	8
Topic 14	8
Topic 15	8
Together	120
Final control (diffuse)	80
Together	200

### Criteria for assessing knowledge

**Scoring 8 points and 71-80 points on the differential (A on the ECTS scale and 5 on the national scale)** the student's answer is evaluated if it demonstrates a deep knowledge of all theoretical positions and the ability to apply theoretical material for practical analysis and has no inaccuracies.

**Scoring 6-7 points and 61-70 points on the differential (B and C on the ECTS scale and 4 on a national scale)** the answer is evaluated if it shows knowledge of all theoretical positions, the ability to apply them in practice, but some fundamental inaccuracies are allowed.

**Evaluation 4.7 points and 50-60 points on the differential (D and E on the ECTS scale and 3 on the national scale)** the student's answer is evaluated provided that he knows the main theoretical principles and can use them in practice.

## 7. RECOMMENDED LITERATURE

### Basic

1. Short course of topographic anatomy and operative surgery: textbook / Pivtorak VI, Kobzar OB, Shevchuk YUG. - Vinnytsia. New book, 2015.- 224 p.
2. Short course of clinical anatomy and operative surgeons: textbook / VI Pivtorak, OB Kobzar, YG Shevchuk. - Vinnytsia: Nova Kniga, 2019. - 224 p.
3. Pivtorak VI, Pronina OM, Vovk YM, Hnatiuk MS, Antipov MV etc. Operative surgery and topographic anatomy of the head and neck: (Textbook) - Vinnytsia: Nova Kniga, 2016. - 312 p.
4. Akhtemiychuk Yu.T., Yu.M. Бовк, С.В. Doroshenko; О.Б.Кобзар; МР Kovalsky; IL Pervak; VI Tuesday; KO Prokopets; N.Yu. Radomska; OA Radomsky; MV Parkhomenko; TT Khvorostyana // Operative surgery and clinical anatomy. - Kyiv, VSV "Medicine", 2010. - 504 p.
5. Akhtemiychuk Yu.T., Yu.M. Бовк, С.В. Doroshenko; А.Б.Кобзарь; МР Kovalsky, IL Pervak; В.И.Пивторак; К.А.Прокопец; Н.Ю.Радомская; А.А.Радомский; MV Parkhomenko, TT Khvorostyanaya // Operative surgery and topographic anatomy-Kyiv, VSV "Medicine", 2012. - 504 p.
6. Tsyhykalo OV Topographical anatomy and operative surgery; textbook for english-speaking foreign students / Olexander Tsyhykalo - Vinnytsia: Nova Kniga, 2011. - 528 p.

8. Moore Keith L., Dalley Arthur F. Clinically oriented anatomy --LIPPINCOTT WILLIAMS & WILKINS A Wolters Kluwer Company - Philadelphia • Baltimore • New York • London Buenos Aires • Hong Kong • Sydney • Tokyo 4th ed.- 1999. - 1183 p.

#### **Additionally**

1. Kernesnyuk NL Operative surgery and topographic anatomy. Part 1. General operative surgery and topographic anatomy: Textbook. - Ekaterinburg: Ed. UGMA, 2003. - 312 p.
2. Kirpatovsky ID, Smirnova ED Clinical anatomy: In 2 books. - М.: МИА, 2003. - Кн. 1: Head, neck, torso. - 422 p. - Book. 2: Upper and lower limbs. - 316 p.
3. Operative surgery: surgical operations and manipulations // IV Svistonyuk, VP Pishak, MD Lyutyk, YT Akhtemiychuk / Edited by Svistonyuk IV - К.: Health, 2001. - 368 p.
4. Operative surgery with topographic anatomy of childhood / Ed. YF Isakova, YM Lopukhina. - М.: Медицина, 1977. - 624 с.
5. Ostroverkhov GE, Bomash YM, Lubotsky DN Operative surgery and topographic anatomy. - Kursk: AP "Kursk", 1995. - 720 p.
6. Sergienko VI, Petrosyan EA, Frauchi IV Topographic anatomy and operative surgery: In 2 vols. / Under common ed. acad. RAMS Yu.M. Lopukhina. - М.: GEOTAR-MED, 2001. - Т. 1. - 832 с.; 2002. - Т. 2. - 592 p.
7. Skripnikov MS Operative surgery and topographic anatomy. - К.: Вища школа, 2000. - 501 с.

