MINISTRY OF EDUCATION AND SCIENCE OF THE KYRGYZ REPUBLIC

Government-run educational institution of higher professional education
Kyrgyz-Russian Slavic University named after B.N. Yeltsin

Endorsed by
the Dean, Assoc. Prof. Abilova S.S.

«29» 10 2021

Operative Surgery and Topographic Anatomy

Course outline (module)

Assigned to **Operative Surgery and Topographic Anatomy**

Academic curriculum 560001_23_1LDi.pli.xml
560001 KR General Medicine (for foreign student)

Qualification specialist

Mode of study intramural

Total credit value 5 credit

Course hours	180
including:	10
in-class learning	108
individual work	36
exams	36

Scope of testing in semesters:
exams 2
credits 1

Course hours scheduling (per semester)

semester (course> < semester on the	3 (2.3)		4 (2.4)		total	
weeks	18		18			
Type of training	AC	CO	AC	CO	AC	CO
Lectures	18	18	18	18	36	36
Practical session	36	36	36	36	72	72
Total class session						
Including interactive session	3	3	7	7	10	10
Individual work	18	18	18	18	36	36
Face to face learning	54	54	54	54	108	108
Control			36	36	36	36
Total	72	72	105	105	180	180

Рецензия
на рабочую программу дисциплины
«Топографическая анатомия и оперативная хирургия»
для студентов иностранцев

В ряду медицинских дисциплин топографической анатомии и оперативной хирургии принадлежит ведущая роль. Как нельзя научиться читать, не зная букв алфавита, так нельзя стать хорошо подготовленным специалистом – медиком, не имея необходимых сведений о строении человеческого тела, и не обладая основами оперативных вмешательств.

Топографическую анатомию и оперативную хирургию следует представить, как фундаментальную дисциплину, содержащую основные теоретические и практические сведения о строении организма, изучение которых поможет врачам самостоятельно и осознано решать профессиональные проблемы, связанные с клинической практикой.

Лекции по топографической анатомии и оперативной хирургии носят узловой, объективный характер, отражают новейшие достижения науки, в том числе результаты научных исследований сотрудников кафедры.

Практические занятия со студентами являются определяющими при изучении предмета. Основное внимание на практических занятиях уделяется организации самостоятельной работы студентов: изучению анатомических моделей, препарированию органов, возрастной и индивидуальной анатомии органов, сосудисто-нервных образований, используя для этих целей демонстративные и музейные препараты, отработки практических навыков. Изучение предмета завершается экзаменом в тестовой и устной форме.

Предусмотренное распределение часов позволяет в полном объеме изучить дисциплину «Топографическая анатомия и оперативная хирургия» применительно к клиническим условиям, что соответствует международному стандарту.

Зав. кафедрой гистологии,
эмбриологии и цитологии
КРСУ им. Б.Н. Ельцина
к.м.н., доцент Калугина О.П.

ОТДЕЛ КАДРОВ
ИНН 01512199310054

ПОДПИСЬ ЗАВЕРЯЮ
ОК ГОУВПО КРСУ
ИНН 01512199310054

Review

on course outline the discipline "Topographic anatomy and operative surgery" for foreign student

In a number of medical disciplines, the **Topographic anatomy and operative surgery** belongs the leading role. As you can not learn to read without knowing the letters of the alphabet, you can not become a good medical specialist without necessary information about structure of the human body.

The **Topographic anatomy and operative surgery** should be submitted as a fundamental discipline including the main theoretical information about structure of organism, learning which will help physicians independly and mentally decide professional problems that are concerned with clinical practice.

The lectures of **Topographic anatomy and operative surgery** have nodal, objective character, reflecting the latest achievement of science including the results of scientific research the department's co-workers. The practical classes with students are decisive in the subject study. Main attention at practical classes is given to the organization of independent work: training the anatomical models, dissection of organs, age and individual anatomy, vasculum-nervous formation, using for these purposes demonstration and museum specimens. Studying the subject is finished by passing the exam in test and viva.

Envisaged distribution of hours are allowed in complete volume studying the basics of **Topographic anatomy and operative surgery** in relation to clinical condition that complies with international standard.

Kyrgyz-Russian Slavic University
named after B.N. Yeltsin
Head of Department
of Histology, embryology, cytology
Ph.D, Associate Professor

Karugina O.P.

ОТДЕЛ КАДРОВ

ПОДПИСЬ ЗАВЕРЯЮ
ОК ГОУВПО КРСУ
ИНН 01512199310054

Рецензия

на рабочую программу дисциплины
«Топографическая анатомия и оперативная хирургия»
для студентов иностранцев

В учебном плане университетов с медицинским факультетом важное место занимает предмет «Топографическая анатомия и оперативная хирургия», который обеспечивает преемственность преподавания общетеоретических и клинических дисциплин.

Морфологическое и эволюционное рассмотрение фактических данных об особенностях организма человека в курсе топографической анатомии и оперативной хирургии имеет огромное значение для последующего изучения патологии, так как способствует пониманию закономерностей природы здорового и больного человека.

В процессе обучения топографической анатомии и оперативной хирургии рассматриваются индивидуальные, половые и возрастные особенности организма, включая основы пренатального развития (органогенез). В процессе преподавания топографической анатомии и оперативной хирургии человека у студентов воспитываются этические нормы поведения в анатомическом театре, уважительнее и бережное отношение к органам человеческого тела и трупу, которые студенты изучают во имя живого человека. Проводится отработка мануальных техник.

План лекций и практических занятий составлен четко и отражает основные этапы и методы изучения анатомии.

Считаю, что данная рабочая программа соответствует требованием государственного стандарта и позволяет в полном объеме изучить дисциплину «Топографическая анатомия и оперативная хирургия» применительно к клиническим условиям.

Зав. кафедрой нормальной и
топографической анатомии
КГМА им. И.К. Ахунбаева
к.м.н., доцент Абаева Т.С.

Общий отдел

Подпись Абаевой Т.С. заверяю
Зав. общим отделом

Review

on course outline the discipline "Topographic anatomy and operative surgery" for foreign student

In the curriculum of the universities with medical faculty an importin place is occupied by the **Topographic anatomy and operative surgery** which ensures the continuity of teaching common theoretical and clinical disciplines.

Morphological and evolutionary evidence review about specially of human organism in course of the Topographic anatomy and operative surgery is of great importance for subsequent study pathology because it promotes understanding the patterns of nature a healthy and sick man. In the learning process of the Topographic anatomy and operative surgery are considered the individual, sex and age properties of the organism including the basic of prenatal development.

In the process of teaching the Topographic anatomy and operative surgery the ethical standards of conduct are brought up by students in anatomical theater, respectful and careful for the human's organs and corpse that are studying in the name of a living person. The plane schedule of lectures and practical classes is written clearly and reflected the milestones and methods studying the Topographic anatomy and operative surgery.

In think that this course outline complies with the requirement of the state standard and allows fully studying the Topographic anatomy and operative surgery applied to clinical conditions.

I.K. Akhunbaev Kyrgyz state medical academy
Head of the Department of Normal and
Topographic Anatomy
Ph.D., Associate Professor Abaeva T.S.

Общий отдел

Подпись Абаевой Т.С. заверяю

зав. общим отделом

И.К. АХУНБАЕВ АТЫНДАГЫ КЫРГЫЗ МАМЛЕКЕТТИК МЕДИЦИНАЛЫК АКАДЕМИЯСЫ
КЫРГЫЗСКАЯ ГОСУДАРСТВЕННАЯ МЕДИЦИНСКАЯ АКАДЕМИЯ ИМ. И.К. АХУНБАЕВА

1. COURSE OUTLINE OBJECTIVES
1.1 The objectives of the development of topographic anatomy and operative surgery is the acquisition of each student specific topographic and anatomical knowledge necessary to justify the diagnosis, understanding of the pathogenesis of the disease, possible complications, mechanisms of development, compensatory processes, as well as the choice of the most rational methods of surgical treatment.
1.2 Unlike normal anatomy, topographical anatomy and operative surgery consider the layered structure of the human body in the areas in the totality of all formations, starting with the skin and ending with the deepest moments in their morphological and functional unity.
1.3 The need for such an approach to the study of the structure of the human body is dictated by at least two considerations. First, in the vast majority of cases, the pathological process often has a local (regional) nature, and in General clinical terms, when diagnosing, some symptom must be associated with the pathology of a particular organ or the formation of a certain area. Secondly, even the adjacent areas may differ significantly both in the number of layers and their characteristics, which often underlies the differences in the clinical course and manifestations of essentially the same pathological processes. that is why, emphasizing these differences, we divide the body parts into parts, areas and smaller fragments (triangles, thirds).
1.4 In a view of these two provisions, it becomes obvious the importance of knowledge of the topographical anatomy of the areas as the basis of correct diagnosis, the choice of a conservative method of treatment of a particular type of pathology, taking into account the peculiarities of its course, and surgical interventions from the position of rational (less traumatic) accesses and surgical techniques.
1.5 To achieve the goal, the following tasks are set:
1.6 Formation of students' knowledge of topographic anatomy of areas, organs and systems, paying special attention to the clinically important anatomical and functional features;
1.7 Formation of students' skills to use the obtained topographic and anatomical knowledge to justify the diagnosis, explain the peculiarities of the course of pathological processes, solving diagnostic and surgical problems;
1.8 Students mastering the basic surgical actions and some typical surgical techniques;
1.9 Education of students, guided by the traditional principles of humanism and mercy, respectful and careful attitude to the studied object - the human body organs, the corpse;
1.10 Inculcation of high moral standards of behavior in the section halls of the medical university.

2. PLACE OF THE COURSE IN THE EDUCATIONAL PROGRAM	
Educational Program Units:	
2.1	**Students' Preliminary Training Requirements:**
2.1.1	Chemistry
2.1.2	Physics, Mathematics
2.1.3	Biology
2.1.4	Anatomy
2.1.5	History of Medicine
2.1.6	Biochemistry
2.1.7	Life Safety
2.1.8	Immunology
2.1.9	Histology, Embryology, Cytology
2.1.10	Normal Physiology
2.1.11	Basics of Computer Science
2.1.12	Bioethics
2.1.13	Practicum on Physiology
2.1.14	Medical Law
2.1.15	Biology
2.1.16	Latin Language
2.1.17	Nursing
2.1.18	The care for patients of surgical profile
2.1.19	Personal information culture
2.1.20	The care of patients of therapeutic profile
2.2	**Course Units and Practical Sessions imposing the prior Proficiency**
2.2.1	Pathological anatomy
2.2.2	Oncology, radiation therapy
2.2.3	Anesthesiology, resuscitation, intensive care
2.2.4	Dentistry
2.2.5	Normal physiology
2.2.6	General surgery
2.2.7	Pathophysiology, clinical pathophysiology

2.2.8	Propedeutics of internal diseases
2.2.9	Faculty surgery
2.2.10	Urology
2.2.11	Pediatrics
2.2.12	Ophthalmology
2.2.13	Traumatology, orthopedics
2.2.14	Radiodiagnostics
2.2.15	Basics of emergency care
2.2.16	Assistant of procedural nurse
2.2.17	Obstetrics and gynecology
2.2.18	Neurology, medical genetics, neurosurgery
2.2.19	Physician assistant
2.2.20	Faculty therapy
2.2.21	Occupational disease
2.2.22	Hospital surgery
2.2.23	Hospital therapy
2.2.24	Infectious disease
2.2.25	Otorhinolaryngology
2.2.26	Assistant doctor APU
2.2.27	Pediatric surgery
2.2.28	Gerontology
2.2.29	Sectional course
2.2.30	Forensic medicine
2.2.31	Dermatovenerology
2.2.32	Sports medicine
2.2.33	Phthisiology
2.2.34	Standards of diagnosis and treatment
2.2.35	Medical rehabilitation

3. STUDENTS' COMPETENCIES RESULTING FROM THE COURCE UNIT (MODULE)	
ПК-4: readiness for use of medical devices, provided by the procedures of medical care.	
Know:	
Level 1	Main methods of medical devices and tools application
Level 2	Methods of hand washing. Methods of treatment of the surgical field. Technique of local anesthesia. To use general and special surgical instruments and suture material as a guide to the blockade of Vishnevsky.
Level 3	Subject and objectives of operative surgery. Types of operations: radical, palliative, diagnostic. The concept of one-stage and multi-stage operations, urgent (urgent, emergency) and planned operations. The concept of aseptic and antiseptic. Classification of surgical instruments. The concept of microsurgery. Modern diagnostic devices used in surgery.
Skills:	
Level 1	To justify the use of medical devices and tools
Level 2	To demonstrate the technique of knitting surgical units (marine and surgical). Apply, remove the skin seam. Suturing the muscles. Sutures on the subcutaneous tissue. Methods of administration of drugs. The technique of venipuncture and venesection.
Level 3	To cut the skin, fascia, muscle, etc.; to suture wounds on the skin, muscles, tendons; to expose vessels and nerves; to sew, bind blood vessels in the wound; to make cuts when opening ulcers (abscesses, phlegmons, lymphadenitis, panaritium, etc.); to perform a disarticulation of the phalanges of the fingers; perform venesection; to make a puncture and catheterization of Central venous (subclavian, internal jugular, femoral);
Expertise:	
Level 1	Skills of work with medical devices and tools on biological objects and models
Level 2	Skills of palpation on the person of the main bone landmarks, the definition of topographic contours of the organs
Level 3	Knowledge of topographic anatomy: to justify the diagnosis; to select a rational access; to determine the method of surgery; to prevent intraoperative errors and complications caused by age and topographic anatomical features of the region. use general and special surgical instruments, suture material; knowledge of surgical anatomy for rational choice

	approaches and surgical interventions; incisions of the skin, fascia, muscles, etc to take wounds on the skin, muscles, tendons;expose the vessels and nerves; to stitch, bandage in the wound blood vessels; incisions at the opening of abscesses (abscesses, phlegmons, lymphadenitis, panaritium etc.)

ПК- 15: Ready to analyze the patterns of functioning of individual organs and systems, use knowledge of anatomical and physiological features, basic methods of clinical and laboratory examination and assessment of the functional state of the body of an adult and children, for the timely diagnosis of diseases and pathological processes	
Know:	
Level 1	Anatomical and physiological, age-sexual and individual features of the structure and development of the human body; general principle of the layered structure of the human body;
Level 2	Topographic and anatomical justification of medical care
Level 3	topographical anatomy of specific areas; clinical anatomy of internal organs, cellular spaces, vascular and nervous formations, bones and large joints, abdominal wall weaknesses; collateral circulation in violation of the patency of the main blood vessels; areas of motor and sensitive innervation of large nerves; age-related features of the structure, shape and position of the organs; the most common malformations – the essence and principles of surgical correction;
Skills:	
Level 1	To highlight the practical importance of knowledge of topographic anatomy and operative surgery in the provision of medical care
Level 2	To use knowledge of topographic anatomy: to justify the diagnosis; to choose a rational access; to choose the method of surgery; to prevent intraoperative errors and complications caused by age and topographic and anatomical features of the area; to use general and some special surgical instruments.
Level 3	To prevent intraoperative errors and complications caused by age and topographic anatomical features of the area; use General and some special surgical instruments. perform surgical techniques and operations on biological materials, models and simulators.
Expertise:	
Level 1	Skills in determining the most important topographic and anatomical landmarks and practical skills in the provision of medical care. Skills palpation on the person of the main bone orientations, the definition of topographic contours of organs and major vascular and nerve trunks.
Level 2	Knowledge of topographic anatomy: to justify the diagnosis; to choose a rational access; to determine the method of surgery; to prevent intraoperative errors and complications caused by age and topographic and anatomical features of the area. Use general and special surgical instruments, suture material; knowledge of surgical anatomy for rational choice approaches and surgical interventions; incisions of the skin, fascia, muscles, etc; to take wounds on the skin, muscles, tendons; expose the vessels and nerves; to stitch, bandage in the wound blood vessels; incisions at the opening of abscesses (abscesses, phlegmons, lymphadenitis, panaritium, etc.) to perform a disarticulation of the phalanges of the fingers; perform venesection; to make a puncture and catheterization of Central venous (subclavian, internal jugular, femoral); to puncture large joints: shoulder, elbow, hip, knee, ankle; to make osteoperforation of large bones in osteomyelitis; to process bone, periosteum, muscles, vessels, nerves, skin during amputation of the limb; to do primary surgical treatment of wounds on the head, on the face; to make decompression trepanation of the skull;
Level 3	Use educational, scientific, popular science literature, the Internet for professional activities

Final Students' Competences

3.1	**Knowledge:**
3.1.1	anatomical and physiological, age-sexual and individual features of the structure and development of the human body;
3.1.2	the general principle of the layered structure of the human body;
3.1.3	topographic anatomy of specific areas;
3.1.4	clinical anatomy of the internal organs, cellular spaces and vascular-nervous structures, bones and large joints, weak places of the abdominal wall;
3.1.5	collateral blood circulation in violation of the patency of the main blood vessels;
3.1.6	area of motor and sensory nerve supply major nerves;
3.1.7	age peculiarities of structure, form and position of organs;
3.1.8	the most common malformations are their essence and principles of surgical correction;
3.1.9	surgical instruments;

3.1.10	indications, technique of performing simple emergency surgery:
3.1.11	primary surgical treatment of wounds;
3.1.12	cervical vagosympathetic blockade of A.V. Vishnevsky;
3.1.13	resection trepanation of skull;
3.1.14	tracheostomy;
3.1.15	cryotomy;
3.1.16	opening of the breast abscess;
3.1.17	to puncture of the pleural cavity;
3.1.18	to suture of the penetrating wound of the pleural cavity;
3.1.19	pericardiocentesis;
3.1.20	appendectomies;
3.1.21	laparotomy and suturing of the abdominal wall wound.
3.1.22	the essence of the operation, indications, the main stages of more complex emergency and planned surgery:
3.1.23	joint puncture;
3.1.24	principles of amputation and exarticulation;
3.1.25	bone plastic trepanation of the skull;
3.1.26	radical mastectomy;
3.1.27	to suture the wounds of the heart;
3.1.28	revision of the abdominal cavity;
3.1.29	to sututre the wounds of the stomach and intestines;
3.1.30	gastroentero-, and enteroenteroanastomosis;
3.1.31	to suture of wounds of parenchymal organs (liver, spleen, kidneys);
3.1.32	revision of the pelvic organs;
3.1.33	lumbar puncture;
3.1.34	to puncture of the bladder, cystotomy and high section of the bladder;
3.1.35	intrapelvical blockade by Shkolnikov - Selivanov;
3.1.36	cesarean section;
3.1.37	the operation for the hydrocele, when phimosis and paraphimosis;
3.1.38	to puncture of the posterior vaginal vault, episiotomy, perineotomy.
3.2	**Skills:**
3.2.1	to use educational, scientific, popular science literature, the Internet for professional activities;
3.2.2	to palpate the main bone reference points on the person, to outline the topographic contours of the organs and major vascular and nerve trunks.
3.2.3	to use the knowledge of topographic anatomy:
3.2.4	to substantiate the diagnosis;
3.2.5	for a choice of rational access;
3.2.6	to choose the method of surgery;
3.2.7	to prevent intraoperative errors and complications caused by age and topographic and anatomical features of the region;
3.2.8	to use general and some special surgical instruments.
3.3	**Expertise:**
3.3.1	skills of palpation on the main bony landmarks, the definition of the topographic contours
3.3.2	organs and major vascular and nerve trunks.
3.3.3	the knowledge of topographic anatomy:
3.3.4	to substantiate the diagnosis;
3.3.5	to choose the rational access;
3.3.6	to determine the method of surgery;
3.3.7	to prevent intraoperative errors and complications caused by age and topographic and anatomical features of the region.
3.3.8	to use general and special surgical instruments, suture material;
3.3.9	to use knowledge of surgical anatomy to select rational approaches and surgical interventions;

3.3.10	to produce cuts of skin, fascia, muscle, etc.
3.3.11	to suture wounds on skin, muscles, tendons;
3.3.12	to expose the vessels and nerves.;
3.3.13	to perform incisions at the opening of abscesses (abscesses, phlegmons, lymphadenitis, panaritium etc.)
3.3.14	to perform exarticulation of the phalanges of the fingers;
3.3.15	to perform venesection;
3.3.16	to do puncture and catheterization of the main veins (subclavian, internal, jugular, femoral);
3.3.17	to puncture large joints: shoulder, elbow, hip, knee, ankle;
3.3.18	to make the osteoperforation of a major bone in osteomyelitis;
3.3.19	to process bone, periosteum, muscles, vessels, nerves, skin with amputation of the limb;
3.3.20	to do primary surgical treatment of wounds on the head, on the face;
3.3.21	to make decompression trepanation of the skull;
3.3.22	to do vagosympathetic novocaine blockade of Vishnevsky;
3.3.23	to do a spinal tap;
3.3.24	to perform a lower tracheotomy;
3.3.25	to perform a cryotomy;
3.3.26	to the right incisions are made at the autopsy purulent mastitis in adults and in children;
3.3.27	to do a puncture of the pleural cavity;
3.3.28	to do thoracocentesis and drain the pleural cavity;
3.3.29	to suture the wound to the chest;
3.3.30	to do intercostals novocaine blockade;
3.3.31	to puncture the pericardial cavity at Larrey;
3.3.32	to suture the heart for injuries;
3.3.33	to produce laparotomy: median, right and left hypochondrium;
3.3.34	to make laparocentesis for laparoscopic manipulation;
3.3.35	to perform the operation of herniation in inguinal hernias;
3.3.36	to perform the operation of herniation in umbilical hernias;
3.3.37	to suture wounds on the stomach, small and large intestine;
3.3.38	to impose unnatural anus;
3.3.39	to do appendectomy surgery;
3.3.40	to suture the perforating stomach ulcer;
3.3.41	to make a gastrostomy for Witzel, Toprover;
3.3.42	to perform the resection of the stomach Billroth I;
3.3.43	to suture the wound on the liver with injuries;
3.3.44	to perform cholecystectomy according to the classical method ("from the bottom" and " from the neck»);
3.3.45	to perform splenectomy;
3.3.46	to suture the wound on the spleen with injuries;
3.3.47	to be able to produce paranephral novocaine blockade;
3.3.48	to suture the wound on the kidney with injuries;
3.3.49	to drain the retroperitoneum;
3.3.50	to impose cystostomy;
3.3.51	to do the operation of Ross and Bergman with dropsy testicle;
3.3.52	to do the surgery, circumcision when phimosis;
3.3.53	to do the operation of bringing down the testicle with cryptorchidism.

