

Approved by
Deputy Rector for Academic Affairs

_____ E.V. Konovalova

“ 15 ” June 2023, Record No. 5

Topographic Anatomy, Operative Surgery

Syllabus

Department **Morphology and Physiology**

Curriculum s310501-ЛечДелоИн-23-3-РПД.plx
Specialty 31.05.01 General Medicine

Qualification **General Practitioner**

Form of education **Full-time**

Total (in credits) 5

Total academic hours 180

including:

Classes 128

Self-study 25

Control hours 27

Control:

Exam, 7th term;

Course outline in terms

Academic year (Term)	6(3.2)		7 (4.1)		Total	
	Weeks		Weeks			
Types of classes	Cur	Syl	Cur	Syl	Cur	Syl
Lectures	16	16	16	16	32	32
Practical classes	40	40	56	56	96	96
Total classes	56	56	72	72	128	128
Contact work	56	56	72	72	128	128
Self-study	16	16	9	9	25	25
Control hours			27	27	27	27
Total	72	72	108	108	180	180

The Syllabus is compiled by:

PhD in Morphological Sciences (Morphology and Physiology), Associate Professor, Petruk N.N. _____

The Syllabus

Topographic Anatomy, Operative Surgery

Developed in accordance with Federal State Educational Standard:

Federal State Educational Standard of higher education in the specialty 31.05.01 General medicine (Order of the Ministry of Education and Science of the Russian Federation on 12.08.2020 №988)

Based on the Curriculum:

31.05.01 GENERAL MEDICINE

Specialization: General Medicine

Approved by the Academic Council of Surgut State University, 15.06.2023, Record No. 5

The Syllabus was approved by the department

Morphology and Physiology

Head of Department, Doctor of Medicine, Professor Stolyarov V.V.

1. COURSE OBJECTIVES

1.1	The aim of Topographic Anatomy, Operative Surgery is to study the applied issues of the mutual arrangement of organs and tissues in various areas of the human body, as well as the basics of surgical operations, which ensures the continuity of teaching general theoretical and clinical disciplines. As a result of the training, students acquire specific topographic and anatomical knowledge necessary to justify the diagnosis, understand 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	The objectives of Topographic Anatomy, Operative Surgery are to give the basic concepts about the subject: the area and its boundaries, external and internal landmarks, the projection of anatomical formations on the skin integuments, their holotopy, syntopia, skeletotopy, fascial sheaths, cellular spaces, collateral blood circulation, etc. In addition, the objectives of the study include the study of individual anatomical variability, age-related structural features, topography of organs and systems.

2. COURSE OVERVIEW

Course code (in curriculum)	Б1.О.04.13
2.1 Assumed background:	
2.1.1	Histology, Embryology, Cytology
2.1.2	Human Anatomy
2.2 Post-requisite courses and practice:	
2.2.1	Neurology, Medical Genetics, Neurosurgery
2.2.2	Gynecology
2.2.3	Faculty Therapy
2.2.4	Faculty Surgery

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

GPC-5.1: Knows the histological structure of organ tissues - knows how to differentiate them microscopically; the anatomy of the human body - the macroscopic structure and topography of organs and body parts; human physiology - the mechanisms of homeostasis regulation and the functional systems of the body in the normal condition

GPC-5.6: Knows the structure of the human body, morphological macro- and microscopic parameters in health and in pathology, criteria for general pathological pathophysiological processes in various nosologies, knows how to differentiate them macro- and microscopically, has skills to solve problems of operative surgery on the basis of knowledge of topographic anatomy

By the end of the course students must:

3.1 Know:	
3.1.1	the structure, topography and development of cells, tissues, organs and systems of the body in interaction with their function in norm and pathology, features of the organizational and population levels of the organization of life;
3.1.2	anatomical and physiological, age-gender and individual features of the structure and development of a healthy and sick organism;
3.1.3	functional systems of human organism, their regulation and self-regulation when exposed to the external environment in normal and pathological conditions
3.2 Be able to:	
3.2.1	palpate the main bone landmarks on a person;
3.2.2	outline the topographic contours of the organs and the main vascular and nerve trunks;
3.2.3	explain the nature of deviations in the course of development that can lead to the formation of variants of anomalies and defects
3.3 Have skills of:	
3.3.1	medical and anatomical conceptual apparatus;
3.3.2	the simplest medical tools (phonendoscope, spatula, neurological hammer, scalpel, tweezers, probe, clamp, expander, etc.)

