Knowledge Assessment Fund

Operative Surgery and Topographic Anatomy

2025

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.

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_3 d_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.

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.