4. COURSE (MODULE) STRUCTURE AND CONTENT

Lesson code	Subject Name /Type of Class/	Literature	Hours	Competences	Semester, Course	Interact.	Note
Section 1. Topographic anatomy and operative surgery. Topographic anatomy and operative surgery of the upper and lower extremities							
1.1	1. Subject and objectives, methods of study of surgery and topographic anatomy. The doctrine of surgical operations. /Lec/	L1.1 L2.1 L2.2	2	ПК-4 ПК-15	3	0	
1.2	2. Basics of surgical interventions on blood vessels. /Lec/	L1.1 L2.1 L2.2	2	ПК-4 ПК-15	3	0	
1.3	3. Fundamentals of operative interventions on lymphatic vessels /Lec/	L1.1 L2.1 L2.2	2	ПК-4 ПК-15	3	0	

1.4	4. Nerve and tendon surgery /Lec/	L1.1 L2.1 L2.2	2	ПК-4 ПК-15	3	0	
1.5	5. Basics of surgical interventions on bones. Amputations /Lec/	L1.1 L2.1 L2.2	2	ПК-4 ПК-15	3	0	
1.6	1. Methods of study of topographic anatomy. General surgical technique, surgical instruments. Separation and connection of tissues, local anesthesia, stop bleeding. /Pr/	L1.1 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
1.7	2. Topographical anatomy of the areas of the upper arm, surgical anatomy of the shoulder joint, incisions in phlegmon /Pr/	L1.1 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	1	Work with the “Pirogov” interactive table
1.8	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.1 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
1.9	3. Topography of the shoulder and elbow area, shoulder dressing arteries, puncture and arthrotomy of the elbow joint, principles of extra-and intramedullary osteosynthesis /Pr/	L1.1 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
1.10	4. Topographic anatomy of the regions of the forearm, the incision at suppurative processes /Pr/	L1.1 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
1.11	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.1 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
1.12	5. Topographic anatomy of the hand, incisions in suppuration processes, puncture of the wrist joint, tendon surgery /Pr/	L1.2 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
1.13	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.2 L1.4 L2.1 L2.2 L3.1	4	ПК-4 ПК-15	3	0	
1.14	6. Intermediate control of knowledge (2-stage). /Pr/	L1.1 L2.1 L3.2	2	ПК-4 ПК-15	3	0	
1.15	7. Topographic anatomy of the anterior femur, surgical anatomy of the hip joint, ligation of the femoral artery /Pr/	L1.2 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
1.16	8. Topographical anatomy of the posterior and gluteal region surface of the femur, surgical anatomy of the knee joint, cuts at phlegmons /Pr/	L1.2 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	1	Work with the “Pirogov” interactive table
1.17	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.2 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	

1.18	9. Topographical anatomy of the shin, incisions in phlegmon /Pr/	L1.2 L1.4 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
1.19	10.Topographic anatomy of the shin and foot, surgical anatomy of the ankle, incisions in phlegmon /Pr/	L1.2 L1.4 L2.1 L2.2 L3.2	2	ПК-4 ПК-15	3	0	
1.20	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.1 L1.2 L2.1 L2.2 L3.1	4	ПК-4 ПК-15	3	0	
1.21	11. General principles of amputations and exarticulations on the upper and lower extremities, vascular surgery /Pr/	L1.3 L2.1 L2.2 L3.2	2	ПК-4 ПК-15	3	0	
1.22	12. Intermediate control of knowledge (2-stage). /Pr/	L1.3 L1.4 L2.1 L2.2 L3.2	2	ПК-4 ПК-15	3	0	
Section 2. Topographic anatomy and operative surgery of head and neck areas							
2.1	6. Basics of surgical interventions on the brain department of the head. /Lec/	L1.1 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.2	7. Basics of surgical interventions on the facial part of the head. /Lec/	L1.1 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.3	8. Topographic anatomy of the neck area. /Lec/	L1.1 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.4	9. Basics of surgical interventions in area of neck. /Lec/	L1.1 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.5	13. Operative surgery and topographic anatomy of the brain Department of the head. Boundaries, external landmarks, departments, lymphatic vessels and nodes. Individual and age differences. Craniocerebral topography. Frontal-parietal occipital, temporal, mastoid area. The outer and inner base of the skull. /Pr/	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.6	14. Topographic anatomy and operative surgery of the facial section of the head. Front face area: eye socket, nose, mouth with chin area /Pr/	L1.1 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.7	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.8	15. Topographic anatomy and operative surgery of the facial section of the head. The lateral area of the face: cheek, parotid-chewing, deep. Cuts on the face /Pr/	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	1	Case tasks "Topographic anatomy of the head"
2.9	16. Operative surgery and topographic anatomy of the neck. External reference points. Borders, division into areas. Most important projections formations on the skin. Triangles of the neck. Reflexogenic zones of the neck. Fascia of the neck. Cellular spaces, their connection with	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	

	neighboring areas. Vascular-nervous formations. Superficial and deep lymph nodes. Thoracic lymphatic duct and its confluence into the venous angle on the left. /Pr/						
2.10	17. Operative surgery of the neck area. Surgical anatomy of incisions in the purulent processes of the neck. The technique of tracheostomy, vagosympathetic blockade. Ligation of the common and external carotid arteries. Dressing and catheterization of the thoracic lymphatic duct. /Pr/	L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.11	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.12	18. Intermediate control of knowledge (2-stage). /Pr/	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	3	0	
2.13	/Offset/	L1.1 L1.2	1	ПК-4 ПК-15	3	0	
Section 3. Topographic anatomy and operational surgery of the chest							
3.1	10. Surgery on the chest /Lec/	L1.1 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
3.2	11.Basics of operative interventions on the organs of the mediastinum /Lec/	L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
3.3	19. Topographic anatomy and operative surgery of the chest and chest cavity. The topography of the lung and pleura. Operations on the chest and breast /Pr/	L1.1 L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
3.4	20. Topographic anatomy of the anterior mediastinum, operations on the lung and pleura /Pr/	L1.1 L1.2 L1.3 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
3.5	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.1 L1.2 L2.1 L2.2 L3.3	3	ПК-4 ПК-15	4	0	
3.6	21. Topographic anatomy of the posterior mediastinum. Operations on the organs of the posterior mediastinum. /Pr/	L1.1 L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
3.7	22. Heart surgery, large blood vessels. /Pr/	L1.1 L1.2 L1.3 L2.1 L2.2 L3.3	3	ПК-4 ПК-15	4	0	
3.8	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.1 L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
3.9	23. Intermediate control of knowledge (2-stage). /Pr/	L1.1 L2.1 L2.2 L3.3	3	ПК-4 ПК-15	4	0	
Section 4. Topographic anatomy and operative surgery of the abdomen							
4.1	12. Abdominal hernia /Lec/	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	0	
4.2	13. Basics of surgical interventions on the upper floor of the abdominal cavity. Gastrostomy. Gastric resection. /Lec/	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	0	
4.3	14.Basics of surgical interventions on the upper floor of the abdominal	L1.1 L1.2 L1.3 L2.1	2	ПК-4 ПК-15	4	0	

	cavity. Surgery on the liver, spleen. /Lec/	L2.2 L3.1					
4.4	15. Basics of surgical interventions on the lower floor of the abdominal cavity. Intestinal sutures, anastomoses. /Lec/	L1.1 L1.2 L1.3 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	0	
4.5	24. The topography of the anterolateral wall of the abdomen. Abdominal hernia. /Pr/	L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	0	
4.6	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	0	
4.7	25. The concept of "stomach", "abdominal cavity", "abdominal cavity". Topography of the upper floor of the abdominal cavity: hepatic, ventricular and omental bags, ligaments. Stroke of the peritoneum and its properties. /Pr/	L1.1 L1.2 L1.3 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	3	Work with the “Pirogov” interactive table
4.8	26. Topography of the upper floor of the abdominal cavity: liver, bile bladder, biliary tract, stomach, duodenum, spleen, pancreas /Pr/	L1.1 L1.2 L1.3 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	0	
4.9	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L2.1 L2.2 L3.1	4	ПК-4 ПК-15	4	0	
4.10	27.Surgery on the upper floor of the abdominal cavity /Pr/	L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	0	
4.11	28. Topographic anatomy of the lower floor of the abdomen /Pr/	L3.3	2	ПК-4 ПК-15	4	0	
4.12	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	2	
4.13	29. Surgery on the lower floor of the abdominal cavity /Pr/	L1.1 L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
4.14	30. Intermediate control of knowledge (2-stage) /Pr/	L1.1 L1.2 L2.1 L2.2 L3.1	2	ПК-4 ПК-15	4	0	
Section 5. Topographic anatomy and operative surgery of the lumbar region, retroperitoneal space and spine, pelvis and perineum							
5.1	16. Basics of surgical interventions in the retroperitoneal space. /Lec/	L1.3 L2.1	2	ПК-4 ПК-15	4	0	
5.2	17. Basics of spinal surgery /Lec/	L1.1 L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
5.3	18. Basics of surgical interventions in the pelvis and perineum /Lec/	L1.1 L1.2 L2.1 L3.3	2	ПК-4 ПК-15	4	0	
5.4	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.1 L2.1 L2.2 L3.3	4	ПК-4 ПК-15	4	0	
5.5	31. Topographic anatomy of the lumbar region, retroperitoneal space. Surgical interventions on the organs of the retroperitoneal space. /Pr/	L1.1 L1.2 L1.3 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
5.6	32. Topographic anatomy of the spine. Surgical interventions on the spine /Pr/	L1.1 L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
5.7	33. Topographic anatomy of the	L1.1 L1.2	2	ПК-4	4	0	

	pelvis. Operations on the pelvic organs. /Pr/	L2.1 L2.2 L3.3		ПК-15			
5.8	Work on the cadaver material of the department, as well as at home with textbooks and manuals. /Iw/	L1.2 L2.1 L2.2 L3.3	4	ПК-4 ПК-15	4	0	
5.9	34. Topographic anatomy of the perineum. Perineal surgery /Pr/	L1.1 L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	2	Work with the “Pirogo v” interacti ve tavle
5.10	35. Intermediate control of knowledge (2-stage). /Pr/	L1.1 L1.2 L2.1 L2.2 L3.3	2	ПК-4 ПК-15	4	0	
5.11	Passing tests /Pr/	L1.1 L2.1 L3.3	2	ОК-1	4	0	
5.12	/Exam/	5	36	0			

5. ASSESSMENT FUND

5.1. Advancement Questions and Assignments

Demo questions to check the level of training
KNOW:

Topic: "the Discipline of topographical anatomy and operative surgery. Topographic anatomy and operative surgery of the upper and lower extremities".

1. The subject and tasks of topographical anatomy. Projection and landmark anatomy.
2. Subject and objectives of operative surgery. Types of operations: radical, palliative, diagnostic.
3. The concept of one-stage and multi-stage operations, urgent (urgent, emergency) and planned operations.
4. The concept of aseptic and antiseptic.
5. Classification of surgical instruments.
6. The concept of microsurgery. Modern diagnostic devices used in surgery.
7. Methods of processing hands and operating field.
8. Methods of anesthesia.
9. Technique of local anesthesia.
10. The basic principles of separation of tissues.
11. The main principles of connection of tissues.
12. Types of surgical units, suture material, methods of suturing, indications for use.
13. The main methods of temporary and final stop of bleeding.
14. Principles of primary surgical treatment of soft tissue wounds.
15. Indications for use of primary, primary-delayed and secondary sutures.
16. Methods of administration of drugs and technique.
17. Types of skin plastics.
18.Topographical anatomy of deltoid region, border, layer-by-layer structure.
19. Subdeltoideal cellular space and its relationship with other areas.
20. Topography of the vessels and nerves surrounding the surgical neck of the humerus.
21. Topographic anatomy of the scapular region, musculoskeletal landmarks, bone and fibrous bed and its contents.
22. The main neurovascular bundles of the scapula.
23. Blade anastomotic circle and its role in the development of collateral circulation during ligation of the axillary artery.
24. Ways of spreading pus from the scapula.
25.The shoulder joint, the shape, the possible range of motion.
26. Ligaments, muscles surrounding the shoulder joint. Why are "usual" dislocations possible in the shoulder joint?
27. Projection of the joint gap, the boundaries of the joint capsule attachment, its weaknesses.
28. Topographic anatomy of the subclavian region: boundaries, external landmarks, layered structure.
29. Superficial and deep cellular spaces of subpectorally space.
30. Topographic anatomy of the armpit: external landmarks, boundaries, layered structure.
31. Axillary artery topography and its relationship with the components of the neurovascular bundle.
32. The nature of the structure of fiber and flow characteristics of phlegmon of the axillary cavity. Five groups of lymph nodes.
33. The technique of ligation of the axillary artery.
34. Operational access for the puncture and arthrotomy of the shoulder joint.
35. External reference points and boundaries of shoulder area, division.
36. Topography of cross-section cuts of the shoulder at the level of the upper, middle and lower third (draw the diagrams).
37. The main neurovascular bundle of the anterior shoulder area.
38. Neurovascular bundle of the posterior shoulder area.

39. External reference points for access to the radial nerve in the middle third of the shoulder.
40. External landmarks and boundaries of the elbow area.
41. Topographic anatomy of the elbow area. Neurovascular bundles.
42. The ulnar joint and the weak points of his capsule.
43. Draw a diagram of blood supply to the elbow area.
44. Technique of ligation of the brachial artery on the shoulder and in the elbow fossa.
45. The principles of extra - and intramedullary osteosynthesis in fractures of the humerus.
46. The technique of puncture of the elbow joint.
47. The position of the bones in dislocations in the elbow joint.
48. Operative access to the elbow joint.
49. The technique of puncture of the superficial veins in the cubital fossa.
50. Topographic anatomy of the forearm. External landmarks, boundaries, division.
51. The anterior fascial bed of the muscle layers.
52. Projection lines of the median nerve, radial and ulnar artery (draw the diagrams).
53. Topography of neurovascular formations in the upper, middle and lower thirds of the forearm (draw diagrams cross cuts).
54. Pirogov-Paron cellular space and its relation to cellular spaces of the hand and elbow area.
55. Posterior and lateral fascial bed, muscle groups, neurovascular formations.
56. The position of the fragments in fractures of the forearm at different levels.
57. Topographic anatomy of the wrist and wrist area, external reference points, borders.
58. Topographic anatomy of the palmar surface of the hand, innervation of the skin of the hand and fingers, structural features of skin and subcutaneous tissue.
59. Projection of superficial and deep arterial palmar arches, branches of the median nerve.
60. Topographical anatomy of the carpal, radial and ulnar channels of the wrist.
61. Aponeurosis and fascial bed of the palm, cellular spaces of the palm.
62. The topography of synovial and bone-fibrous sheaths of the flexor tendons of the fingers, their structure and significance in the spread of the inflammatory processes on the hands.
63. Topographic anatomy of the wrist joint, projection of the articular slit, joint capsule, its weaknesses, blood supply and innervation.
64. Technique of puncture of the wrist joint.
65. Topographical anatomy of the back surface of the brush, skin innervation zone, layers.
66. Bone-fibrous channels, vascular-nerve formation of the back surface of the hand.
67. Projection of articular cracks of the metacarpophalangeal, interphalangeal joints, their ligamentous apparatus.
68. Incisions in purulent inflammation of the hand, fingers (draw the diagrams).
69. Surgery for tendon damage.
70. Topographic anatomy of the anterior femur, external landmarks, boundaries.
71. Projection of femoral artery, femoral nerve, subcutaneous femoral canal ring (oval fossa).
72. Topography of the femoral canal, the walls, the inner and outer ring, the content.
73. Femoral triangle, layers, iliopectineal fossa.
74. Topography of neurovascular formations in the scarp triangle, lymph nodes.
75. Topography of the obturator canal, obturator neurovascular bundle, obturator hernias.
76. The topography of the adductor (Goncharov) channel, borders, the holes, the line of Ken.
77. The hip joint, the projection of the joint space.
78. The hip joint, its joint capsule and the apparatus strengthening it, the weak points of the joint capsule, blood supply and innervation.
79. Position of the femoral head at dislocations.
80. The position of the fragments in fractures of the femoral neck.
81. The technique of puncture of the hip joint.
82. Topographical anatomy of the gluteal region. External landmarks, borders. The layers, fascies, cellular spaces, the neurovascular formations of the gluteal region.
83. The connection of the gluteal cellular spaces with the spaces of the pelvis and thigh.
84. Topographic anatomy of the posterior femur, layers, fascial bed.
85. Vascular-nervous formations, the projection of the sciatic nerve.
86. The position of the fragments in the fracture of the femur at different levels.
87. Incisions in the phlegmon of the gluteal region and the back of the thigh (draw the diagrams).
88. Topographic anatomy of the knee, external landmarks, boundaries.
89. Topographic anatomy of the anterior knee area, layers, neurovascular formations, synovial bags.
90. Topographic anatomy of the posterior knee area. Topography of the popliteal fossa. Projection of vessels and nerves.
91. Technique of ligation of the popliteal artery.
92. Knee joint, strengthening the device. Joint capsule, its weaknesses, synovial inversions and their role in the spread of purulent numb with arthritis.
93. Technique of the puncture of the knee joint.
94. Topographical anatomy of the tibia, external landmarks, boundaries, division. Front and side fascial bed shins, layers.
95. Topography of neurovascular formations in the upper, middle and lower third of the shin (draw the diagrams).
96. Fascial bed of the posterior region of the tibia, muscle layers.
97. Shin-popliteal channel content.