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

Class Code	Topics /Class type	Term / Academic year	Academic hours	Competences	Literature	Notes
Section 1. Introduction						
1.1	Introductory lecture. The subject, the tasks of Topographic Anatomy. The subject, the tasks of Operative Surgery. /Lec/	6	2	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
1.2	Introductory class. The contribution of Russian scientists to the development of the discipline. Basic concepts of Topographic Anatomy (boundaries of areas, landmarks, projections, holotomy, skeletotomy, syntopy of organs). Basic concepts and definitions of Operative Surgery. Classification of operations. Surgical tools and their classification. The technique of separation and connection of tissues. Prevention of bleeding in the wound and throughout. Primary, secondary and delayed suture. /Pr/	6	6	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
1.3	Writing an essay. /Self-study/	6	2	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
Section 2. Topographic Anatomy and Operative Surgery of the Extremities						
2.1	Topographic Anatomy of the upper limb, the main ways of spreading of purulent processes on the upper limb. Surgical treatment of purulent processes on the upper limb. Topographic Anatomy of fasciae and cellular spaces of the lower limb. Ways of spreading of purulent processes on the lower limb. /Lec/	6	4	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	

2.2	<p>Topographic Anatomy of the upper limb. Subclavian region, deltoid region: external landmarks, boundaries, layers, fasciae and cellular spaces. Neurovascular formations. Shoulder: boundaries, anteromedial surface, projection of the brachial artery, layers. Topography of neurovascular formations in the upper, middle and lower third. The forearm area. Projection of the median nerve, radial and ulnar arteries. Layers, fascial beds, muscle layers. Topography of neurovascular formations in the upper, middle and lower third. The palm surface of the hand. Topographic Anatomy of the lower limb: gluteal region, hip, knee area. External landmarks, borders. Projections of blood vessels and nerves. Layers, fasciae, cellular spaces. The Skarpovsky triangle, the Gunterov Canal. The femoral canal. Topographical Anatomy of the lower leg and foot (canals). /Pr/</p>	6	6	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
2.3	<p>Surgical interventions on blood vessels. Vascular suture technique. Plastic surgery, bypass surgery. Operations on peripheral nerve trunks, muscles, tendons, bones. Amputations of limbs. Exarticulations of the extremities. /Lec/</p>	6	2	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
2.4	<p>The technique of vascular suture and seamless connection of arteries. Operations for varicose veins. Nerve operations: accesses, neurolysis, nerve suture, plastic surgery and displacement. Sutures of tendons. Primary surgical treatment of wounds of the upper and lower extremities. Surgical treatment of abscesses and phlegmon of various levels of the limb, opening of panaritria and phlegmon of the hand. Amputation of limbs at various levels, general rules. Primary and secondary indications, reamputation. Methods of amputation. Exarticulation in the interphalangeal and metacarpophalangeal joints. Separation of the foot in the joints, arthrotomy. /Pr/</p>	6	4	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
2.5	<p>Preparation for the oral survey. Writing research papers. /Self-study/</p>	6	4	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	

Section 3. Topographic Anatomy and Operative Head Surgery

3.1	Surgical anatomy of the head. Principles of operations on the skull. /Lec/	6	2	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
3.2	Topographic anatomy of the cerebral part of the head. Veins of the head. The Krenlein diagram. Topographic Anatomy of the facial part of the head. Lateral, parotid-chewing areas, deep facial area. /Pr/	6	8	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
3.3	Types of operations on the cerebral part of the head, their anatomical and physiological justification. Decompressive trepanation of the skull, bone-plastic trepanation. /Pr/	6	6	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
3.4	Preparation for the oral survey. Writing research papers. /Self-study/	6	5	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	

Section 4. Topographic Anatomy and Operative Neck Surgery

4.1	Topographic and anatomical features of the neck and its organs. Topographic and anatomical justification of surgical interventions on the neck /Lec/	6	2	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
4.2	Topographic anatomy of the neck. Borders, division into regions. Neck triangles. Fasciae of the neck. Cellular spaces, their connection with the cellular spaces of the head, chest and upper limb. Neck surgery. Incisions with ulcers. Tracheostomy technique. Operations on the thyroid gland. /Pr/	6	6	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	