#### **Workshops**

1. Bolshakov OP, Semenov GM Operative surgery and topographic anatomy: Workshop. - СПб.: Питер, 2001. - 880 с.
2. Bulanov GA, Ovsyannikov VY Fundamentals of topographic anatomy of the abdomen and abdominal surgery. - Lower. Novgorod: Izd-vo NGMA, 2003. - 212 p.
3. Бурх М.П. Technology of surgical operations (pocket examiner: 115 tests and answers and comments). - Kharkiv: Fakt, 2003. - 164 p.
4. Brown MP Head and neck. Clinical anatomy and technology of surgical operations: Tests for foreign students of medical and dental faculties, interns-surgeons and neurosurgeons. - Харьков: Факт, 2003. - 196 с.
5. Grintsov AG, Belozertsev AM, Zhebrovsky VV Atlas of operations on the esophagus, cardia and diaphragm. - Донецк: Донеччина, 2003. - 208 с.
6. Pediatric operative surgery: Prakt.ruk. / Ed. VD Tikhomirova. - SPb.: ИА "ЛИК", 2001. - 432 p.
7. Kalashnikov RN Nedashkovsky EV, Zhuravlev A.Ya. Practical manual for operative surgery for anesthesiologists and resuscitators: 4th ed., Ed. and ext. - Arkhangel'sk: Ed. AGMA Center, 2000. - 330 p.
8. Toporov GM, Skripnikov MS, Pronina OM / Clinical anatomy and operative surgery of purulent-inflammatory processes of the head and neck. etc. / Ed. MS Skrypnikov. - Poltava: Verstka, 2002. - 152 p.
9. Fundamentals of operative surgery / Ed. С.А.Симбирцева. - СПб.: Гиппократ, 2002. - 632 с.
10. Workshop on operative surgery and topographic anatomy for students of dental faculties of medical universities of Ukraine: In 2 hours / Skrypnikov MS, Bilych AM, Pronina OM etc. / Ed. MS Skrypnikov. - Poltava: Verstka, 2003. - Ch. 1. - 240 с. - Part 2. - 158 p.
11. Sergienko VI, Petrosyan EA, Sukhinin AA Textbook for topographic anatomy and operative surgery for students of the medical faculty [medical universities]. - М.: GEOTAR-MED, 2001. - 280 p.
12. Tomashuk IP, Tomashuk II A Guide to Surgical Techniques for Beginner Surgeons: A Practice. allowance. - К.: Изд-во Европ.ун-та, 2001. - 864 с.
13. Toporov GM Clinical anatomy: Face. - Харьков: Факт, 2003. - 224 с.

#### **Lecture courses**

1. Kulchitsky KI Lectures on operative surgery and topographic anatomy. - Kiev-Poltava, 1992.
2. Vaida R.J. Fundamentals of clinical anatomy and operative surgery: Lectures. - Ternopil:



Ukrmedknyha, 2001. - 464 p.

### Information resources

Sites on operative surgery and topographic anatomy

<http://meduniver.com/>

<http://www.medical-enc.ru/17/stomatologia/hirurgiya/>

[http://www.lormed.ru/index.php?option=com\\_content&view=frontpage&Itemid=100001](http://www.lormed.ru/index.php?option=com_content&view=frontpage&Itemid=100001)

<http://meduniver.com/Medical/Topochka/>

<http://meduniver.com/Medical/Xirurgia/3a.html>

<http://meduniver.com/Medical/Xirurgia/6a.html>

[http://elib.org.ua/medecine/special/hirurgiya\\_v\\_vop\\_i\\_otvetah/rasdell.html](http://elib.org.ua/medecine/special/hirurgiya_v_vop_i_otvetah/rasdell.html)

To download books

<http://www.booksmed.com/hirurgiya/837-operativnaya-xirurgiya-i-topograficheskaya.html>

<http://med-books.net/2011/04/07/ostroverxov-operativnaya-xirurgiya.html>

<http://www.bookin.org.ru/book/766764>

<http://mirknig.com/2011/11/21/topograficheskaya-anatomiya-i-operativnaya-hirurgiya.html>

<http://7bznanie.com/med/093.pdf>

<http://www.twirpx.com/file/977934/>

[http://medvuz.info/load/3d\\_atlas\\_anatomii\\_cheloveka/56](http://medvuz.info/load/3d_atlas_anatomii_cheloveka/56)

<http://www.eurolab.ua/video-gallery/human-anatomy/77/>

3 D anatomy

[http://www.se4ever.ru/vse\\_dlya\\_android/soft\\_for\\_android/28309-anatomy-3d-prilozhenie-dlya-android.html](http://www.se4ever.ru/vse_dlya_android/soft_for_android/28309-anatomy-3d-prilozhenie-dlya-android.html)

<http://sinfulandroid.com/applications-26/anatomy-3d-v1-3-apk-android-10207/>

[http://www.torrentshunt.ru/torrent903432\\_atlas\\_po\\_anatomii\\_cheloveka\\_v\\_3d\\_acland039s\\_dvd\\_atlas\\_of\\_human\\_anatomy\\_v\\_6\\_chastyah\\_2003\\_obuchayushee\\_video\\_dvdrip](http://www.torrentshunt.ru/torrent903432_atlas_po_anatomii_cheloveka_v_3d_acland039s_dvd_atlas_of_human_anatomy_v_6_chastyah_2003_obuchayushee_video_dvdrip)

<http://playstoreapps.org/android/?p=33795>

<http://www.1mobile.com/anatomy-3d---anatronica-345320.html>

<http://www.med-edu.ru/anatom/?type=0&page=3>