98. Connection of the shin cellular spaces with the cellular spaces of the popliteal fossa and foot.
99. The position of fragments in fractures of the shin bones at different levels.
100. Incisions in purulent inflammation of the lower leg.
101. Topographic anatomy of the ankle. External landmarks, borders.
102. Topography of tendons, synovial sheaths and neurovascular bundle of the medial ankle area, ankle canal.
103. The area of the lateral malleolus, the layers, topography of the tendons and vascular lesions.
104. Bone-fibrous channels of the anterior area of the ankle joint.
105. Posterior region (Achilles tendon area), layers, synovial bags, vessels and nerves.
106. Capsule and strengthening apparatus of the ankle, blood supply, innervation. Technique of the puncture of the ankle joint.
107. Topographical anatomy of the back of the foot. The projection of the transverse tarsal joint (Shopar) and predplacene-metatarsal joint (Lisfranc), zones of cutaneous innervation.
108. The arch of the foot and the apparatus that strengthens it. Topography of vascular-nervous bundles, cellular spaces.
109. Topographic anatomy of the area of the sole, layers, fascial bed. Cuts in purulent inflammation of the foot.
110. The concept of amputation and exarticulation.
111. Classification of amputations.
112. Basic principles (stages) of amputation.
113. Methods of hiding the amputation stump (fascio-, myo-, bone-plastic).
114. A vicious stump and principles its education.
115. The rules of truncation of fingers, amputation and exarticulation in the interphalangeal and metacarpophalangeal joints.
116. Osteoplastic amputation of the thigh according to Gritti-Szymanowski, Albrecht, Sabaneev, Pirogov (draw the diagrams).
117. The technique of calculating all the toes by Harangue and amputation of foot by Sharpe.
118. Vascular sutures, the technique of venesection.

Topic: "Topographic anatomy and surgery of the head and neck."
1. Topographic anatomy of the brain, boundaries, external landmarks.
2. Topographic anatomy of the frontal-parietal-occipital area.
3. Topographic anatomy of the temporal region.
4. Topographic anatomy of the mastoid area.
5. Features of blood supply to the soft tissues of the cranial vault.
6. Topography of the main nerve trunks of the brain department of the head.
7. The inner surface of the skull base.
8. The shells of the brain, the periapical space, venous sinuses.
9. The localization of hematomas with accounting layer-by-layer topography of cerebral department of head.
10. Connections of extracranial and intracranial veins and their practical value.
11. Tools used in operations on the skull.
12. Primary surgical treatment of wounds of the brain department of the head.
13. Features of treatment of scalped wounds.
14. The method of trepidatio. Draw a Cranlane-Brusova diagram.
15. Osteoplastic and decompressive craniotomy.
16. Topographic anatomy of the facial head, borders, external landmarks.
17. Topographic anatomy of the eye socket area.
18. Topographic anatomy of the nose.
19. Topographic anatomy of the mouth area with chin area.
20. Topography of the trigeminal nerve, the place of exit to the face.
21. Topographic anatomy of the cheek area of the face.
22. Topographic anatomy of the parotid chewing area of the face
23. Topographic anatomy of the deep area of the face.
24. Topography of the facial nerve.
25. Features of the venous drainage of the face.
26. Primary surgical treatment of facial wounds.
27. Incisions in the phlegmon of the face.
28. Topographic and anatomical background for the adverse course of inflammatory processes in the parotid saliva.
29. Topographic anatomy of the neck area. Boundaries, external landmarks, the division in the region.
30. Triangles of the neck.
31. Fascia of the neck.
32. The inner triangle of the neck. The suprahyoid area. The boudaries. The chin triangle: layers, vessels, nerves. Submandibular triangle. Bed and capsule of the submandibular gland. Neurovascular formation and lymph nodes. N.I.Pirogov triangle.
33. The carotid triangle, the boundaries. Common carotid artery, its bifurcation. External and internal carotid arteries. Sinocarotid area. The relationship of the elements of the main neurovascular bundle of the neck. The topography of the hypoglossal, vagus, superior laryngeal nerve, sympathetic trunk.
34. Sternocleidomastoid region. The boundaries. Projection on the skin of the common carotid artery. Topography of the common carotid artery, vagus nerve, internal and external jugular veins.
35 Scaleno-vertebral triangle: borders, layers. Topography of the subclavian artery and its branches, the star node of

the sympathetic trunk. Prescalenus interval: subclavian vein, venous angle, thoracic lymphatic duct, phrenic nerve.
36. Topography of the areas of the lateral triangle. Muscle gaps. The topography of the subclavian artery and vein, the brachial plexus, branches of the cervical plexus.
37. Cellular space of the neck.
38. Topography of the neck.
39. Features of primary surgical treatment of wounds of the neck. Surgical approaches (longitudinal, transverse, oblique, combined) to the neck organs.
40. Surgical anatomy with surface and deep phlegmons of the neck.
41. Esophagotomy.
42. Tracheostomy. Types, indications, technique.
43. Cryotome (Cryo-thyroidotomy, conicotomy). Types, indications, technique.
44. Technique of the vagosympathetic blockade.
45. Ligation of the common and external carotid arteries. Glomectomy.
46. Subtotal subfascial resection of the thyroid gland.
47. Ligation and catheterization of the thoracic lymphatic duct.

Topic: "Topographic anatomy and surgery of the breast area."
1. The border of the thorax, the division of region, vertical line indicative, constitutional peculiarities forms.
2. Topography of the chest wall, layers, large surface muscles of the back surface of the chest, blood supply, innervation.
3. The topography of the breast, blood supply lymphatic.
4. The structure of the intercostal spaces, their contents, and peculiarities of topography.
5. Topography of diaphragm, the legs of the diaphragm, rib, lumbar, thoracic part. Innervation, blood supply, holes and formations passing through them.
6. Mastitis, types, operations in mastitis.
7. Rib resection.
8. Sectoral resection of the breast.
9. Radical mastectomy.
10. The concept of "chest cavity".
11. The topography of the pleura, it slips. Sinuses, borders of a pleura, their value.
12. Topography of the lung: its division into shares, zones, segments.
13. Innervation, blood supply to the pleura and lung. Lymph drainage.
14. Syntopia of the constituent elements of the root of the lung right and left.
15. Puncture of the pleural cavity, indications, technique.
16. Thoracoplasty their types, indications, technique.
17. The concept of the mediastinum and its divisions.
18. Topography of organs of anterior mediastinum.
19. Topography of the pericardium: sellotape, syntopia, blood supply, sinuses, their practical value.
20. Topography of the heart: sellotape, syntopia, blood supply, innervation.
21. Topography of large blood vessels of the anterior mediastinum: pulmonary trunk, ascending part and aortic arch, superior cava vein.
22. Circulation.
23. The topography of the trachea and its bifurcation.
24. Topography of the thymus gland.
25. Operative accesses to the lungs: anterolateral, posterolateral, lateral.
26. Pneumothorax, types, surgery.
27. Surgical treatment of abscess and lung echinococcus.
28. Pneumonectomy: indications, technique.
29. Lobectomy, segmentectomy and subsegmentectomy: indications, technique.
30. Features of the technique of suturing the wound of the lung.
31. An overview of the topography of the organs of the posterior mediastinum.
32. Topography of the esophagus.
33. The topography of the vagus nerve.
34. Topography of the descending aorta.
35. Topography of the sympathetic trunk.
36. Topography of the chest lymphatic duct.
37. Topography of unpaired and semi-paired veins.
38. Puncture of the pericardium by Larrey..
39. Rapid access to the heart and large blood vessels.
40. Congenital and acquired heart and vascular defects. Classification.
41. Heart-lung machine (HLM). Principle of operation.
42. Suturing the wounds of the heart.
43. Mitral commissurotomy.
44. Prosthetics of heart valves.
45. Surgery for cleft arterial duct.
46. Radical and palliative surgery for the tetralogy of Fallot.
47. Surgery for defects of the interventricular and atrial septum of the heart.
48. Surgery for congenital and acquired defects of the aorta and the pulmonary trunk.

49. Surgery for the tracheoesophageal fistula.
50. Operations to create an artificial esophagus.

Topic: "Topographic anatomy and surgical surgery of the abdomen."
1. The concept of "stomach", "abdominal cavity", "abdominal cavity" and "retroperitoneal space".
2. The boundaries of the anterior-lateral abdominal wall and the division into areas.
3. Layer-by-layer topography of Antero-lateral abdominal wall.
4. The structure of the sheath of rectus abdominis muscle at 3 different levels.
5. "Weaknesses" of the anterior-lateral abdominal wall, their clinical significance.
6. Topography of the umbilical region and the umbilical ring; structure of the white line of the abdomen.
7. Topography of folds and pits on the inner surface of the anterior abdominal wall.
8. Topographic-anatomic characteristics of the groin (inguinal triangle and inguinal gap).
9. Topography of the inguinal canal and its contents in men and women (on sagittal section by P. A.Kupriyanov).
10. Topography of the femoral canal, vascular lacuna.
11. The stroke of the peritoneum and its leaves. Properties of the peritoneum.
12. The dividing of abdominal cavity on floors.
13. Classification of incisions on the anterior-lateral wall of the abdomen, their topographic and anatomical justification, advantages and disadvantages.
14. Cava-caval and porto-caval anastomoses on the anterior wall of the abdomen, their practical significance.
15. The concept of a hernia, of its component parts. Classification of hernias of the anterior-lateral abdominal wall.
16. General rules for herniotomy. The main stages of the operation, anesthesia.
17. Surgical anatomy of oblique and direct inguinal hernias.
18. Plastic of the anterior wall of the inguinal canal with oblique inguinal hernias by Cherny, Opel, Ru, Martynov, Girard, Spasokukotsky, Kimbarovsky. Advantages and disadvantages of these methods. Errors, dangers and complications in the surgical treatment of inguinal hernias.
19. Plastic of the back wall of the inguinal canal with direct inguinal hernias by Bassini, Kukudzhanov, Postdempsky. Advantages and disadvantages of these methods.
20. Features of operations in congenital inguinal hernia.
21. Surgical treatment of hernias of the white line of the abdomen and umbilical hernia by Lexer, Mayo, Sapezhko, Napalkov, Tikhomirova.
22. Peculiarities of surgical treatment of sliding and strangulated hernias.
23. The technique of surgical interventions for femoral hernias, femoral and inguinal methods.
24. Topography of the upper floor of the abdomen (bags, pockets, cracks) and their practical significance.
25. Border and practical value precludes bags. The role of the bag in the development of limited inflammatory processes.
26. Topography of the omental bag, its borders, communication with the abdominal cavity. Practical value, surgical ways of entering the omental bag. Omental (Winslowe) hole. Boundaries and practical value.
27. Topography of the stomach: sellotape, syntopia and holotape. Stomach, blood supply, innervation, lymph flow.
28. Topography of duodenum 12: sellotape, syntopia and holotape. Features of blood supply of the duodenum. Departments of the 12-the duodenum, the attitude to the peritoneum. Innervation and lymph flow.
29. Topography of the pancreas: sellotape, syntopia and holotape. Blood supply to the pancreas, innervation, lymph flow.
30. Topography of the spleen, ligamentous apparatus, its gates. Blood supply, innervation and lymph flow.
31. Topography of the abdominal esophagus.
32. Splenectomy, indications, operative approaches, operative techniques (Shevkunenko, Voyno-Yasenetsky).
33. Operations on the pancreas, types, indications, operational accesses.
34. Topography of liver, sellotape, syntopia and holotape. Blood supply, innervation, lymph flow.
35. Ligament of the liver, the contents of the hepatoduodenal ligament.
36. Surgical anatomy of the gallbladder and biliary tract. Sellotape, syntopia and holotape.
37. The triangle of Callot and its practical value.
38. Features of the blood supply to the gallbladder and bile ducts.
39. Borders and walls of the hepatic bag, connection with the lower floor of the abdominal cavity.
40. Surgical interventions on the liver: types, indications, operative accesses. Hemostatic suture by Kuznetsovsky, Oppel.
41. Operation of atypical liver resection (marginal, wedge-shaped). Technique .
42. Cholecystectomy, indications, options, technique.
43. Surgical approaches for opening sub-frontal abscesses.
44. The general principles of imposing of an intestinal sutures. Theoretical basis and technique of intestinal sutures: sero-serous suture by Lamber, Albert, Schmiden, Pirogov-Cherny suture. Mechanical suture.45. Gastrotomy, indications, technique.
46. Gastrostomy, classification and operational approaches. The indications and technique of gastrostomy on Vitzel, Shtamm-Kader, Toprover, Depagee-Janeway. Differences and similarities.
47. Operation of the formation of gastrointestinal anastomosis. Classification, indications, operative approaches, complications.
48. Front forward-facing gastroenterostomy, rear retrocolic gastroenterostomy. Formation of the anastomosis by Brown. Indications, technique.
49. Gastric resection: indications, surgical approaches, stages of surgery, complications.
50. Technique of resection of the stomach by Billroth 1 and Billroth 2 in the modification of the

Gophmeister-Finsterer.
51. Resection of the stomach by Haberer, Rachill-Polia. Principles of implementation.
52. Topography of the lower floor of the abdomen (sinuses, lateral canals), their practical significance.
53. The topography of jejunum and iliac, their differences.
54. Features of blood supply, innervation and lymph flow of the small intestine.
55. Topography of the large intestine and its departments. Features of covering the large intestine with the peritoneum.
56. Features of blood supply, innervation and lymph flow of various parts of the colon.
57. The topography of the cecum, ileocecal angle and the vermiform appendix. Options for the location of the vermiform appendix and its practical value.
58. Topographic and anatomical distinction of small and large intestine and its practical value.
59. Revision of the abdominal organs in injuries and traumas. Features of audit at the top and middle laparotomies.
60. Primary surgical treatment of wounds of the small, large intestine. Technique of suturing wounds of the small and large intestine.
61. Surgical treatment of acute small bowel obstruction, congenital narrowing, atresia.
62. Technique of resection of the small intestine (stages of operation – draw the diagram).
63. Technique of inter-intestinal anastomoses "end to end", "side to side", "end to side".
64. Indications for appendectomy. The approaches for appendectomy. Stages of removal of the vermiform appendix. Ways of mobilization of the vermiform appendix. Methods and suture material used in the processing of the vermiform appendix.
65. The technique of removing the vermiform appendix in retrocecal and retroperitoneal arrangement.
66. Removal of the Meckel diverticulum.
67. Features of colon resection. Technique of resection of half of the colon.
68. Technique and moments of removal of the sigmoid colon.
69. The technique of formation of a fecal fistula.
70. The technique of formation of an unnatural anus.
71. Operations for treatment of megacolon and Hirschsprung's disease.

Topic: "Topographic anatomy and operative surgery of the lumbar region, retroperitoneal space and spine, pelvis and perineum."
1. The concept of "lumbar" and the division of the lumbar region.
2. Topography of the medial and lateral parts of the lumbar region.
3. Weak points of the lumbar region. The boundaries of the triangles of Petit and Lesgaft-Grunfeld and their contents.
4. Determination of retroperitoneal space and its boundaries. Disassemble the layered structure of the lumbar region and retroperitoneal space in Stromberg.
5. Topography of the kidneys: sellatape, syntopia and holotape.
6. Topography adrenal: sellatape, syntopia and holotape.
7. Topography of the ureter: sellatape, syntopia and holotape.
8. The location of the retroperitoneal vessels.
9. Paranephral blockade of A.V.Vishnevsky.
10. Operative access to the kidney and ureter. Technique of carrying out of lumbotomy (according to Fedorov, Bergman).
11. Technique of carrying out of pyelolithotomy.
12. Technique of carrying out of nephrectomia.
13. Suture of the kidney and ureter.
14. The concept of the spine, its departments. The curves of the spine. The structure of the vertebra, its processes, arches in all departments. The value and structure of intervertebral discs. Ligamentous apparatus of the spinal column. The structure of the spine cross cut.
15. The structure of the spinal cord, the formation of spinal nerves. The topography of the membranes of the spinal cord, inter-shell spaces.
16. Technique of lumbar puncture with topographic anatomical justification of it.
17. Laminectomy. Indications, technique.
18. Spondylodesis. Fixation of the spine in tuberculosis of vertebral bodies by Albie and Chaklin.
19. Division into large and small pelvis. Musculoskeletal basis of the walls of the pelvis.
20. Gender differences of the pelvis. The size of the female pelvis. Anatomically and clinically narrow pelvis.
21. The division of the pelvis on the floor.
22. Topography of the peritoneum course in the upper floor of the pelvis in men and women.
23. Fascia and cellular spaces of the abdominal floor of the pelvic cavity in men and women.
24. Topography of the pelvic fascia: parietal and visceral sheets.
25. Parietal cellular spaces of the abdominal floor of the small pelvis and their role in the spread of purulent processes.
26. Topography of the periorganic cellular spaces of the pelvic cavity and their importance for the clinic.
27. Topography of pelvic organs in men.
28. Topography of pelvic organs in women.
29. Indications and technique of the intra–phase blockade by Shkolnikov-Selivanov.
30. Topographic and anatomical justification of operations on the bladder, their types.
31. Indications and technique of bladder puncture, high section and cystostomy.
32. Indications and technique of performing prostatectomy. Types of prostatectomy.
33. Types of ectopic pregnancy, their classification.
34. Basic principles of surgery in ectopic tubal pregnancy.

35. Cesarean section.
36. Surgery for cancer of the uterus (supravaginal amputation and extirpation of the uterus).
37. The boundaries and external landmarks of the perineum, "perineum" in the broad and narrow sense of the concept.
38. Topography of the urogenital triangle in men and women
39. Topography of the anal triangle.
40. The topography of the sciatic-rectal fossa; its message, methods of drainage of the abscesses.
41. The topography and the contents of the pudendal canal (canal of Alcock).
42. The value of the tendon center of the perineum. Concept of perineotomy and episiotomy.
43. Topography of the urethra in men and women. Features of the structure of the male urinary channel, sections, bends, contraction, of the sphincters.
44. Indications and technique of bladder catheterization.
45. Features of the structure and topography of the rectum, its departments, sphincters.
46. Classification of paraproctitis by anatomical location, surgical treatment. Surgical the treatment of fistulas.
47. Surgery for hemorrhoids.
48. General principles of surgical treatment of rectal cancer.
49. The layered structure of the scrotum (egg shell).
50. Indications and technique of operations in the hydrogenation of the testicular membranes (operation of Winkelman and Bergman).
51. Indications and technique of puncture of the posterior vaginal vault.

Skills and Expertise:
For the full set of questions, see Annex 7
1) to use general and special surgical instruments, suture material;
2) to use knowledge of surgical anatomy to select rational accesses and surgical interventions;
3) to produce incisions of skin, fascia, muscle, etc.
4) to suture the wound in the skin, muscles, tendons;
5) to expose the vessels and nerves.;
6) to stitch, bandaging blood vessels in the wound;
7) to make cuts at opening of ulcers (abscesses, phlegmon, lymphadenites, panaritia, etc.).
8) to perform exarticulation of the phalanges of the fingers;
9) to perform venesection;
10) to puncture and catheterization of the main veins (subclavian, internal, jugular, femoral);
11) to puncture large joints: shoulder, elbow, hip, knee, ankle;
12) to make the osteoperforation on an osteomyelitis of a major bone ;
13) to process bone, periosteum, muscles, vessels, nerves, skin during amputation of the limb;
14) to do primary surgical treatment of wounds on the head, on the face;
15) to perform the decompression craniotomy;
16) to do vagosympathetic novocaine blockade on Wisniewski;
17) to do a spinal tap;
18) to do the lower tracheotomy;
19) to perform a cryotomy;
20) to do the right incisions are made at the autopsy purulent mastitis in adults and in children;
21) to do a puncture of the pleural cavity;
22) to make thoracocentesis and drain the pleural cavity;
23) to suture the wound on the chest;
24) to do intercostals novocaine blockade;
25) to puncture the pericardial cavity in Larry;
26) to stitch on heart for wounds;
27) to produce a laparotomy: midline, right and left podrebarac;
28) to make laparocentesis for laparoscopic manipulation;
29) to perform the operation of herniotomy in inguinal hernias;
30) to perform the operation of herniotomy in umbilical hernias;
31) to suture of a wound in the stomach, small intestine and colon;
32) to impose unnatural pushed passage;
33) to perform an appendectomy;
34) to suture the perforating ulcer of the stomach;
35) to make a gastrostomy for Witzel, Toprover;
36) to perform the resection of the stomach Billroth I;
37) to take the wound for liver injuries;
38) to perform cholecystectomy according to the classical method ("from the bottom" and "from the neck»);
39) to produce a splenectomy;
40) to take the wound on the spleen in trauma;
41) to be able to produce paranephral novocaine blockade;
42) to suture the wound on the kidney with injuries;
43) to drain the retroperitoneal space;
44) to impose cystostomy;
45) to make the operation of Ross and Bergman of hydrocele;
46) to do the surgery, circumcision when phimosis;

47) to do the operation being relegated egg cryptorchidism when.