4.3	Preparation for the oral survey. Writing research papers. /Self-study/	6	1	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
Section 5. Topographic Anatomy and Operative Chest Surgery						
5.1	Topographic anatomy of the chest and mediastinum. /Lec/	6	2	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
5.2	Topographic anatomy of the chest. Chest wall (layers), the structure of the intercostal space. Thoracic gland, lymphatic outflow. Lung topography, borders, surfaces, syntopy. Division of the bronchi, lobes, zones, segments. Lung root, composition, syntopia. Topographic anatomy of the mediastinum. Boundaries and division into sections, fascia and cellular gaps. Topography of the heart, position, borders, valves, blood supply and venous outflow. Topography of the aorta and esophagus, interrelation, skeletotopy. The course of the vagus, diaphragmatic nerve and sympathetic trunk in the mediastinum. Surgical interventions on the organs of the chest and mediastinum. Operations: puncture of the pleural cavity and drainage. Operation: pericardial puncture. /Pr/	6	4	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
5.3	Operations on the chest wall and organs of the chest cavity. /Lec/	6	2	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	
5.4	Preparation for the oral survey. Writing research papers. /Self-study/	6	4	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	

5.5	Test. /Test/	6	0	GPC-5.1 GPC-5.6	1.1 2.1 2.2 E1	Oral survey. Abstract presentation.
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Section 6. Topographic Anatomy and Operative Abdominal Surgery

6.1	Surgical anatomy of the anterior abdominal wall and abdominal organs. Abdominal hernias. The main types of operations. /Lec/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
6.2	Topographic anatomy of the anterior abdominal wall and external abdominal hernias. The boundaries of the region, division into departments, layers. Blood supply, venous outflow, innervation. The inguinal canal, walls, rings, contents. The concept of external abdominal hernias. Topographic anatomy of inguinal hernias. /Pr/	7	2	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
6.3	Surgical treatment of external abdominal hernias. Operations for inguinal hernia with inguinal canal plastic surgery according to Girard-Spasokukotsky, Martynov, Bassini. Features of surgery for congenital hernia, Winkelman surgery. Surgery for an umbilical hernia with plastic surgery according to Mayo, Sapezhko, Lexer. Features of surgery for a strangulated hernia. /Pr/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
6.4	Topographic anatomy of the abdominal organs. Surgical anatomy of the liver. The main operations on the liver and biliary tract. Surgical anatomy of the pancreas. Topographic Anatomy of the organs of the lower floor of the abdominal cavity. Mesenteric sinuses, abdominal canals and pockets of the lower floor of the abdominal cavity. /Lec/	7	2	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	

6.5	Topographic anatomy of the abdominal cavity. The boundaries of the region, the division into floors. Bags of the upper floor, walls. Canals, sinuses, pockets. Topography of the upper floor organs: stomach, duodenum, pancreas, liver and extrahepatic bile ducts (holotopy, syntopia, relation to the peritoneum, ligaments, skeletotopy, departments, vascularization, venous outflow, innervation, lymphatic outflow). Topography of the abdominal trunk, veins, skeletotopy, syntopia. /Pr/	7	10	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
6.6	Topographic anatomy of the abdominal cavity (continued). Topography of the organs of the lower floor: the large and small intestines, the ileocecal angle, the vermiform process (position options). Topography of the upper and lower mesenteric artery. Topography of the portal vein, origins, syntopia, natural portocaval anastomoses. /Pr/	7	8	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
6.7	Principles of surgical interventions in abdominal surgery. Sutures of hollow and parenchymal organs. Gastroenteroanastomosis. /Lec/	7	2	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
6.8	Operations on the abdominal organs. Surgery for a perforated ulcer of the stomach or duodenum (operative access, operative reception). Operation of gastrostomy according to Witzel. /Pr/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
6.9	Intestinal suture. Types, equipment. Surgery for suturing a stab and cut wound of the intestine. Interstitial anastomoses, types, technique. The appendectomy operation (operative access, options, operative reception: typical appendectomy and retrograde). /Pr/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	

6.10	Preparation for the oral survey. Writing research papers. /Self-study/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
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Section 7. Topographic Anatomy and Operative Surgery of the Lumbar Region and Retroperitoneal Space