5.2. Course Papers Themes

Not provided

5.3. Assessment Fund

Frontal survey. The list of questions from item 5.1 according to sections.
KNOW:
Topic: "the Discipline of topographical anatomy and operative surgery. Topographic anatomy and operative surgery of the upper and lower extremities".
1. The subject and tasks of topographical anatomy. Projection and landmark anatomy.
2. Subject and objectives of operative surgery. Types of operations:radical, palliative, diagnostic.
3. The concept of one-stage and multi-stage operations, urgent (urgent, emergency) and planned operations.
4. The concept of aseptic and antiseptic.
5. Classification of surgical instruments.
6. The concept of microsurgery. Modern diagnostic devices used in surgery.
7. Methods of processing hands and operating field.
8. Methods of anesthesia.
9. Technique of local anesthesia.
10. The basic principles of separation of tissues.
11. The main principles of connection of tissues.
12. Types of surgical units, suture material, methods of suturing, indications for use.
13. The main methods of temporary and final stop of bleeding.
14. Principles of primary surgical treatment of soft tissue wounds.
15. Indications for use of primary, primary-delayed and secondary sutures.
16. Methods of administration of drugs and technique.
17. Types of skin plastics.
18.Topographical anatomy of deltoid region, border, layer-by-layer structure.
19. Subdeltoideal cellular space and its relationship with other areas.
20. Topography of the vessels and nerves surrounding the surgical neck of the humerus.
21. Topographic anatomy of the scapular region, musculoskeletal landmarks, bone and fibrous bed and its content.
22. The main neurovascular bundles of the scapula.
23. Blade anastomotic circle and its role in the development of collateral circulation during ligation of the axillary artery.
24. Ways of spreading pus from the scapula.
25.The shoulder joint, the shape, the possible range of motion.
26. Ligaments, muscles surrounding the shoulder joint. Why are "usual" dislocations possible in the shoulder joint?
27. Projection of the joint gap, the boundaries of the joint capsule attachment, its weaknesses.
28. Topographic anatomy of the subclavian region: boundaries, external landmarks, layered structure.
29. Superficial and deep cellular spaces of subpectoral space.
30. Topographic anatomy of the armpit: external landmarks, boundaries, layered structure.
31. Axillary artery topography and its relationship with the components of the neurovascular bundle.
32. The nature of the structure of fiber and flow characteristics of phlegmon of the axillary cavity. Five groups of lymphatic nodes.
33. The technique of ligation of the axillary artery.
34. Operational access for the puncture and arthrotomy of the shoulder joint.
35. External reference points and boundaries of shoulder area, division.
36. Topography of cross-section cuts of the shoulder at the level of the upper, middle and lower third.
37. The main neurovascular bundle of the anterior shoulder area.
38. Neurovascular bundle of the posterior shoulder area.
39. External reference points for access to the radial nerve in the middle third of the shoulder.
40. External landmarks and boundaries of the elbow area.
41. Topographic anatomy of the elbow area. Neurovascular bundles.
42. The ulnar joint and the weak points of his capsule.
43. Draw a diagram of blood supply to the elbow area.
44. Technique of ligation of the brachial artery on the shoulder and in the elbow fossa.
45. The principles of extra - and intramedullary osteosynthesis in fractures of the humerus.
46. The technique of puncture of the elbow joint.
47. The position of the bones in dislocations in the elbow joint.
48. Operative access to the elbow joint.
49. The technique of puncture of the superficial veins in the cubital fossa.
50. Topographic anatomy of the forearm. External landmarks, boundaries, division.
51. The anterior fascial bed of the muscle layers.
52. Projection lines of the median nerve, radial and ulnar artery (draw the diagrams).
53. Topography of neurovascular formations in the upper, middle and lower thirds of the forearm (draw diagrams cross cuts).
54. Pirogov-Paron cellular space and its relation to cellular spaces of the hand and elbow area.
55. Posterior and lateral fascial bed, muscle groups, neurovascular formations.
56. The position of the fragments in fractures of the forearm at different levels.
57. Topographic anatomy of the wrist and wrist area, external reference points, borders.

58. Topographic anatomy of the palmar surface of the hand, innervation of the skin of the hand and fingers, structural features of skin and subcutaneous tissue.
59. Projection of superficial and deep arterial palmar arches, branches of the median nerve.
60. Topographical anatomy of the carpal, radial and ulnar channels of the wrist.
61. Aponeurosis and fascial bed of the palm, cellular spaces of the palm.
62. The topography of synovial and bone-fibrous sheaths of the flexor tendons of the fingers, their structure and significance in the spread of the inflammatory processes on the hands.
63. Topographic anatomy of the wrist joint, projection of the articular slit, joint capsule, its weaknesses, blood supply and innervation.
64. Technique of puncture of the wrist joint.
65. Topographical anatomy of the back surface of the brush, skin innervation zone, layers.
66. Bone-fibrous channels, vascular-nerve formation of the back surface of the hand.
67. Projection of articular cracks of the metacarpophalangeal, interphalangeal joints, their ligamentous apparatus.
68. Incisions in purulent inflammation of the hand, fingers (draw the diagrams).
69. Surgery for tendon damage.
70. Topographic anatomy of the anterior femur, external landmarks, boundaries.
71. Projection of femoral artery, femoral nerve, subcutaneous femoral canal ring (oval fossa).
72. Topography of the femoral canal, the walls, the inner and outer ring, the content.
73. Femoral triangle, layers, iliopectineal fossa.
74. Topography of neurovascular formations in the scarp triangle, lymph nodes.
75. Topography of the obturator canal, obturator neurovascular bundle, obturator hernias.
76. The topography of the adductor (Goncharov) channel, borders, the holes, the line of Ken.
77. The hip joint, the projection of the joint space.
78. The hip joint, its joint capsule and the apparatus strengthening it, the weak points of the joint capsule, blood supply and innervation.
79. Position of the femoral head at dislocations.
80. The position of the fragments in fractures of the femoral neck.
81. The technique of puncture of the hip joint.
82. Topographical anatomy of the gluteal region. External landmarks, borders. The layers, fascies, cellular spaces, the neurovascular formations of the gluteal region.
83. The connection of the gluteal cellular spaces with the spaces of the pelvis and thigh.
84. Topographic anatomy of the posterior femur, layers, fascial bed.
85. Vascular-nervous formations, the projection of the sciatic nerve.
86. The position of the fragments in the fracture of the femur at different levels.
87. Incisions in the phlegmon of the gluteal region and the back of the thigh (draw the diagrams).
88. Topographic anatomy of the knee, external landmarks, boundaries.
89. Topographic anatomy of the anterior knee area, layers, neurovascular formations, synovial bags.
90. Topographic anatomy of the posterior knee area. Topography of the popliteal fossa. Projection of vessels and nerves.
91. Technique of ligation of the popliteal artery.
92. Knee joint, strengthening the device. Joint capsule, its weaknesses, synovial inversions and their role in the spread of purulent numb with arthritis.
93. Technique of the puncture of the knee joint.
94. Topographical anatomy of the tibia, external landmarks, boundaries, division. Front and side fascial bed shins, layers.
95. Topography of neurovascular formations in the upper, middle and lower third of the shin (draw the diagrams).
96. Fascial bed of the posterior region of the tibia, muscle layers.
97. Shin-popliteal channel content.
98. Connection of the shin cellular spaces with the cellular spaces of the popliteal fossa and foot.
99. The position of fragments in fractures of the shin bones at different levels.
100. Incisions in purulent inflammation of the lower leg.
101. Topographic anatomy of the ankle. External landmarks, borders.
102. Topography of tendons, synovial sheaths and neurovascular bundle of the medial ankle area, ankle canal.
103. The area of the lateral malleolus, the layers, topography of the tendons and vascular lesions.
104. Bone-fibrous channels of the anterior area of the ankle joint.
105. Posterior region (Achilles tendon area), layers, synovial bags, vessels and nerves.
106. Capsule and strengthening apparatus of the ankle, blood supply, innervation. Technique of the puncture of the ankle joint.
107. Topographical anatomy of the back of the foot. The projection of the transverse tarsal joint (Shopar) and tarsal-metatarsal joint (Lisfranc), zones of cutaneous innervation.
108. The arch of the foot and the apparatus that strengthens it. Topography of vascular-nervous bundles, cellular spaces.
109. Topographic anatomy of the area of the sole, layers, fascial bed. Cuts in purulent inflammation of the foot.
110. The concept of amputation and exarticulation.
111. Classification of amputations.
112. Basic principles (stages) of amputation.
113. Methods of hiding the amputation stump (fascio-, myo-, bone-plastic).
114. A vicious stump and principles its education.

115. The rules of truncation of fingers, amputation and exarticulation in the interphalangeal and metacarpophalangeal joints.
116. Osteoplastic amputation of the thigh according to Gritti-Szymanowski, Albrecht, Sabaneev, Pirogov (draw the diagrams).
117. The technique of calculating all the toes by Harangue and amputation of foot by Sharpe.
118. Vascular sutures, the technique of venesection.

Topic: "Topographic anatomy and surgery of the head and neck."
1. Topographic anatomy of the brain, boundaries, external landmarks.
2. Topographic anatomy of the frontal-parietal-occipital area.
3. Topographic anatomy of the temporal region.
4. Topographic anatomy of the mastoid area.
5. Features of blood supply to the soft tissues of the cranial vault.
6. Topography of the main nerve trunks of the brain department of the head.
7. The inner surface of the skull base.
8. The shells of the brain, the periapical space, venous sinuses.
9. The localization of hematomas with accounting layer-by-layer topography of cerebral department of head.
10. Connections of extracranial and intracranial veins and their practical value.
11. Tools used in operations on the skull.
12. Primary surgical treatment of wounds of the brain department of the head.
13. Features of treatment of scalped wounds.
14. The method of trepidatio. Draw a Cranlane-Brusova diagram.
15. Osteoplastic and decompressive craniotomy.
16. Topographic anatomy of the facial head, borders, external landmarks.
17. Topographic anatomy of the eye socket area.
18. Topographic anatomy of the nose.
19. Topographic anatomy of the mouth area with chin area.
20. Topography of the trigeminal nerve, the place of exit to the face.
21. Topographic anatomy of the cheek area of the face.
22. Topographic anatomy of the parotid chewing area of the face
23. Topographic anatomy of the deep area of the face.
24. Topography of the facial nerve.
25. Features of the venous drainage of the face.
26. Primary surgical treatment of facial wounds.
27. Incisions in the phlegmon of the face.
28. Topographic and anatomical background for the adverse course of inflammatory processes in the parotid saliva.
29. Topographic anatomy of the neck area. Boundaries, external landmarks, the division in the region.
30. Triangles of the neck.
31. Fascia of the neck.
32. The inner triangle of the neck. The suprahyoid area. The boudaries. The chin triangle: layers, vessels, nerves. Submandibular triangle. Bed and capsule of the submandibular gland. Neurovascular formation and lymph nodes. N.I.Pirogov triangle.
33. The carotid triangle, the boundaries. Common carotid artery, its bifurcation. External and internal carotid arteries. Sinocarotid area. The relationship of the elements of the main neurovascular bundle of the neck. The topography of the hypoglossal, vagus, superior laryngeal nerve, sympathetic trunk.
34. Sternocleidomastoid region. The boundaries. Projection on the skin of the common carotid artery. Topography of the common carotid artery, vagus nerve, internal and external jugular veins.
35 Scaleno-vertebral triangle: borders, layers. Topography of the subclavian artery and its branches, the star node of the sympathetic trunk. Prescalenus interval: subclavian vein, venous angle, thoracic lymphatic duct, phrenic nerve.
36. Topography of the areas of the lateral triangle. Muscle gaps. The topography of the subclavian artery and vein, the brachial plexus, branches of the cervical plexus.
37. Cellular space of the neck.
38. Topography of the neck.
39. Features of primary surgical treatment of wounds of the neck. Surgical approaches (longitudinal, transverse, oblique, combined) to the neck organs.
40. Surgical anatomy with surface and deep phlegmons of the neck.
41. Esophagotomy.
42. Tracheostomy. Types, indications, technique.
43. Cryotome (Cryo-thyroidotomy, conicotomy). Types, indications, technique.
44. Technique of the vagosympathetic blockade.
45. Ligation of the common and external carotid arteries. Glomectomy.
46. Subtotal subfascial resection of the thyroid gland.
47. Ligation and catheterization of the thoracic lymphatic duct.

Topic: "Topographic anatomy and surgery of the breast area."
1. The border of the thorax, the division of region, vertical line indicative, constitutional peculiarities forms.
2. Topography of the chest wall, layers, large surface muscles of the back surface of the chest, blood supply, innervation.

3. The topography of the breast, blood supply lymphatic.
4. The structure of the intercostal spaces, their contents, and peculiarities of topography.
5. Topography of diaphragm, the legs of the diaphragm, rib, lumbar, thoracic part. Innervation, blood supply, holes and formations passing through them.
6. Mastitis, types, operations in mastitis.
7. Rib resection.
8. Sectoral resection of the breast.
9. Radical mastectomy.
10. The concept of "chest cavity".
11. The topography of the pleura, it slips. Sinuses, borders of a pleura, their value.
12. Topography of the lung: its division into shares, zones, segments.
13. Innervation, blood supply to the pleura and lung. Lymph drainage.
14. Syntopia of the constituent elements of the root of the lung right and left.
15. Puncture of the pleural cavity, indications, technique.
16. Thoracoplasty their types, indications, technique.
17. The concept of the mediastinum and its divisions.
18. Topography of organs of anterior mediastinum.
19. Topography of the pericardium: sellotape, syntopia, blood supply, sinuses, their practical value.
20. Topography of the heart: sellotape, syntopia, blood supply, innervation.
21. Topography of large blood vessels of the anterior mediastinum: pulmonary trunk, ascending part and aortic arch, superior cava vein.
22. Circulation.
23. The topography of the trachea and its bifurcation.
24. Topography of the thymus gland.
25. Operative accesses to the lungs: anterolateral, posterolateral, lateral.
26. Pneumothorax, types, surgery.
27. Surgical treatment of abscess and lung echinococcus.
28. Pneumonectomy: indications, technique.
29. Lobectomy, segmentectomy and subsegmentectomy: indications, technique.
30. Features of the technique of suturing the wound of the lung.
31. An overview of the topography of the organs of the posterior mediastinum.
32. Topography of the esophagus.
33. The topography of the vagus nerve.
34. Topography of the descending aorta.
35. Topography of the sympathetic trunk.
36. Topography of the chest lymphatic duct.
37. Topography of unpaired and semi-paired veins.
38. Puncture of the pericardium by Larrey..
39. Rapid access to the heart and large blood vessels.
40. Congenital and acquired heart and vascular defects. Classification.
41. Heart-lung machine (HLM). Principle of operation.
42. Suturing the wounds of the heart.
43. Mitral commissurotomy.
44. Prosthetics of heart valves.
45. Surgery for cleft arterial duct.
46. Radical and palliative surgery for the tetralogy of Fallot.
47. Surgery for defects of the interventricular and atrial septum of the heart.
48. Surgery for congenital and acquired defects of the aorta and the pulmonary trunk.
49. Surgery for the tracheoesophageal fistula.
50. Operations to create an artificial esophagus.

Topic: "Topographic anatomy and surgical surgery of the abdomen."
1. The concept of "stomach", "abdominal cavity", "abdominal cavity" and "retroperitoneal space".
2. The boundaries of the anterior-lateral abdominal wall and the division into areas.
3. Layer-by-layer topography of Antero-lateral abdominal wall.
4. The structure of the sheath of rectus abdominis muscle at 3 different levels.
5. "Weaknesses" of the anterior-lateral abdominal wall, their clinical significance.
6. Topography of the umbilical region and the umbilical ring; structure of the white line of the abdomen.
7. Topography of folds and pits on the inner surface of the anterior abdominal wall.
8. Topographic-anatomic characteristics of the groin (inguinal triangle and inguinal gap).
9. Topography of the inguinal canal and its contents in men and women (on sagittal section by P. A.Kupriyanov).
10. Topography of the femoral canal, vascular lacuna.
11. The stroke of the peritoneum and its leaves. Properties of the peritoneum.
12. The dividing of abdominal cavity on floors.
13. Classification of incisions on the anterior-lateral wall of the abdomen, their topographic and anatomical justification, advantages and disadvantages.
14. Cava-caval and porto-caval anastomoses on the anterior wall of the abdomen, their practical significance.
15. The concept of a hernia, of its component parts. Classification of hernias of the anterior-lateral abdominal wall.

16. General rules for herniotomy. The main stages of the operation, anesthesia.
17. Surgical anatomy of oblique and direct inguinal hernias.
18. Plastic of the anterior wall of the inguinal canal with oblique inguinal hernias by Cherny, Opel, Ru, Martynov, Girard, Spasokukotsky, Kimbarovsky. Advantages and disadvantages of these methods. Errors, dangers and complications in the surgical treatment of inguinal hernias.
19. Plastic of the back wall of the inguinal canal with direct inguinal hernias by Bassini, Kukudzhanov, Postdempsky. Advantages and disadvantages of these methods.
20. Features of operations in congenital inguinal hernia.
21. Surgical treatment of hernias of the white line of the abdomen and umbilical hernia by Lexer, Mayo, Sapezhko, Napalkov, Tikhomirova.
22. Peculiarities of surgical treatment of sliding and strangulated hernias.
23. The technique of surgical interventions for femoral hernias, femoral and inguinal methods.
24. Topography of the upper floor of the abdomen (bags, pockets, cracks) and their practical significance.
25. Border and practical value precludes bags. The role of the bag in the development of limited inflammatory processes'.
26. Topography of the omental bag, its borders, communication with the abdominal cavity. Practical value, surgical ways of entering the omental bag. Omental (Winslowe) hole. Boundaries and practical value.
27. Topography of the stomach: sellotape, syntopia and holotape. Stomach, blood supply, innervation, lymph flow.
28. Topography of duodenum 12: sellotape, syntopia and holotape. Features of blood supply of the duodenum. Departments of the 12-the duodenum, the attitude to the peritoneum. Innervation and lymph flow.
29. Topography of the pancreas: sellotape, syntopia and holotape. Blood supply to the pancreas, innervation, lymph flow.
30. Topography of the spleen, ligamentous apparatus, its gates. Blood supply, innervation and lymph flow.
31. Topography of the abdominal esophagus.
32. Splenectomy, indications, operative approaches, operative techniques (Shevkunenko, Voyno-Yasenetsky).
33. Operations on the pancreas, types, indications, operational accesses.
34. Topography of liver, sellotape, syntopia and holotape. Blood supply, innervation, lymph flow.
35. Ligament of the liver, the contents of the hepatoduodenal ligament.
36. Surgical anatomy of the gallbladder and biliary tract. Sellotape, syntopia and holotape.
37. The triangle of Callot and its practical value.
38. Features of the blood supply to the gallbladder and bile ducts.
39. Borders and walls of the hepatic bag, connection with the lower floor of the abdominal cavity.
40. Surgical interventions on the liver: types, indications, operative accesses. Hemostatic suture by Kuznetsovsky, Oppel.
41. Operation of atypical liver resection (marginal, wedge-shaped). Technique .
42. Cholecystectomy, indications, options, technique.
43. Surgical approaches for opening sub-frontal abscesses.
44. The general principles of imposing of an intestinal sutures. Theoretical basis and technique of intestinal sutures: sero-serous suture by Lamber, Albert, Schmiden, Pirogov-Cherny suture. Mechanical suture.45. Gastrotomy, indications, technique.
46. Gastrostomy, classification and operational approaches. The indications and technique of gastrostomy on Vitzel, Shtamm-Kader, Toprover, Depagee-Janeway. Differences and similarities.
47. Operation of the formation of gastrointestinal anastomosis. Classification, indications, operative approaches, complications.
48. Front forward-facing gastroenterostomy, rear retrocolic gastroenterostomy. Formation of the anastomosis by Brown. Indications, technique.
49. Gastric resection: indications, surgical approaches, stages of surgery, complications.
50. Technique of resection of the stomach by Billroth 1 and Billroth 2 in the modification of the Gophmeister-Finsterer.
51. Resection of the stomach by Haberer, Rachill-Polia. Principles of implementation.
52. Topography of the lower floor of the abdomen (sinuses, lateral canals), their practical significance.
53. The topography of jejunum and iliac, their differences.
54. Features of blood supply, innervation and lymph flow of the small intestine.
55. Topography of the large intestine and its departments. Features of covering the large intestine with the peritoneum.
56. Features of blood supply, innervation and lymph flow of various parts of the colon.
57. The topography of the cecum, ileocecal angle and the vermiform appendix. Options for the location of the vermiform appendix and its practical value.
58. Topographic and anatomical distinction of small and large intestine and its practical value.
59. Revision of the abdominal organs in injuries and traumas. Features of audit at the top and middle laparotomies.
60. Primary surgical treatment of wounds of the small, large intestine. Technique of suturing wounds of the small and large intestine.
61. Surgical treatment of acute small bowel obstruction, congenital narrowing, atresia.
62. Technique of resection of the small intestine (stages of operation – draw the diagram).
63. Technique of inter-intestinal anastomoses "end to end", "side to side", "end to side".
64. Indications for appendectomy. The approaches for appendectomy. Stages of removal of the vermiform appendix. Ways of mobilization of the vermiform appendix. Methods and suture material used in the processing of the vermiform appendix.
65. The technique of removing the vermiform appendix in retrocecal and retroperitoneal arrangement.

66. Removal of the Meckel diverticulum.
67. Features of colon resection. Technique of resection of half of the colon.
68. Technique and moments of removal of the sigmoid colon.
69. The technique of formation of a fecal fistula.
70. The technique of formation of an unnatural anus.
71. Operations for treatment of megacolon and Hirschsprung's disease.

Topic: "Topographic anatomy and operative surgery of the lumbar region, retroperitoneal space and spine, pelvis and perineum."
1. The concept of "lumbar" and the division of the lumbar region.
2. Topography of the medial and lateral parts of the lumbar region.
3. Weak points of the lumbar region. The boundaries of the triangles of Petit and Lesgaft-Grunfeld and their contents.
4. Determination of retroperitoneal space and its boundaries. Disassemble the layered structure of the lumbar region and retroperitoneal space in Stromberg.
5. Topography of the kidneys: sellatape, syntopia and holotape.
6. Topography adrenal: sellatape, syntopia and holotape.
7. Topography of the ureter: sellatape, syntopia and holotape.
8. The location of the retroperitoneal vessels.
9. Paranephral blockade of A.V.Vishnevsky.
10. Operative access to the kidney and ureter. Technique of carrying out of lumbotomy (according to Fedorov, Bergman).
11. Technique of carrying out of pyelolithotomy.
12. Technique of carrying out of nephrectomia.
13. Suture of the kidney and ureter.
14. The concept of the spine, its departments. The curves of the spine. The structure of the vertebra, its processes, arches in all departments. The value and structure of intervertebral discs. Ligamentous apparatus of the spinal column. The structure of the spine cross cut.
15. The structure of the spinal cord, the formation of spinal nerves. The topography of the membranes of the spinal cord, inter-shell spaces.
16. Technique of lumbar puncture with topographic anatomical justification of it.
17. Laminectomy. Indications, technique.
18. Spondylodesis. Fixation of the spine in tuberculosis of vertebral bodies by Albie and Chaklin.
19. Division into large and small pelvis. Musculoskeletal basis of the walls of the pelvis.
20. Gender differences of the pelvis. The size of the female pelvis. Anatomically and clinically narrow pelvis.
21. The division of the pelvis on the floor.
22. Topography of the peritoneum course in the upper floor of the pelvis in men and women.
23. Fascia and cellular spaces of the abdominal floor of the pelvic cavity in men and women.
24. Topography of the pelvic fascia: parietal and visceral sheets.
25. Parietal cellular spaces of the abdominal floor of the small pelvis and their role in the spread of purulent processes.
26. Topography of the periorganic cellular spaces of the pelvic cavity and their importance for the clinic.
27. Topography of pelvic organs in men.
28. Topography of pelvic organs in women.
29. Indications and technique of the intra–phase blockade by Shkolnikov-Selivanov.
30. Topographic and anatomical justification of operations on the bladder, their types.
31. Indications and technique of bladder puncture, high section and cystostomy.
32. Indications and technique of performing prostatectomy. Types of prostatectomy.
33. Types of ectopic pregnancy, their classification.
34. Basic principles of surgery in ectopic tubal pregnancy.
35. Cesarean section.
36. Surgery for cancer of the uterus (supravaginal amputation and extirpation of the uterus).
37. The boundaries and external landmarks of the perineum, "perineum" in the broad and narrow sense of the concept.
38. Topography of the urogenital triangle in men and women
39. Topography of the anal triangle.
40. The topography of the sciatic-rectal fossa; its message, methods of drainage of the abscesses.
41. The topography and the contents of the pudendal canal (canal of Alcock).
42. The value of the tendon center of the perineum. Concept of perineotomy and episiotomy.
43. Topography of the urethra in men and women. Features of the structure of the male urinary channel, sections, bends, contraction, of the sphincters.
44. Indications and technique of bladder catheterization.
45. Features of the structure and topography of the rectum, its departments, sphincters.
46. Classification of paraproctitis by anatomical location, surgical treatment. Surgical the treatment of fistulas.
47. Surgery for hemorrhoids.
48. General principles of surgical treatment of rectal cancer.
49. The layered structure of the scrotum (egg shell).
50. Indications and technique of operations in the hydrogenation of the testicular membranes (operation of Winkelman and Bergman).
51. Indications and technique of puncture of the posterior vaginal vault.

Skills and Expertise: For the full set of questions, see Annex 7

1) to use general and special surgical instruments, suture material;
2) to use knowledge of surgical anatomy to select rational accesses and surgical interventions;
3) to produce cuts of skin, fascia, muscle, etc.
4) to suture the wound in the skin, muscles, tendons;
5) to expose the vessels and nerves.;
6) to stitch, bandaging blood vessels in the wound;
7) to make cuts at opening of ulcers (abscesses, phlegmon, lymphadenites, panaritia, etc.).
8) to perform exarticulation of the phalanges of the fingers;
9) to perform venesection;
10) to puncture and catheterization of the main veins (subclavian, internal, jugular, femoral);
11) to puncture large joints: shoulder, elbow, hip, knee, ankle;
12)to make the USA a major bone osteomyelitis;
13) to process bone, periosteum, muscles, vessels, nerves, skin during amputation of the limb;
14) to do primary surgical treatment of wounds on the head, on the face;
15) to perform the decompression craniotomy;
16) to do vagosympathetic novocaine blockade byVishnevsky;
17) to do a spinal tap;
18) to the lower tracheotomy;
19) to perform a cryotomy;
20) to the right incisions are made at the autopsy purulent mastitis in adults and in children;
21) to do a puncture of the pleural cavity;
22) to make thoracocentesis and drain the pleural cavity;
23) to suture the wound on the chest;
24) to do intercostals novocaine blockade;
25) to puncture the pericardial cavity in Larry;
26) to stitch on your heart for wounds;
27) to produce a laparotomy: midline, right and left podrebarac;
28) to make laparocentesis for laparoscopic manipulation;
29) to perform the operation of herniotomy in inguinal hernias;
30) to perform the operation of herniotomy in umbilical hernias;
31) to suture of a wound in the stomach, small intestine and colon;
32) to impose unnatural pushed passage;
33) to perform an appendectomy;
34) to suture the perforating ulcer of the stomach;
35) to make a gastrostomy for Witzel, Toprover;
36) to perform the resection of the stomach Billroth I;
37) to take the wound for liver injuries;
38) to perform cholecystectomy according to the classical method ("from the bottom" and "from the neck»);
39) to produce a splenectomy;
40) to take the wound on the spleen in trauma;
41) to be able to produce paranephral novocaine blockade;
42) to suture the wound on the kidney with injuries;
43) to drain swollen spaces;
44) to impose cystostomy;
45) to make the operation of Ross and Bergman of hydrocele;
46) to do the surgery, circumcision when phimosis;
47) to do the operation being relegated egg cryptorchidism when.

List of tasks in Annex 1
Test. The list of test tasks in Appendix 2
Questions on the sections in Annex 3

5.4. List of Assessment Tools
1.Front-end survey 2.Test 3.Practical task The list of scales of evaluation for all types of evaluation tools in Annex 4.5, 6

6. COURSE (MODULE) METHODOLOGICAL AND INFORMATIONAL SUPPORT
6.1 Recommended Reading
6.1.1 Required Reading List

	Authors, compilers	Title	Book Publisher, year
L1.1	Gabitov V.H., Akramov E.H., Beisembaev A.A.	Short course of lectures of topographic anatomy and operative surgery: Textbook Part 1	Altyn Print 2014
L1.2	Gabitov V.H., Akramov E.H., Beisembaev A.A.	Short course of lectures of topographic anatomy and operative surgery: Textbook Part 2	Altyn Print 2014
L1.3	Gabitov V.H., Akramov E.H., Beisembaev A.A.	Short course of lectures of topographic anatomy and operative surgery: Textbook Part 2	Altyn Print 2014
L1.4	Under the editorship of Professor V. V. Kovanov	Operative surgery and topographic anatomy: Textbook for universities	M., "Medicine" 1998
6.1.2 Advanced Reading			
	Authors, compilers	Title	Publisher, year
L2.1	Kovanov V.V., Bomash U.M.	Practical guide to topographic anatomy: Textbook for universities	M.: Medicine 1976
L2.2	Mikhailov S.S., Kolesnikov L.L.	The anatomical basis of the topography of the face: the Textbook for universities	M.: Medicine 1978
6.1.3 Guidance Papers			
	Authors, compilers	Title	Publisher, year
L3.1	A.A. Beisembaev, V.H. Gabitov	Workshop of topographic anatomy and operative surgery of the head and neck: Educational manual	Bishkek: KRSU 2015
L3.2	A.A. Beisembaev, V.H. Gabitov	Workshop on topographic anatomy and operative surgery in the upper and lower extremities: Educational manual	Bishkek: KRSU 2015
L3.3	A.A. Beisembaev, V.H. Gabitov	Workshop on topographic anatomy and operational surgery of the abdomen: Educational manual	Bishkek: KRSU 2014

6.3. List of Information and Education Technologies	
6.3.1 Competence-based Educational Technologies	
6.3.1.1	Traditional educational technologies: lectures; practical classes; independent work of the student.
6.3.1.2	Innovative educational technologies: discussions; offsite classes; game design; individual and group work; preparation of reports on the topic; case tasks; business games;
6.3.1.3	Information educational work: interactive anatomical table "Pirogov"; Internet resources; software for multimedia classes using Windows Media Center; Microsoft Word; Microsoft office Power Point; Microsoft office Excel.My test.
6.3.2 List of Information Reference Systems and Software	
6.3.2.1	A single library system http://lib.krsu.edu.kg/
6.3.2.2	the website of the library of KRSU http://lib.krsu.edu.kg/
6.3.2.3	database of educational materials of the library of KRSU http://lib.krsu.edu.kg/
6.3.2.4	Internet resources:
6.3.2.5	- www.elibrary.ru
6.3.2.6	- www.medline.ru
6.3.2.7	- www.meduniver.com
6.3.2.8	- www.booksmed.com
6.3.2.9	The presented sites contain information on sections and topics of human anatomy, contain illustrations, some sites contain training videos.
6.3.2.10	http://meduniver.com/Medical/Anatom/
6.3.2.11	http://web-local.rudn.ru/web-local/kaf/rj/index.php?id=3 http://anatomy-portal.info/
6.3.2.12	http://difmed.ru/razdely-meditsiny/anatomiya http://www.webmedinfo.ru/library/anatomiya-library/ http://anatomia.ucoz.com/
6.3.2.13	http://www.e-anatomy.ru/ (виртуальный атлас) http://www.anatomy.tj/ (virtual atlas) http://anatomia.spb.ru/3danatomy.html (3D atlas)
6.3.2.14	http://krasgmu.net/publ/uchebnye_materialy/obuchajushhie_materialy/anatomija_cheloveka_3d_onlajn/11-1-0-902 (3D atlas)
6.3.2.15	- MedExplorer, MedHunt, PubMed. (scientific articles and abstracts)

7. COURSE (MODULE) LOGISTICS	
7.1	Lecture hall with multimedia for 100 seats
7.2	Audience with video projector
7.3	Museum of human anatomy with the "Pirogov" interactive anatomical table.

7.4	Classrooms-11
7.5	Laboratory-1
7.6	Preparatory - 2
7.7	Total area of classrooms – 155 m²
7.8	Number of seats-132 people.
7.9	Educational films: The Human Anatomy-2. Anatomy of head and neck-1.
7.10	Topographic anatomy: head and neck. Cavities. Extremities.
7.11	Equipment: "Pirogov" interactive anatomical table - 1; training electrified stand "Systematic anatomy" - 1;
7.12	training stand "Surgical instruments" - 1; training stand "Circulatory circles, cardiovascular system" - 1;
7.13	computer (Monitor + system unit) – 2; laptop – 1; printer – 1; MFP (Printer+scanner+copier) – 1; projector – 1; camera-1.
7.14	Information source
7.15	Manuals: osteohistology; skull; myology; digestive system; respiratory system; urinary system; central nervous system; heart.
7.16	Visual AIDS: skeleton and individual bones; joints; muscles of the upper limb - plastination; muscles of the lower limb - plastination; muscle models of the head and neck.
7.17	Models of internal organs: larynx; lungs; heart; liver; kidneys; urinary organs; sexual organs; diaphragm; brain.
7.18	Tablets: gastrointestinal tract; kidney; heart; urinary system; sexual system; CNS.
7.19	Posters: skeleton; circulatory system; respiratory system; digestive system; urinary system; muscles; chest muscles; the muscles of the upper extremities; the muscles of the lower extremities; the skull; the lymphatic system; the autonomic nervous system; liver; kidneys.
7.20	Natural products:a body; gastrointestinal tract; respiratory system; urinary, reproductive system; endocrine system; brain; senses; of the cavities of the body; extremities.

8. COURSE (MODULE) PROFICIENCY METHODICAL GLUIDELINES (FOR STUDENT)

Technological map of the discipline, see annex 4

1) Planning and organizing the time needed to study the discipline.

It is recommended to organize the time necessary for the study of the discipline as follows:

The study of lecture notes on the same day, after the lecture – 10-15 minutes.

The study of lecture notes the day before the next lecture – 10-15 minutes.

The study of the theoretical material in the textbook and the lecture notes – 1 hour per week.

The preparing for practical training - 2 hours.

In total - 3 hours 30 minutes a week.

To understand the material and its quality of assimilation is recommended such a sequence of actions:

1.1 After listening to the lecture and the end of the training sessions, in preparation for the next day's classes, firstly, you need to view and think about the text of the lecture, listened today (10-15 minutes).

1.2 In preparing for the next day's lecture, you need to view the text of the previous lecture, think about the theme of the next lecture (10-15 minutes).

1.3 During the week, select the time (an hour) to work with the recommended literature in the library.

1.4 When preparing for the next day's practice lessons, you should first read the basic concepts and approaches on the topic of homework. When performing an exercise or task, you first need to understand what is required in the task, what theoretical material you need to use to outline a plan for solving the problem.

2. Working with literature.

2.1 The theoretical material of the course becomes more clear when, in addition to listening to lectures and studying the lecture notes books are studied. It is easier to master the course, adhering to one textbook and lecture notes.

2.2 It is recommended that, in addition to "learning" material, to achieve a state of understanding of the subject of the discipline. To this end, it is recommended after studying the next paragraph to perform a few simple exercises on this topic.

2.3 In addition, it is very useful to mentally ask yourself the following questions (and try to answer them): what is this paragraph about?, what new concepts are introduced, what is their meaning? what will it give in practice?.

3. Preparing for a border and interim controls.

In addition to the study of lecture notes, it is necessary to use a textbook. In addition to" learning "material, it is very important to achieve a state of understanding of the subjects of the discipline. To this end, it is recommended after studying the next paragraph to perform several exercises on this topic.

3.1 In addition, it is very useful to mentally ask yourself the following questions (and try to answer them): what is this paragraph about?, what new concepts are introduced, what is their meaning? what will it give in practice?.

3.3 In preparing for the intermediate control, it is necessary to study the theory: definitions of all concepts and approaches to evaluation to the state of understanding of the material and independently solve several typical problems from each topic. When solving problems, it is always necessary to be able to interpret the result of the decision qualitatively.

4. Educational technologies.

When implementing various types of educational work, the following educational technologies are used: information technologies (creating interactive presentations, videos, training computer programs); technology of problem learning; technology of critical thinking development (using techniques of the challenge stage, effective lecture, tables, group work, methods of reflection, etc.); technologies of group interaction organization.

4.1 Active and interactive forms of training

The following forms are used during the lessons: - excursion.
4.2 Project Method and group discussion of the topics: -"".
4.3 Discipline Section:
4.4 The use of training computer programs.
4.5 Round table « »
4.6 Small group work « »
4.7 Computer training programs « »
4.8 Reports of the topic « »
4.9 Situation tasks on the topic «»
4.10 Creative tasks in the study of head and neck vessels
4.11 Creative tasks in the study of the topic cranial nerves
5. The use of interactive forms of learning.
At practical classes allows to assess differentially the level of theoretical knowledge and practical skills of the student; contributes to a significant reduction in the number of absences; affects the intellectual, emotional-volitional, motivational areas of the student, as well as his / her communication activities; stimulates the constant independent work of students, promotes the increase of competition in education, increasing interest of students to the material under study.
6. Organization and control of independent work of students, see annex 6.
Independent work of students is organized on all topics and sections and includes 36 hours.
Independent work at the Department of human anatomy is carried out in the form of:
- independent study of human cadaver preparations for lessons;
- the use of computer training programs on the interactive anatomical table " Pirogov";
- work in Internet sites on anatomy; - preparation of multimedia presentations on the topics of the section;
- preparation of communications and reports;
- work with textbooks developed by the staff of the Department
- Cathedral teaching AIDS;
- preparation of diagrams and drawings on the topics;
- performing written and oral tasks;
- solving situational problems;
- preparation of tables and posters on the studied topics.
Control of independent work of students provides:
- comparison of control content with learning objectives;
- objectivity of control.
Forms of control of independent work.
View and check the implementation of independent work by the teacher.
- organization of self-test, mutual verification of the completed task in the group;
- discussion of the results of the work performed in the classroom;
- conducting a written survey;
- conducting an oral survey;
- organization and conduct of individual interviews;
- organizing and conducting interviews with the group.
6.1 seminars
6.2 testing on the topics of the sections.
6.3 Indicators, criteria, means of assessment of competences, scales of assessment
Criteria for evaluating the results of independent work.
6.4 evaluation Criteria of the results of independent work
the learners are:
- level of development of educational material;
- the level of ability to use theoretical knowledge in the performance of practical tasks;
- level of formation of General educational skills;
- the level of ability to actively use electronic educational resources, to find the required information,
to study it and apply it in practice;
- the validity and clarity of the material;
- the level of ability to navigate the flow of information, highlight the main thing;
- the level of ability to clearly formulate the problem, offering its solution, critically evaluate the solution and its aftermath;
- the level of ability to determine, analyze alternative options, options for action;
- the level of ability to formulate their own position, assessment and argue it.
7. Current knowledge control.
It is carried out by the teacher during each practical training. When carrying out test control criterion a positive assessment is the performance of students at least 60% of tasks.
Boundary control of knowledge and practical skills is carried out after studying the section of the discipline in two stages. Check theoretical knowledge is conducted in the form of test control on paper and is estimated at 5-point the system, the criterion for a positive assessment is to perform more than 60% of tasks. To check the practical skills it is also evaluated on a 5-point scale.
The final control of knowledge and practical skills is carried out in the form of a course exam, consisting of 2 stages.
The first stage is a test control. The second stage is the verification of practical skills "Tell and show", the criterion of evaluation – more than 60% of correct answers and ticket interview.