7.1	Topographic anatomy of the lumbar region and retroperitoneal space. /Lec/	7	2	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
7.2	Topographic anatomy of the lumbar region and retroperitoneal space. Boundaries, layers, weak points, fasciae and cellular gaps. Topography of the kidney (holotomy, skeletotomy, syntopia, capsules, vascularization, fixing apparatus). /Pr/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
7.3	The main types of operations on the organs of the retroperitoneal space. /Lec/	7	2	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
7.4	Surgical interventions on the organs of the lumbar region and retroperitoneal space. Lumbar paranephral block. Kidney surgery. Suture of the kidney wound, kidney resection, nephrectomy, decapsulation, pyelotomy. Operations on the ureters. Suture of the ureter wound. /Pr/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
7.5	Preparation for the oral survey. Writing research papers. /Self-study/	7	2	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	

Section 8. Topographic Anatomy and Operative Surgery of the Pelvis and Perineum

8.1	Topographic anatomy of the pelvic organs. /Lec/	7	2	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
8.2	Topographic anatomy of the pelvis, boundaries, division into floors. The course of the peritoneum. Fasciae and cellular spaces of the pelvis. Topography of the bladder, rectum, prostate, uterus with appendages. /Pr/	7	8	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
8.3	The main types of operations on the pelvic organs. /Lec/	7	2	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
8.4	Operations on the bladder (puncture, cystotomy, cystostomy). Intra-phase blockade according to Shkolnikov-Selivanov (indications, equipment). Operations on the prostate gland. Operations on the uterus and its appendages. Operations on the rectum. Operations on the testicle (with cryptorchidism, dropsy of the testicular membranes). /Pr/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
8.5	The final lesson. /Pr/	7	4	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
8.6	Preparation for the oral survey. Writing research papers. /Self-study/	7	3	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	
8.7	Test. /Test/	7	0	GPC-5.1 GPC-5.6	1.1 2.1 2.3 E1	Abstract presentation

8.8	Oral survey, case-studies and delivery of surgical instruments. /Exam/	7	27	GPC-5.1 GPC-5.6	1.1 2.1 2.2 2.3 E1	Survey on examination questions, solution of case-studies and delivery of surgical instruments
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5. ASSESSMENT TOOLS

5.1. Assessment tools for midterm assessment

Presented by a single document

5.2. Assessment tools for diagnostic testing

Presented by a single document

6. COURSE (MODULE) RESOURCES

6.1. Recommended Literature

6.1.1. Core

	Authors	Title	Publish., year	Quantity
1.1	Nikolaev A.V	Topographicheskaya anatomiya i operativnaya khirurgiya: textbook / Nikolaev A.V.	M. : GEOTAR-Media, 2019. Electronic resource	1

6.1.2. Supplementary

	Authors	Title	Publish., year	Quantity
2.1	Richard L. Gray's	Atlas of Anatomy [Text] / Richard L. Drake, A. Wayne Vogl, Adam W. M. Mithell ; Ill. by Richard M. Tibbitts, Paul E. Richardson; Phot. by Ansell Horn. 2nd Edition.	Philadelphia : Churchill Livingstone Elsevier, cop.	31
2.2	Dydykin S.S.	Topographicheskaya anatomiya i operativnaya khirurgiya. Workbook. In 2 parts. Part I	M. : GEOTAR-Media, 2022. Electronic resource	1
2.3	Dydykin S.S.	Topographicheskaya anatomiya i operativnaya khirurgiya. Workbook. In 2 parts. Part I I	M. : GEOTAR-Media, 2022. Electronic resource	1

6.2. Internet resources

E 1 <http://www.freemedicaljournals.com>

6.3.1 Software

6.3.1.1 Operational system Microsoft, applied programs pack Microsoft Office

6.3.2 Information Referral systems

6.3.2.1 <http://www.garant.ru>, <http://www.consultant.ru>

6.3.2.2 <http://www.studmedlib.ru>

7. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE (MODULE)

1. The classroom for conducting lecture-type classes is equipped with a multimedia projector, a screen, a laptop, a stationary chalk board, standard educational furniture: tables, chairs.

2. The classroom for conducting practical classes, group and individual consultations, midterm assessment is equipped with a teacher's table-1; training tables for 12 seats; stainless steel table for the preparation of wet specimen-1; tables and tablets for all sections of topographic anatomy; wet and bone specimens; educational board-1; multimedia installation -1.
Multimedia projector, screen, laptop, stationary blackboard for chalk, standard educational furniture: tables, chairs.
Dry preparations of the bones of the skull, bones assembled. The skeleton is assembled. Plasticized specimens of internal organs, screen for multimedia installation -1.