Annex 1

Demonstration questions and tasks on the sections of the discipline (offset)

Topographic anatomy and operative surgery of the upper and lower extremities

Open control questions.

1. The founder of topographic anatomy is considered _____ .
2. Part of the surgical operation, when the surgeon layer by layer separates the tissue to come to the organ, is called _____ .
3. Operational access is always followed by _____ .
4. Surgical operation, which is achieved by relieving the patient's condition, but the disease is not completely cured, is called _____ .
5. Surgical operation, in which the complete removal of the lesion is occurred or surgeon acts on the main link of pathogenesis, is called_____ .
6. In the classification of surgical instruments scalpel and scissors are a group of tools for _____.
7. Classification of surgical instruments tweezers and Farabee hook belong to the group of tools _____ .
8. In the classification of surgical instruments hemostatic clips of Bilrot and Kocher belong to the group of tools for _____ .
9. In the classification of surgical instruments, the needle holder and the surgical needle belong to the group of instruments for _____ .
10. The founder of the model anatomy in our country is considered _____ .
11. The seminal work of of N.I.Pirogov is "The surgical anatomy of arterial trunks and _____».
12. Figure 1.1 presents the tools for _____ .
13. In figure 1.2, the tool under the letter b is called _____ .
14. In figure 1.3 the correct position of the needle in the needle holder: 1) a; 2) b.
15. In figure 1.4, the seam under the letter a is called _____ .
16. In figure 1.5, the node labeled b is called _____ .
17. In figure 1.6, the suture of the tendon under the letter b is called by the author _____ .
18. The figure of the auxiliary tools (Fig. 1.7) is a Farabee flat hook marked with the letter _ .
19. In the figure of instruments for stopping bleeding (Fig. 1.8) the Deshan ligature needle is given under the letter ___ .
20. In the figure of instruments for stopping bleeding (Fig. 1.8) Cooper's ligature needle is given under the letter ____ .
21. In the figure of instruments for stopping bleeding (Fig. 1.8) the hemostatic clamp of Bilrot is given under the letter ____ .
22. In the figure of instruments for stopping bleeding (Fig. 1.8) Cocher's hemostatic clamp is given under the letter ___ .
23. In the figure of instruments for stopping bleeding (Fig. 1.8) hemostatic clip of Halsted (mosquito) is given under the letter ____ .
24. On the picture of the instruments for tissue connection (Fig. 1.2) the Hegar's needle holder is given under the letter ___.
25. On the picture of the instruments for tissue connection (Fig. 1.2) needle holder Mathieu is given under the letter ___.
26. Surgical needle, presented in Fig. 1.10, is called: 1) pricking; 2)non-traumatic; 3) cutting.
27. Shown in Fig. 1.11 vascular suture developed by_____.
28. From the outer bundle of the brachial plexus formed _____ .
29. The median nerve is formed from the _____ and _____ bundles of the brachial plexus.
30. From the posterior bundle of the brachial plexus nerves are formed _____ and_____.
31. The axillary artery is a continuation of_____ artery.

Situational tasks

Task № 1

To access and expose the axillary artery, it is necessary to know not only the projection line, but also the relationship of the artery with the muscle fascia, vein and nerves. Give a topographic and anatomical characteristic of the elements of the axillary neurovascular bundle at the level of the sub-thoracic triangle. Why access to the axillary artery should be non-projection (roundabout).

Task № 2

In a patient with thrombosis of the axillary artery proximal to the point of divergence from her subscapular artery, developed collateral circulation. What intersystem anastomosis was the structural basis for the development of collateral circulation of the upper limb. Give a description of the adequacy of this anastomosis.

Task №3

A patient was admitted to the surgical department, who has a cut wound in the axillary area with isolated damage to the axillary artery. The doctor on duty does not know the technique of applying a vascular suture. Choose the optimal treatment tactics and give an anatomical justification.

Task № 4

At the reception to the surgeon, the patient complained of pain in the shoulder joint, a violation of its function, a few days ago, was injured, did not contact the doctor. When viewed, the limb in the joint is swollen, cyanotic, there is a springy shoulder abduction, the retraction in the deltoid region, the head of the humerus is palpated in the axillary fossa, the pulsation of the

vessels of the hand is weakened, the skin sensitivity is reduced. What kind of damage does the patient have? How dangerous it may be?

Task № 5

In surgical patient adenophlegmon in the stage of purulent fusion has led to the spread of purulent streaks of axillary cavity in the neighboring area. Give the anatomical justification of the possible primary pathways of the spread of purulent plug from the axillary region. What's the incision for the opening of the phlegmon?

Task № 6

In a patient diagnosed with breast cancer, a radical mastectomy was performed. The essence of this operation is a one-time single-block removal of the entire breast with large and small pectoral muscles, as well as fiber and lymph nodes of the axillary cavity. Why does the surgeon remove axillary lymph nodes? Give the characteristics of topographic-anatomical groups of lymph nodes of the axillary cavity.

Task № 7

The surgeon of the polyclinic was approached by the patient with complaints of painful swelling in the deltoid area. During the inspection of the dense palpable swelling in the region of the clavicular part of the deltoid muscle. Make a diagnosis and give a topographic anatomical justification.

Task № 8

The patient developed purulent inflammation of the shoulder joint (purulent omarthritis) due to purulent bursitis adjacent to the joint and inflamed synovial bags. Secondary describe the possible ways of distribution of pus in the neighboring area (paraarticular streaks).

Task № 9

The back arthrotomy was made to the patient because of the purulent omarthritis. In the postoperative period, the violation of the function of limb abduction to the horizontal level was found. Give topographic and anatomical justification of this complication after surgery.

Task № 10

The patient with a wound on the forearm is subjected to a tourniquet in the middle third of the shoulder, after a few minutes there were pains on the site of the tourniquet, which began to increase. Later, when the patient was taken to the trauma Department, the brush hung, the sensitivity on the back surface of the forearm and hand was impaired. What explains this complication, what mistake was made?

Task № 11

The patient was diagnosed with a detachment of the internal condyle of the humerus. During the examination there was a loss of sensitivity of the V and IV fingers, impaired function of the interosseous muscles, the brush has the form of a "clawed paw". What nerve damage would be expected?

Task № 12

The surgeon, when providing assistance with the incision wound of the forearm at the level of the middle third with damage to the radial artery, made ligation. Give the topographic-anatomical substantiation of rational tactics.

Task № 13

In the treatment of phlegmon in the stage of purulent fusion of tissues of the forearm surgeon, for the purpose of drainage of the purulent cavity, incised the soft tissues on the anterior surface of the distal third of the forearm over the site of the largest fluctuations. Evaluate the actions of the surgeon, give a rationale for rational tactics.

Task № 14

In a patient with a cut wound in the lower third of the anterior forearm area, there was no flexion of I, II, III fingers and the opposition of I finger; disorder of skin sensitivity on the palmar surface of the first three fingers and the corresponding part of the palm. Which nerve is damaged, and what features of its topography in the lower third of the forearm contribute to such damage?

Task № 15

A patient with a brachial artery thrombosis in the middle third of the shoulder developed collateral circulation. Which preexisting interconnection anastomosis after thrombosis of the brachial artery assumes the function of carrying blood to the peripheral parts of the extremity.

Task № 16

With the ineffectiveness of puncture treatment of purulent elbow arthritis, arthrotomy of the elbow joint is indicated. Specify the location of the puncture and incisions for the opening and drainage of the elbow joint.

Task № 17

For opening and drainage of the phlegmon of the anterior fascial bed of the forearm, the surgeon made two longitudinal extra-projection sections. Name the fascial bed of the forearm. What is the projection of the lateral and medial neurovascular bundles of the anterior region of the forearm.

Task № 18

The patient with a purulent wound of the palmar surface of the hand turned to the clinic. Upon inspection of the is evident a pronounced swelling of the back of the hand. Give an anatomical explanation of this phenomenon.

Task № 19

The subcutaneous panaritium of the distal phalanx of the finger is characterized by a sharp pain and a tendency to rapidly spread

deep into the bone with the transition to the bone panaritium (osteomyelitis of the distal phalanx of the finger). Give anatomical support, especially of the subcutaneous panaritium of the distal finger phalanx.

Task № 20

One of the complications of acute purulent tendovaginitis is the necrosis of the tendons of the flexors of the finger. Name the cause of such necrosis and describe the features of the structure of the finger, contributing to the development of this complication.

Task № 21

In a patient with acute suppurative tendovaginitis of a finger I was complicated by U-shaped (cross) phlegmon with the spread of pus in the cellular spaces, the space of Pirogov-Paron. Give the anatomical justification for the development of such a phlegmon and determine the location of the incisions in its surgical treatment, based on the topography of the synovial sheaths of the hand and fingers.

Task № 22

The surgical treatment of panaritium fingers apply anterolateral incisions within the respective phalanges are not passing through the line of the interphalangeal folds. Give the topographic-anatomical substantiation of such cuts.

Task № 23

The patient in the postoperative period had complaints about significant limitations of the hand function, including the lack of thumb opposition; in the anamnesis – the phlegmon of the elevation of the first finger. Explain the cause of this complication.

Topographic anatomy and operative surgery of head and neck areas

Situational tasks: topographic anatomy and operative surgery of the head and neck.

Task № 1

The hospital delivered the victim, who in the parietal region due to the detachment of soft tissues formed an extensive scalped wound. What are the layers of soft tissue that make up the detached flap. Which topographic-anatomical peculiarities of the skin of the head lead to the formation of scalped wounds?

Task № 2

The victim with a scalped wound of the brain department of the head was taken to the clinic.
The rejected scalp was taken to the surgical department together with the victim. Give topographic-anatomical justification of the optimal treatment tactics in this case.

Task № 3

The surgical department received the victim with a large hematoma of the frontal-parietal-occipital region. Despite the primary surgical treatment, a sequestration of a significant portion of the frontal bone was formed in the postoperative period. Give a topographic-anatomic substantiation of the arisen complication.

Task № 4

Hematomas of the soft tissues of the brain of the head, depending on the depth
locations can be limited, to spread over the entire surface of the body or within the bones of the cranial vault. Specify in which layer each of the three types of hematomas is located. Give anatomical justification of differences in their prevalence by area.

Task № 5

Why during fist fights in Russia blows to the temporal area were forbidden?
Give topographic and anatomical justification of extreme injury in this area.

Task № 6

In a patient with damage to soft tissues of the temporal region, primary surgical treatment of a torn wound was performed, as a result of which a comminuted fracture of the temporal bone scales, an epidural hematoma was found. The dura mater is not damaged. What is the source of the epidural hematoma in the temporal region. Is this a penetrating wound?

Task № 7

Give a topographic and anatomical justification for the isolation of liquor from the nasal cavity in frontal injuries of the skull (blow to the nasal back).

Task № 8

In the surgical department, the victim was delivered, in which an x-ray examination revealed a fracture of the inner plate of the bones of the cranial vault. Give topographic and anatomical justification of the structure of the bones of the cranial vault. Why the inner plate with injuries of the skull is more likely to be destroyed?

Task № 9

In a patient with a brain tumor to reduce intracranial pressure palliative surgery was performed. What operation is shown in this case? What is the sequence of its stages?

Task № 10

In the patient after an acute injury to the skull with progressive swelling and swelling of the brain decompression of the skull was performed by Cushing. After the dissection of the dura mater there was a sharp prolapse of the brain into the operating wound. What led to the development of this complication?

Task № 11

When the soft tissues of the head are injured, there is usually a strong and prolonged bleeding along the entire circumference of the wound. What anatomical features of the blood vessels of the subcutaneous fat of the frontal-parietal-occipital region contribute to such bleeding?

Task № 12

It is known that the connection of the sinuses of the dura mater from the cranial vault are diploic veins and veins of the subcutaneous tissue of the cerebral department of the head (through the veins – emissary), play an important role in maintaining the constancy of intracranial pressure and the regulation of the outflow of venous blood from the cranial cavity. What a negative role these connections can play in purulent infection of the soft tissues of the brain department of the head.

Task № 13

The patient was found to have an extra-cerebral cyst of the brain. In this case, a radical operation – bone plastic craniotomy-is shown. Depending on the technique to cut out the flaps distinguish single-flap (method by Wagner-Wolf) and two-flap (method by Olivecron) osteoplastic craniotomy. Give a comparative assessment of advantages and disadvantages of different methods of osteoplastic trepanation.

Task № 14

In the primary surgical treatment of craniocerebral wounds of the brain department of the head, it is recommended, if their configuration allows, to cut and excision the edges of the wound of soft tissues in the radial direction. Give an anatomical justification for this technique and determine its clinical feasibility?

Task № 15

In the reception room delivered the victim, who during the x-ray examination revealed a fracture of the bones of the cranial vault and epidural hematoma. Bone plastic trepanation of the skull was performed. Give a topographic-anatomical justification of the injury, taking into account the structure and attachment of the dura mater to the inner surface of the skull bones.

Task № 16

In the traumatology department delivered the victim as a result of a car accident in serious condition. When viewed, there is an expiration of liquor from the nose, hearing loss, facial asymmetry, anisocoria. At what level of a cranial fossa there was a fracture of the bones of the base of the skull. Give a topographic and anatomical justification of the observed symptoms.

Task № 17

The student, telling the progress of the bone-plastic trepanation of the skull in the frontal region, pointed out that the skin-aponeurotic flap is cut out with the base facing upward. Another student objected, believing that the base of the flap should be turned downwards, i.e. to the brow arc. Which of these two students is right and why?

Task №18

Ligation or thrombosis of the internal carotid artery of the dolichocephals may cause more serious complications than brachycephals. Give a topographic-anatomical substantiation of ways of collateral blood supply of the brain in case of ligation of the internal carotid artery. What features of the structure and topography of the vessels of the Willis circle, depending on the shape of the skull should be taken into account.

Task №19

The patient with thrombophlebitis of the sigmoid sinus showed signs of swallowing disorders, hoarseness of the voice, bradycardia, convulsive contractions of the sternocleidomastoid and trapezius muscles. Give a topographic and anatomical justification of the observed symptoms.

Annex 2

Demonstration tests on the sections of the discipline (midterm control)

Test control: Introduction. Topographic anatomy and operative surgery of the upper and lower extremities

Choose one correct answer

1. the projection of the organ in the part of the human body and topographic and anatomical region is called:
1) sellotape;
2) holotape
3) syntopia
4) plastination
5) external reference point

2. «holotape» - it is:
1) situation with respect to neighbouring organs
2) the relationship of organs with the peritoneum or pleura
3) projection of an organ relative to the surface of the body and its areas
4) relation to the skeleton
5) external reference point

3. the ratio of the organ to the surrounding organs and tissues is called:
1) external reference point
2) holotape
3) syntopia
4) the projection of the organ
5) sellotape

4. «syntopia» - it is:
1) 1) types of connection of bones of skeleton
2) relations with neighbouring bodies
3) position relative to the body and its areas
4) position relative to the skeleton
5) the relationship of organs with the peritoneum or pleura

5. the most important position on the structure and position of the vascular sheath was first formulated:
1) R.D.Synelnikov
2) A.S.Vyshnevsky
3) N.I.Pirogov
4) V.N.Shevkunenko
5) V.V.Kovanov

6. the founder of the doctrine of individual variability of the structure and position of organs and systems of the human body is:
1) N.I.Pirogov
2) B.V.Ognev
3) V.N.Shevkunenko
4) V.V.Kovanov
5) R.D.Synelnikov

7. the cross-section of the vascular sheath is usually in the form of:
1) rectangle
2) circle
3) triangle
4) oval
5) squares

8. the operation that is performed immediately, for health reasons:
1) urgent
2) extra
3) planned
4) radical
5) palliative

9. The operation, in which completely eliminate the cause of the disease (pathologist. hearth):
1) radical
2) palliative
3) simultaneous
4) urgent
5) planned

10. the operation, which has a purpose-to alleviate the condition of the patient or eliminate life-threatening symptoms:
1) radical
2) palliative
3) extra
4) single-stage
5) urgent

11. operations performed during one surgery on two or more organs for various diseases:
1) combined
2) combined (simultaneous)

3) palliative
4) two-stage
5) radical

12. the best operation in this disease, taking into account the current level of medical science:

1) necessary operation
2) simultaneous operation
3) combined operation
4) the operation of choice
5) radical

13. operation, characterized by an increase in the volume of surgical admission to one organ due to the characteristics or stage of the pathological process:

1) combined
2) combined
3) expanded
4) two-stage
5) the operation of choice

14. the operation associated with the need to increase the volume of surgical admission in one disease affecting neighboring organs:

1) combined
2) combined
3) radical
4) expanded
5) two-stage

15. cutting off the peripheral part of an organ or extremity is called:

1) resection
2) exarticulation
3) amputation
4) cut
5) tomia

Test control: Topographic anatomy and operative surgery of the head.

Choose one correct answer

1. the cerebrospinal fluid contains in the space:

1) epidural;
2) subdural.;
3) subarachnoid;
4) sub-strenuous;
5) intracerebral

2. bleeding from the superficial vessels of the cerebral part of the head is difficult to stop because of:

1) the vessels are associated with the sinuses of the dura mater;
2) the adventitia of blood vessels is strongly associated with connective tissue jumpers;
3) the vessels are associated with emissary veins;
4) the vessels are connected with the spongy substance of the bone;
5) the vessels are devoid of valves

3. subperiosteal hematoma of the skull looks:

1) spilled;
2) limited by the limits of one skull bone;
3) in the form of «bumps»;
4) has a rounded shape;
5)in the form of «hook»

4. the operation, which aims to reduce intracranial pressure:

1) bone plastic trepanation;
2) decompression trepanation;
3) craniotomy;
4) antrotomy;
5) suboccipital puncture.

5. the hematoma of the cerebral part of the head that do not have sharp boundaries, diffuse, flat:

1) subcutaneous;
2) subaponeurotic;
3) sub-periosteal;
4) epidural;
5) subarachnoid.

6. layers of degloving injuries of the cerebral department of the head:

1) skin;
2) skin, subcutaneous tissue;
3) galea, periosteum;
4) skin, subcutaneous tissue, galea;
5) subcutaneous tissue, galea, periosteum, bone.

7. subcutaneous hematoma of the brain department of the head looks:

1) spilled;

2) limited by the limits of one skull bone;
3) in the form of «bumps»;
4) has a rounded shape;
5)in the form of «hook»

8. the spread of purulent infection of soft tissues of the frontal-parietal region into the skull cavity contributes to:
1) the superficial location of the arteries and veins;
2) fixation of the adventitia of vessels to connective-tissue bridges;
3) presence of intersystem arterial anastomoses;
4) the relationship between the surface (extracranial)and deep (intraosseous and intracranial) veins;
5) the presence of connective tissue septa

9. the good healing and the maintenance of an adequate blood supply brains tissue of the head in case of damage or ligation of the large arteries contribute:
1) the superficial location of the arteries and veins;
2) fixation of the adventitia of vessels to connective-tissue bridges;
3) presence of intersystem arterial anastomoses;
4) the relationship between the surface (extracranial) and deep (intraosseous and intracranial) veins;
5) deep location of arteries and veins.

10. when performing craniotomy, the base of the flap of soft tissues should be turned downwards:
1) in connection with the ascending course of neurovascular bundles;
2) due to the surface location of the main arteries and veins;
3) due to the rich network of arterial anastomoses;
4) in connection with the fixation of the walls of the vessels to the connective bridges ;
5) in connection with the downward course of the neurovascular bundles.

11. the operation of choice in the rejected scalp is currently:
1) free skin grafting with autograft;
2) skin plastic flap from adjacent areas on the leg;
3) scalp replantation using microsurgical techniques;
4) a perforated plastic free skin graft ;
5) substitution of the flap with an intact synthetic graft.

12. indicate who the internal carotid artery ligation can cause serious complications due to the absence of one or all of the connective arteries in the Willis circle:
1) dolichocephalus;
2) brachycephalus;
3) mesocephalus;
4) polycephalus;
5) everyone.

Test control: Topographic anatomy and operative surgery of the breast area

Choose one correct answer

1. the capsule of the breast forms the fascia:
1) surface
2) thoracic
3) clavicle-thoracic
4) intragastric
5) sternum-rib

2. specify the main route of lymph drainage from the breast:
1) subclavian lymph nodes
2) axillary lymph nodes
3) paramammary (parasternal) lymph nodes
4) intercostal lymph nodes
5) mediastinal lymph nodes

3. anatomical formation separating the chest wall from the chest cavity:
1) parietal pleura
2) intragastric fascia
3) predelovalne cellular tissue
4) clavicle-thoracic
5) all of the above

4. evel of puncture in the presence of fluid in the pleural cavity (hemothorax):
1) the IV-V intercostal space between the posterior axillary and scapular
2) the VII-VIII intercostal space between the posterior armpit and scapula
3) the V-VI intercostal space between the posterior axillary and scapular
4) the II-III intercostal space on the midclavicular line
5) the V-VI intercostal space at the midclavicular line

5. the level of puncture of pneumothorax:
1) the II-III intercostal space along the anterior axillary line
2) the VII-VIII intercostal space between the posterior axillary lines
3) the II-III intercostal space on the midclavicular line
4) the III-VI intercostal space on the middle-clavicular line
5) the V-VI intercostal space between the posterior axillary and scapular

6. when the pleural cavity is punctured between the needle and the syringe, a rubber tube is put on:
1) for the convenience of the puncture
2) for subsequent drainage of the pleural cavity
3) for drug administration
4) prevention of air ingress into the pleural cavity
5) all of the above
7. the main reception can provide first medical aid in valvular pneumothorax:
1) vagosympathetic blockade
2) application of occlusive dressing
3) removal of air from the pleural cavity
4) removal of blood from the pleural cavity
5) all of the above
8. The formation, which is the main fixing apparatus of the breast:
1) the pectoralis major muscle
2) retromammary cellular space
3) the ligament that supports the breast
4) fatty tissue
5) own fascia
9. intercostal neurovascular bundle is not covered with an edge anterior to the line:
1) scapular
2) posterior axillary
3) mid-axillary
4) anterior axillary
5) mid-clavicular
10. organ located at the border of the front and rear mediastinum:
1) esophagus
2) trachea and major bronchi
3) heart to the pericardium
4) thymus gland
5) the descending part of the aorta
11. anatomical formation, to which the entire length of the esophagus lies in the posterior mediastinum:
1) to the chest duct
2) to unpaired vein
3) to the thorax of the descending aorta
4) to the semi-paired vein
5) to the pericardium
12. on what surface of the esophagus are the branches of the right vagus nerve in the chest cavity:
1) front
2) right
3) left
4) back
5) top
13. the reason of "balloting" of the mediastinum:
1) chest injury
2) surgery on the organs of the chest
3) valve pneumothorax
4) moving the patient
5) myocardial infarction

Test control: Topographic anatomy and operative surgery of the abdomen

Choose one correct answer

1. the rectus abdominis muscle at the back below the arched line is covered by:
1) parietal peritoneum
2) aponeurosis of transverse muscle
3) transverse fascia (intra-abdominal)
4) preperitoneal tissue
5) aponeurosis of the external oblique muscle
2. within the inguinal interval there are no:
1) superficial fascia and external oblique abdominis
2) internal oblique and transverse muscles
3) the transverse fascia and the peritoneum
4) transverse muscle and transverse fascia
5)the transverse muscle and the peritoneum
3. the damage to a vessel when accessing the deep ring of the femoral canal is called «the crown of death»:
1) femoral artery
2) the external iliac artery
3) obturator artery
4) femoral vein
5) external iliac vein

4. the cause of congenital inguinal hernia:
1) increase in the inguinal space
2) increased intra-abdominal pressure
3) non-penetration of the vaginal process of the peritoneum
4) the weakness of the transverse fascia
5) all correct
5. congenital inguinal hernia by its nature is:
1) oblique
2) straight
3) infringed
4) sliding
5) internal
6. the umbilical ring is closed by layers:
1) skin, subcutaneous tissue, superficial fascia
2) skin, preperitoneal tissue, peritoneum
3) skin with scar tissue, umbilical fascia and peritoneum
4) skin, subcutaneous fatty tissue, rumen, umbilical fascia, predposylka tissue, peritoneum
5) skin, subcutaneous fatty tissue, superficial fascia, own fascia, peritoneum
7. due to the lack of any layer of the hypochondrium triangle (Volyn) is referred to the "weak points" of the anterior abdominal wall:
1) the surface fascia
2) the external oblique abdominal muscle
3) the internal oblique muscle of the abdomen
4) transverse abdominal muscle
5) the rectus muscle
8. in the middle laparotomy, the umbilical ring is bypassed on the left:
1) it is so convenient for surgeon
2) not to damage the umbilical arteries
3) not to damage the round liver ligament (umbilical vein)
4) to save obliterating urinary duct
5) for cosmetic purposes
9. method of plastic, in which the umbilical ring is sutured with a duplicate in the longitudinal direction:
1) by Lexer
2) by Meyo
3) by Napalkov
4) by Sapezhko
5) by Bassini
10. method of plastic, in which the umbilical ring is sutured with a duplicate in the transverse direction:
1) by Meyo
2) by Lexer
3) by Sapezhko
4) by Napalkov
5) by Bassini
11. the similarity of operational methods for treatment of femoral hernias by Rudi and Bassini:
1) the inguinal ligament is sutured to the lacunar ligament
2) the plastic is held on the side of the abdomen
3) the inguinal ligament is sutured to the comb ligament
4) of plastic from the side of the thigh
5) inguinal ligament is sutured to the periosteum of the Ilium
12. the disadvantage of plastic hernial ring in oblique inguinal hernias according to the method by Spasokukotsky:
1) possible splintering of the inguinal ligament
2) heterogeneity of suturing tissues
3) closure of the inguinal gap
4) weakness of the anterior wall of the inguinal canal
5) all of the above is true
13. methods of surgical treatment of inguinal hernias without opening the inguinal canal (in children) all excepting:
1) Ru
2) Meyo
3) Oppel
4) Cherny
5) Krasnobaev
14. after hernia repair, made of plastic closure of the hernial orifice suturing of the internal oblique and transverse abdominal muscles to the inguinal ligament behind the spermatic cord. Method of plasty of the inguinal canal's border:
1) Rudji
2) Bassini
3) Gerar
4) Kukudjanov
5) Spasokukotsky

Annex 3

Demonstration tasks on the sections of the discipline (intermediate control, exam)

Task № 1

To know:

1. Topographic anatomy of the duodenum.
2. The basic principles of separation of tissues
3. Primary surgical treatment of facial wounds.

Can (to be able to):

Task № 1

The hospital delivered the victim, who in the parietal region due to the detachment of soft tissues formed an extensive scalped wound. What are the layers of soft tissue that make up the detached flap. What topographical anatomical features of the head covers lead to the formation of scalped wounds?

Task №2

To know:

1. Cardiac bag (pericardium): inversions, sinuses
2. The stroke of the peritoneum and its leaves. Properties of the peritoneum.
3. The shoulder joint, the shape, the possible range of motion.

Can (to be able to):

Task № 3

The surgical department received the victim with a large hematoma of the frontal-parietal-occipital region. Despite the primary surgical treatment, a sequestration of a significant portion of the frontal bone was formed in the postoperative period. Give the topographical and anatomical justification of the arisen complication.

Task №3

To know:

1. Topographic anatomy of the breast.
2. Draw a diagram of blood supply to the elbow area.
3. Topography of the neck.

Can (to be able to):

Task № 5

Why during fist fights in Russia blows to the temporal area were forbidden? Give the topographic and anatomic justification of the extreme hazards in this area.

Task №4

To know:

1. Topographical anatomy of the chest wall: layers, vessels and nerves.
2. Topography of the peritoneum course in the upper floor of the pelvis in men and women.
3. Tools used in operations on the skull.

Can (to be able to):

Task № 11

When the soft tissues of the head are injured, there is usually a strong and prolonged bleeding along the entire circumference of the wound. What anatomical features of the blood vessels of the subcutaneous fat of the frontal-parietal-occipital region contribute to such bleeding?

Task №5

To know:

1. Topographic anatomy of the heart
2. Topographical anatomy of the carpal, radial and ulnar channels of the wrist.
3. Topography of the lung: its division into shares, zones, segments.

Can (to be able to):

Task № 21

With long-existing inflammation of the nasopharynx, it is possible to develop not only purulent otitis media with the defeat of the structures of the tympanic cavity, but also the appearance of purulent mastoiditis. Give topographic anatomical justification for the development of such complications. What in this case should be the tactics of an otorhinolaryngologist.

Task №6

To know:

1. Topographic anatomy of the esophagus
2. Surgery for defects of the interventricular and atrial septum of the heart.
3. Topographic anatomy of the knee, external landmarks, boundaries.

Can (to be able to):

Task № 22

Trepanation of the mastoid process for purulent mastoiditis should be carried out within the triangle of the Shipo, directing the tool parallel to the back wall of the external auditory canal and gradually opening the cells of the mastoid process to the formation of a common bone cavity. In case of violation of the technique, complications in the form of damage to the adjacent mastoid process of anatomical formations are possible.

What are the possible complications in the excessive advancement of the tool (chisel Voyachek) in the following directions: forward, up, deep, posteriorly.

Task №7

To know:

1. Topographical anatomy of the aorta, unpaired and half-solitary vein

2. Topography of the femoral canal, the walls, the inner and outer ring,
content.
3. The structure of the vagina of the rectus abdominis at 3 different levels.
Can (to be able to):
Task №28
The patient has a cut wound in the lateral area of the face on the right 2-2.5 cm below and parallel to the zygomatic arch. Primary surgical treatment of the wound was performed. After stopping the bleeding, it was discovered that the wound is filled with transparent liquid. What anatomical formation is damaged, its topography.

Task №8

To know:
1. Topographic anatomy of the lungs
2. Ligament of the liver, the contents of the hepatoduodenal ligament.
3. Classification of amputations.
To know:
Task № 29
The patient after hypothermia developed paralysis of the facial muscles of the left half of the face with the following symptoms on the side of the lesion: smoothing of the frontal folds, the expansion of the eye slit, sagging cheeks, omission of the corner of the mouth, the inability of tight closing of the lips. Damage of which nerve and its branches led to the emergence of such a syndrome? Paralysis of some facial muscles caused the appearance of each of the symptoms?

Task №9

To know:
1. Classification of hernias. Surgical anatomy of inguinal hernias.
2. Femoral triangle, layers, iliopectineal fossa.
3. Topography of the main nerve trunks of the brain department of the head.
Can (to be able to):
Task № 39
To check the condition of one of the cranial nerves, a neurologist presses his fingers on the areas of the face corresponding to the supraorbital notch, the subglacial and chin openings. The state of some nerve and some of its branches are verified with this technique? Why are these places on the face used for this purpose?

Task №10

To know:
1. Liver resection, suture of the liver.
2. Topographic anatomy of the parotid chewing area of the face
3. Technique of carrying out of pyelolithotomy.
Can (to be able to):
Task № 40
The fat body of the cheek (fat lump bisha) closely adjacent to the upper and lower jaws, serves as a conductor of inflammatory processes, primarily developing in the jaws (odontogenic origin). What processes has the fat body of the cheek? What are the possible ways of distribution of purulent streaks in the localization of the infection in the fat body of cheek.

ANNEX 4
Technological map of the discipline (Topographical anatomy and operative surgery)
Discipline: Anatomy
Direction / profile: 31050150_15_13ld.pli.xml
Group:
The number of credits (ZE) with: ZE = 2
Reporting: Test report (offset)
Teacher:

Name of modules disciplines according to RDP	Control	Control form	Credited minimum	Credited maximum	Control chart (week of the semester)
Module 1					
Section 1. «Topographic anatomy and operative surgery. Topographic anatomy and operative surgery of the upper and lower extremities»	Current control	Front-end survey, conspectus, practical class	16	21	12 (3nd semester)
Border control#1		Testing	5	18	
Module 2					
Section 2. «Topographic anatomy and operative surgery of the head and neck»	Current control	Front-end survey, conspectus, practical class	7	10	18 (3nd semester)
Border control#2		Testing	5	9	
Activity			6	10	
Attendance			1	2	
Total for the semester			40	70	
Intermediate control (offset)			20	30	
The semester rating of discipline			60	100	

NB:
1.For each missed and unprocessed lecture or practical lesson removed 1 point.
2. For active participation plus 1 point.

Technological map of the discipline (Topographical anatomy and operative surgery)
Discipline: Anatomy
Direction / profile: 31050150_15_13ld.pli.xml
Group:
The number of credits (ZE) with: ZE = 3
Reporting: Test report (exam)
Teacher:

Name of modules disciplines according to RDP	Control	Control form	Credited minimum	Credited maximum	Control chart (week of the semester)
Module 1					
Section 3. «Topographic anatomy and operative surgery of the breast area»	Current control	Front-end survey, conspectus, practical class	7	10	5 (4^{nd} semester)
Border control#3	Testing		3	9	
Module 2					
Section 4. «Topographic anatomy and operative surgery of the abdomen»	Current control	Front-end survey, conspectus, practical class	8	11	13 (4^{nd} semester)
Border control#4	Testing		4	9	
Module 3					
Section 5. «Topographic anatomy and operative surgery of the lumbar region, retroperitoneal space, spine, pelvis and perineum»	Current conrol	Front-end survey, conspectus, practical class	8	10	18 (4^{nd} semester)
Border control#5	Testing	2	3	9	
Activity			6	10	
Attendance			1	2	
Total for the semester			40	70	
Intermediate control (exam)			20	30	
The semester rating of discipline			60	100	

NB:
1. For each missed and unprocessed lecture or practical lesson removed 1 point.
2. For active participation plus 1 point.

Annex 5

MODULAR CONTROL IN THE DISCIPLINE. CURRENT CONTROL : - learning of educational material in classroom (lectures, practical classes) and the performance of mandatory tasks for independent work.

Current control of knowledge of the rating scale

3th semester

№	The control of discipline	Percentage share	Score	
			min	max
1	Front-end survey	0-20%	10	14
2	Conspectus	0-20%	11	12
3	Practical class	0-5%	2	5
4	Activity	0-20%	6	10
5	Attendance	0-5%	1	2
6	Border control	0-30%	10	27
7	In total	100%	40	70

NB: The student is allowed to perform BK when he or she has eliminated attendance deficiencies and completed other types of academic work.

Sections	Practical classes, hour	Lectures, hour	Percentage share, %	Score	
				min	max
Section 1 Topographic anatomy and operative surgery. Topographic anatomy and operative surgery of the upper and lower extremities	24	10	63	16	29
Section 2 Topographic anatomy and operative surgery of head and neck areas	12	8	37	10	17
In total	36	18	100	26	46

4th semester

№	The control of discipline	Percentage share	Score	
			min	max
1	Front-end survey	0-20%	10	14
2	Conspectus	0-20%	11	12
3	Practical class	0-5%	2	5
4	Activity	0-20%	6	10
5	Attendance	0-5%	1	2
6	Border control	0-30%	10	27
7	In total	100%	40	70

NB: The student is allowed to perform BK when he or she has eliminated attendance deficiencies and completed other types of academic work.

The criterion for assessing the student's academic work for 4 semester is the amount of 60 and more points - admission to the exam.

Tasks for the current control of knowledge (credit) - are questions that need to be answered

KNOW-60% correct answers

NAME and SHOW – 40% correct answers to the situational problem

The level is estimated at min 20 points

0-100% 26 – 30 points – excellent

0-85% 21 - 25 points – good

0-50% 15 - 20 points satisfactory

less than 15 points-unsatisfactory

The criterion for evaluating the results of the test and admission to testing is a positive response on 50% of the questions (test).

Sections	**Practical classes, hour**	**Lectures, hour**	**Percentage share, %**	**Score**	
				min	**max**
Section 3 Topographic anatomy and operative surgery of the breast area	15	4	26	7	12
Section 4 Topographic anatomy and operative surgery of the abdomen	21	8	40	10	18
Section 5 Topographic anatomy and operative surgery of the lumbar region, retroperitoneal space and small pelvis and perineum	18	6	34	9	16
In total	54	18	100	26	46

MIDTERM CONTROL: - check the completeness of knowledge and skills on the material of the module as a whole.
Scale of knowledge assessment midterm control
Testing
The level of ownership is estimated at 40 points.
Evaluate test results
The calculation of the assessment of students ' knowledge, see Appendix 5 and
The criterion for evaluating the test results and admission to the exam is a positive answer to 60% of the questions asked.
INTERMEDIATE CONTROL: - completed a documented part of the discipline (or all discipline completely)
Scale of assessment knowledge interim control
Job for intermediate control of knowledge.
KNOW – 60%
CALL AND SHOW – 40%
The level is estimated at 30 points.
0-100% 26 – 30 points – excellent
0-85% 21-25 points-good
0-50% 15-20 points satisfactory
less than 15 points-unsatisfactory

The criterion for evaluating the exam results is 50% correct answers. See Annex 5 a for a more detailed calculation of the knowledge assessment. When making a final assessment, the student's academic performance for the year is taken into account by the results of current and midterm control, oral response (the average score is displayed).
The maximum value of the control:

№	Control	The type of control	Score	Percentage share, %
current control	offset	20-30	30%	
border control	test	0 – 40	40%	
intermediate control	exam	20 – 30	30%	

The final result of the test of knowledge for the entire period of training is reflected in the final sheet on the scale:
85 – 100 points – excellent
70 – 84 points – good
60-69 points-satisfactory
less than 60 points-unsatisfactory

Annex 5a
SCALE OF ASSESSMENT OF THE CURRENT CONTROL
Front-end survey
Conspectum
Practical task
Activity
Attendance
Tasks for the current control of knowledge (offset) - are questions that need to be answered
1. Topographic anatomy and operative surgery of the extremities (to know)
2. Topographic anatomy of the head and neck (to know)
4. Situational task (to be able to own)

№	Name of indicator	Mark (%)
1	Participation activity.	0 - 10
2	Interpretation of the structure of the human body in connection with its functionality.	0 - 35
3	Understanding the structure and function of organs, adequacy interpretations.	0 - 10
4	Reasonable involvement of quantitative indicators (relevance and reliability of information).	0 - 20
5	Key words (their importance for interpretation, competent use, quantity).	0 - 5
6	The consistency and consistency of the oral statement.	0 - 20
Assessment for activity (current control)	**Total score**	

№	Name of indicator	Mark (%)
1	The content of the conspectum should correspond to the specified counts.	0 - 30
2	Completeness and quality of disclosure of the topic on these graphs.	30 - 50
3	Independence of the work, the use of recommended and reference books.	0 - 20
Assessment for the implementation of the conspectum (current control)	**Total score**	

№	Name of indicator	Mark (%)
1	Practical skills with the use of demonstration materials.	0-30
2	Reproductive activity (repetition of previously learned material): a) on the recognition of the material with a hint from the outside; b) independent reproduction of the information studied.	0-25
3	Manufacture of preparations.	0-15
4	Preparation of visual AIDS.	0-30
Assessment for the implementation of the practical task (ongoing monitoring)	**Total score**	
Overall rating for the current control	**The arithmetic mean**	

№	Name of indicator	Mark (%)
1	1st question	0 – 30
2	2nd question	0 – 30
3	3rd auestion	0 – 40
Assessment for performance (offset)	**Total score**	

Criteria for assessing students' knowledge of the disciplines.

On the exam, the student can get the maximum number of points - 30. The student can get the following grades based on the demonstrated knowledge: - 21-30 points-Has the skills to work with literature and biological objects. He has the skills to use Internet resources. Knows anatomical-physiological, age-sexual and individual features of the structure and development of the human body; the General principle of the layered structure of the human body. Topographic and anatomical substantiation of medical care for the prevention of intraoperative errors and complications caused by age and topographic and anatomical features of the area; use General and some special surgical instruments. Perform surgical techniques and operations on biological materials, models and simulators. Skills in determining the most important topographic and anatomical landmarks and practical skills in the provision of medical care. Skills palpation on the person of the main bone orientations, the definition of topographic contours of organs and major vascular and nerve trunks.

The student must answer all the questions presented in the ticket accurately, as well as demonstrate fluency in the material when answering additional questions. - 21-25 points - Has basic skills of working with literary sources. He has the skills to work with literature and biological objects. He has the skills to use Internet resources. Knows anatomical and physiological, age and sex and individual features of the structure and development of the human body; General principle of the layered structure of the human body. Topographic and anatomical substantiation of medical care for the prevention of intraoperative errors and complications caused by age and topographic and anatomical features of the area; use general and some special surgical instruments. The student must answer the questions on the ticket accurately but not accurately or fully disclose the additional questions asked. - 16-20 points-Knows the anatomical and physiological, age and sex, and individual features of the structure and development of the human body; the general principle of the layered structure of the human body. Topographic and anatomical substantiation of medical care for the prevention of intraoperative errors and complications caused by age and topographic and anatomical features of the area; use general and some special surgical instruments. The student must answer all the questions presented in the ticket accurately, as well as demonstrate fluency in the material when answering additional questions. - 11-20 points-Able to use the knowledge. He has basic skills of working with literary sources. Knows anatomical and physiological, age and sex, and individual features of the structure and development of the human body the general principle of the layered structure of the human body. The student must answer the questions on the ticket accurately but not accurately or fully disclose the additional questions asked.

№	**Name of indicator**	**Mark (%)**
1	1st question	0 – 30
2	2nd question	0 – 30
3	3rd question	0 – 40
Assessment for performance (offset)	**Total score**	100

- 6-10 points - knows anatomical and physiological, age and sex
individual features of the structure and development of the human body; the General principle of the layered structure of the human body. Topographic and anatomical substantiation of medical care for the prevention of intraoperative errors and complications caused by age and topographic and anatomical features of the area; use General and some special surgical instruments. The student must answer the questions presented in the ticket, but it is difficult to answer additional questions.
- 2-5 points - not able to select part of the idea. Can not use the main tool.. Does not have a clear idea of the basic rules of use of Internet resources. The student finds it difficult to answer the questions of the ticket, answers only after leading questions, demonstrates poor knowledge when answering additional questions.
- 0 points-does not know. The student did not answer any question from the ticket. After the proposal of the second (additional) ticket and the corresponding preparation for the answer also did not demonstrate knowledge on this subject. A student who does not appear for the exam receives "0" points.

SCALE OF TEST EVALUATION (interim control)

1. There are N closed questions in one test task.
2. The tasks are given ready answers to choose the right answers can be one or more.
3. For each correctly answered question, No is charged as a percentage.
4. The total amount of interest is determined as the sum of the responses by sections of the discipline for the entire training period.
5. Total number of points – the sum of points received for each section
disciplines

The calculation of points is based on the formula:
Nб = **No * B/100** where:
Nб - score for correct answer
No - number of correct answers, %
No = Nx*100/N
N – number of questions in the test
Nx – number of correct answers per section
B = X* - maximum score for each section of the discipline (see Annex 4)
The result of the knowledge test is determined by the formula (in percentage):
D = ∑ Nб*100/40, where
D – correct answers in percent;
∑ Nб – the sum of score for correct answers by sections;
40 – maximum score.
The criterion for evaluating the test results is a positive response to 60% of the questions.

SCALE OF ASSESSMENT INTERMEDIATE CONTROL (EXAM)
The structure of the examination ticket.
1. The area of the extremities. (to know.)
2. Head and neck area. The abdomen (to know).
3. The pelvic and perineal region (to know).
4. Situational problem (to be able to own).

№	**Name of indicator**	**Mark (%)**
1	1st question	0 – 20
2	2nd question	0 – 20
3	3rd question	0 – 20
4	4th question	0 – 40
Assessment for performance (exam)	**Total score**	100

Criteria for assessing students' knowledge of the disciplines.
On the exam, the student can get the maximum number of points - 30. The student can get the following grades based on the demonstrated knowledge:
- 26-30 points-Has the skills to work with literature and biological objects. He has the skills to use Internet resources. Knows anatomical-physiological, age-sexual and individual features of the structure and development of the human body; the general principle of the layered structure of the human body.
Topographic and anatomical justification of medical care for the prevention of intraoperative errors and complications caused by age and topographic and anatomical features of the area; use general and some special surgical instruments. Perform surgical techniques and operations on biological materials, models and simulators.
Skills in determining the most important topographic and anatomical landmarks and practical skills in the provision of medical care. Skills of palpation on the main bony landmarks, the definition of the topographic contours of the organs and major vascular and nerve trunks, the Student needs to accurately answer all the questions in the ticket, and demonstrate fluency in the material in response to further questions.
- 21-25 points-Has basic skills of working with literary sources. He has the skills to work with literature and biological objects. He has the skills to use Internet resources. Knows anatomical and physiological, age and sex and individual features of the structure and development of the human body; general principle of the layered structure of the human body.
Topographic and anatomical substantiation of medical care for the prevention of intraoperative errors and complications caused by age and topographic and anatomical features of the area; use general and some special surgical instruments.
The student must answer the questions on the ticket accurately but not accurately or fully disclose the additional questions asked.
- 16 - 20 points – Knows the anatomical and physiological, age-sexual and
individual features of the structure and development of the human body; the general principle of the layered structure of the human body.
Topographic and anatomical substantiation of medical care for the prevention of intraoperative errors and complications caused by age and topographic and anatomical features of the area; use general and some special surgical instruments.
The student must answer the questions presented in the ticket, but it is difficult to answer additional questions.
- 10-15 points - knows the anatomical and physiological, age and sex, and individual characteristics of the structure and development of the human body; the general principle of the layered structure of the human body. Topographic and anatomical substantiation of medical care for the prevention of intraoperative errors and complications caused by age and topographic and anatomical features of the area; use general and some special surgical instruments
The student must answer the questions presented in the ticket, but it is difficult to answer additional questions.

- 2-5 points - not able to select part of the idea. Can not use the main tool. Does not have a clear idea of the basic rules of use of Internet resources

The student finds it difficult to answer the questions of the ticket, answers only after leading questions, demonstrates poor knowledge when answering additional questions.

- 0 points-does not know

The student did not answer any question from the ticket. After the proposal of the second (additional) ticket and the corresponding preparation for the answer also did not demonstrate knowledge on this subject. A student who does not appear for the exam receives "0" points.

№	**Name of indicator**	**Mark (%)**
1	1st question	0 – 20
2	2nd question	0 – 20
3	3rd question	0 – 20
4	4th question	0 – 40
Assessment for performance (exam)	**Total score**	100

Annex 6

Control of independent work of students.

The following forms of control are used to control the students' independent work:

- thematic consultations, during which students interpret the information, analyze, systematize. The teacher determines the degree of mastering the material, the topics of the task, and provides the necessary assistance.
- monitoring control is carried out at lectures, practical classes, solving situational problems. It is conducted in the form of a survey, interviews, oral responses of students, examinations, tests, organization of discussions.
- the current control is carried out during check and the analysis of separate types of the independent works performed in extracurricular time. These include works of an individual nature: reports, production of posters on various sections of the subject, the production of models and models of various organs and systems, abstracts.
- final control is carried out through the system of tests and examinations,

provided by the curriculum. Here, special attention is paid to contactless methods of tests (modules) and exams. This is achieved by conducting modules and examinations through test control.

Out-of-court independent work of students

№	Name of the discipline section	Types of independent work	Control form
1	Topographic anatomy and operative surgery. Topographic anatomy and operative surgery of the upper and lower extremities	Training programs in electronic form.	Oral survey
		The study of drugs of internal organs. Preparation of presentations on the topics of the section. Work with training AIDS; Training programs in electronic form.	Oral survey
2	Topographic anatomy and operative surgery of head and neck areas	Independent solution of situational problems; preparation of diagrams and drawings on the topics. Training programs in electronic form.	Oral survey
3	Topographic anatomy and operative surgery of the breast area	Preparation of diagrams and drawings on the topics. Filling in the training tables. Independent solution of situational problems. Training programs in electronic form.	Oral survey
4	Topographic anatomy and operative surgery of the abdomen	Study of preparations. Work with training AIDS. Independent decision.	Oral survey
5	Topographic anatomy and operative surgery of the lumbar region, retroperitoneal space and spine, pelvis and perineum	Study of preparations. Work with training AIDS. Independent solution of situational problems. Training programs in electronic form.	Oral survey

Annex 7

Demonstration questions to p 5.1

To be able and to own

1. Methods of processing of hands.
2. Methods of processing of the surgical field.
3. Technique of local anesthesia.
4. Nerve block anesthesia by Vishnevsky
5. Use general and special surgical instruments, suture material.
6. Produce incisions of skin, fascia, muscle, etc.
7. To demonstrate the technique of knitting surgical units (marine and surgical.)
8. Apply, remove the skin suture.
9. Suturing the muscles.
10. Sutures on the subcutaneous tissue.
11. Methods of administration of drugs.
12. The technique of venipuncture and venesection.
13. Find the point of finger pressing of the arteries to temporarily stop bleeding.
14. Apply a hemostatic clip to the vessels of subcutaneous tissue.
15. Ligate the vessel and bind it.
16. Principles of primary surgical treatment of soft tissue wounds.
17. To carve out a skin flap for plastic.
18. Show boundaries, external landmarks of the deltoid region.
19. Show modelsvideo cellular spaces space and its relationship with other areas.
20. Show the boundaries, external landmarks of the scapula area, bone-fibrous bed and their contents.
21. Show the main neurovascular bundles of the scapula and the pathways of pus from the scapula.
22. Draw the diagram of the blade anastomotic circle for dressing of the axillary artery.
23. Show and draw a projection of the articular slit of the shoulder joint, the boundaries of the attachment, its weak points of the capsule.
24. Show the boundaries, external landmarks of the subclavian area.
25. Show the external landmarks, the boundaries of the axillary area.
26. Draw the diagram of the axillary artery and its relationship with the components of the neurovascular bundle.
27. Expose the axillary artery with the projection lines. Technique of ligation.
28. To determine the point for the puncture and access for arthrotomy of the shoulder joint.
29. Show the external landmarks and boundaries of the shoulder area and its division.
30. Draw the cross-cut schemes of the shoulder at the level of the upper, middle and lower third.
31. Expose the main neurovascular bundle of the front shoulder area with the projection lines. Technique of ligation.
32. Expose the main neurovascular bundle of the posterior area of the shoulder, taking into account the projection lines. Technique of ligation.
33. Show the external landmarks and boundaries of the elbow area.
34. Draw the diagram of blood supply to the elbow area.
35. Technique of ligation of the brachial artery on the shoulder and in the elbow fossa.
36. The principles of extra - and intramedullary osteosynthesis in fractures of the humerus.
37. The technique of puncture of the elbow joint.
38. Operative access for puncture and arthrotomy of the elbow joint.
39. Show the external landmarks and boundaries of the forearm, its division.
40. Expose the neurovascular bundles of the anterior area of the forearm taking into account the projection lines. Technique of dressing.
41. Draw the diagrams of cross cuts in the upper, middle and lower thirds of the forearm.
42. Access to the cellular spaces to the space of Pirogov-Paron and to show the connection with cellular spaces spaces of the hand and the elbow region.
43. Show external landmarks and boundaries of the wrist and wrist area.
44. To know the technique of puncture of the wrist joint.
45. To carry out incisions in purulent inflammation of the hand, fingers.
46. To master the technique of tendon suture.
47. Show external landmarks and the boundaries of the anterior thigh area.
48. Show the projection of the femoral artery, femoral nerve, subcutaneous femoral ring (oval fossa), the border of the femoral triangle.
49. Expose the main neurovascular bundle of the anterior femur area taking into account the projection lines. Technique of ligation.
50. To carry out the technique of hip puncture.
51. To show external reference points and boundaries of the gluteal region and the relationship of the gluteal cellular spaces with the spaces of the pelvis and thigh.
52. Expose the main neurovascular bundle of the gluteal region taking into account the projection lines. Technique of ligation.
53. Show the external landmarks and borders of the posterior thigh area.
54. Expose the sciatic nerve, taking into account its projection.
55. To carry out cuts in the phlegmon of the gluteal region and the back of the thigh.
56. Show the external landmarks and boundaries of the knee, division.

57. To know the technique of ligation of the popliteal artery.
58. Technique of the puncture of the knee joint.
59. Show the external landmarks and borders of the shin area.
60. Expose the neurovascular bundles of the tibia area taking into account the projection lines. Technique of ligation.
61. Incisions in purulent inflammation of the lower leg.
62. Show external landmarks and boundaries of the ankle area.
63. Technique of the puncture of the ankle joint.
64. To show the projection and find the "keys" of the transverse tarsal joint (Shopar) and tarsometatarsal joint (Lisfranc).
65. The incisions in purulent inflammation of the foot.
66. The concept of amputation and exarticulation.
67. Classification of amputations.
68. Basic principles (stages) of amputation.
69. Methods of hiding the amputation stump (fascio-, myo-, bone-plastic).
70. A vicious stump and principles its education.
71. Perform exarticulation of the phalanges of the fingers.
72. Own technique of vascular suture.
73. Make the osteoperforation on a major bone in osteomyelitis.
74. To process bone, periosteum, muscles, vessels, nerves, skin with amputation of the limb.
75. Show external landmarks and borders of the head, brain and facial areas.
76. Show external landmarks and boundaries of the front-parietal-occipital, temporal, mastoid areas.
77. Select the tools used for operations on the skull.
78. To carry out primary surgical treatment of wounds of the brain department of the head.
79. Features of treatment of scalped wounds.
80. The method of trephination. Draw the diagram of Cranlane-Brusova.
81. To master the technique of decompression craniotomy.
82. Show external landmarks and borders of the eye socket, nose, mouth.
83. Perform primary surgical treatment of facial wounds.
84. Incisions in the phlegmon of the face.
85. Show external landmarks and borders of the neck area, neck triangles.
86. Fascias of the neck (draw the diagrams).
87. Surgical approaches (longitudinal, transverse, oblique, combined) to the neck and purulent processes.
88. To know the technique of tracheostomy.
89. To master technique of carrying out of tricotomy (Kriko-thyroidotomy, conicotomy).
90. To master the technique of holding vagosympathetic blockade.
91. To know the technique of ligation of the common and external carotid arteries.
92. To know the technique of ligation and catheterization of the chest lymphatic duct.
93. To do puncture and catheterization of the main veins (subclavian, internal jugular, femoral).
94. Show external landmarks and borders of the chest area.
95. To show the topography of the anterior chest wall at the midclavicular line.
96. To the right incisions are made at the autopsy purulent mastitis in adults and in children
97. To know the technique of puncture and drainage of the pleural cavity in hydrothorax, thoracocentesis.
98. Show quick access to easy: front, rear, side.
99. To know the technique of puncture of the pleural cavity with intense pneumothorax.
100. Suturing the wound to the chest wall.
101. Spend novocaine blockade of the intercostal.
102. Choose tools for thoracotomy and rib resection.
103. Show the topography of the organs of the front mediastinum.
104. Show the topography of the posterior mediastinum.
105. To master the technique of puncture of the pericardial cavity at Larrey.
106. Suture the pericardium and the heart for injuries.
107. Show operational access operational access to the heart and major blood vessels.
108. Show external landmarks and borders of the abdomen and the front-lateral abdominal wall.
109. Show "weaknesses" of the anterior-lateral abdominal wall.
110. Pick up tools and demonstrate the technique of puncture of the abdomen.
111. Pick up tools and perform exploratory laparotomy.
112. To make laparocentesis for laparoscopic manipulation.
113. Show "weaknesses" of the anterior-lateral abdominal wall. Places of formation of direct and oblique inguinal hernias.
114. To perform the operation of herniotomy in inguinal hernias, (the method of Cherny, Ru, Krasnobaeva, Martynova, by Spasokukotsky, suture by Kymbarovsky).
115. To perform the operation of herniation in umbilical hernias on the Lexer, Meyo, Sapezhko.
116. Show bags, pockets, crevices, canals, sinuses of the upper and lower floor of the abdomen.
117. To demonstrate the technique of forming various gastroenteroanastomosis.
118. Show accesses to the pancreas.
119. Suturing wounds to the stomach, small intestine and colon.
120. Suturing the wound on the liver with injuries
121. To impose hepatic suture by Kuznetsova-Pensky, Oppel.
122. Show liver syntopia. Ligament of the liver. Pick up tools and suture the edge wound of the liver.
123. To know the technique of cholecystectomy.

124. To know the technique of revision of the abdominal cavity in case of injuries and traumas.
125. Show blood vessels supplying the small intestine and colon.
126. Pick up a set of tools and mobilize the loop of the small intestine.
127. Put an unnatural anus.
128. Choose a set of tools for appendectomy. Do an appendectomy.
129. Suturing a perforating stomach ulcer.
130. To make a gastrostomy tube by Vitzel.
131. Pick up a set of tools and make a gastrostomy by Toprover.
132. Own the technique of stomach resection by Bilrot I;
133. Perform splenectomy.
134. Suturing the wound on the spleen in trauma.
135. To know the technique of applying intestinal anastomosis.
136. Choose a set of tools and install drainage of the abdominal cavity (with a spillage of peritonitis).
137. Show the external landmarks and borders of the lumbar region.
138. Show the weaknesses of the lumbar region. Determine the boundaries of the Pti and Lesgaft-Grunfeld triangles and their contents.
139. Show cellular spaces and organs of retroperitoneal space
140. To master the technique of holding a paranephral blockade by A.V.Vishnevsky.
141. Show operative access to the kidney and ureter. Technique of carrying out of lumbotomy (according to Fedorov, Bergman).
142. To be able to drain swollen spaces.
143. To master technique of carrying out of pyelolithotomy.
144. To know the technique of nephroectomy.
145. Suture the kidney with a kidney.
146. Suture the ureter.
147. Show the ligamentous apparatus of the vertebral column and the structure of the spine on the transverse saw.
148. Show the structure of spinal cord, formation of spinal nerves, skin, spinal cord, intratunical spaces.
149. To know the technique of lumbar puncture.
150. Show the cellular space of the pelvis. Ways of distribution of phlegmons.
151. Show the floors of the pelvis. Syntopia of the pelvic organs. Areas of "surgical" risk.
152. Access to the internal iliac artery and its ligation.
153. To master the technique of holding intrapelvical blockade Shkolnikov–Selivanov.
154. To master the technique of performing bladder puncture, high cross-section and cystostomy.
155. To know the technique of Cesarean section.
156. Show the boundaries and external landmarks of the perineum, "perineum" in the broad and narrow sense of the concept.
157. To know the technique of performing catheterization of the bladder.
158. To know the technique of puncture of the posterior vaginal vault.
159. To own the technique of operation by Ross and Bergman with testicular dropsy;
160. To master the technique of the operation, circumcision when phimosis;
161. To know the technique of the operation of bringing down the testicle in cryptorchidism.
162. To master the technique of conducting episiotomy, and perineotomy.