Federal State Autonomic Educational Institution of Higher Education
«Peoples' Friendship University of Russia»

Medical Institute

Recommended MCSD

ACADEMIC COURSE WORKING PROGRAM

Course name

Topographic anatomy and operative surgery of head and neck

Recommended for the direction of training (specialty)

31.05.03 Dentistry

Program (profile, specialization)

Dentistry

1. **Aims and objectives of discipline:** to prepare students in the field of anatomy and surgery to ensure basic knowledge and skills needed for future studies in the clinical departments and independent medical practice, to achieve the goals of learning.

The tasks of discipline:

- to shape the students' knowledge of topographic anatomy areas of head and neck.
- to develop the students' abilities to apply the received topographo-anatomical knowledge to substantiate the diagnosis with the evaluation of the anatomical "risk factors", explain the specific characteristics of the pathological processes, and to solve diagnostic and operative tasks.
- to master the basic elements of operational actions and certain types of surgical skills and techniques.

2. Place of discipline in the structure of OP HE:

Discipline *Topographic anatomy and operative surgery of the head and neck* refers to the variable part unit. curriculum.

Table №1 given preceding and following discipline aimed at forming competence discipline in accordance with the matrix competences OP HE.

Table 1. Preceding and following the discipline aimed at creating competencies

№	Code and title of competence	Precceding disciplines	Following disciplines
General professional competence			
1	GPC-7	Human anatomy – anatomy head and neck Histology with cytology and embryology Normal Physiology, Physiology of Maxillo-Facial Region	Pathologic Anatomy - Pathologic Anatomy of Head and Neck Pathophysiology - Pathophysiology of Head and Neck Surgical Diseases
2	GPC -9	Human anatomy – anatomy head and neck Histology with cytology and embryology Normal Physiology, Physiology of Maxillo-Facial Region	Pathologic Anatomy - Pathologic Anatomy of Head and Neck Pathophysiology - Pathophysiology of Head and Neck Surgical Diseases
Professional competences			
3	PC-2		Pediatric Maxillo-Facial Dentistry Head and Neck Diseases Oral Surgery

3. Requirements to results of development of discipline:

General Professional Competence Category Name	**General Professional Competence Code and Name**	**General Professional Competence Achievement Indicator Code and Name**
Disease diagnosis and treatment	GPC-7. Being able to organize work and take professional decisions in case of emergency	GPC-7.1. Being able to use the algorithm for providing first aid in emergency conditions, including in

	conditions, amid emergencies, epidemics, and in the foci of mass destruction	extreme conditions and foci of mass destruction.
		GPC-7.2. Identifying conditions requiring emergency medical care, including clinical signs of sudden cessation of blood circulation and acute respiratory failure.
		GPC-7.3. Providing emergency medical care to patients with conditions that pose a threat to the patient's life, including clinical death (cessation of the vital bodily functions (blood circulation and (or) breathing).
		GPC-7.4. Using drugs and medical products when providing emergency medical care.
Bases of fundamental and scientific knowledge	GPC-9. Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	GPC-9.3. Determining morpho-functional, physiological states and pathological processes of the human body.
Theoretical and practical foundations of professional activity. Dental disease treatment	PC-2. Being able to prescribe, monitor the efficacy and safety of non-drug and drug treatment	PC-2.7. Providing surgical care to adults and/or children, within the operation of tooth extraction (excluding impacted and dystopic teeth), opening subperiosteal abscesses with periostitis of the jaws, with acute and chronic odontogenic inflammatory processes, exacerbation of chronic diseases of the maxillofacial area using modern treatment methods approved for use in medical practice.
		PC-2.10. Providing medical care in emergency and urgent forms, eliminating foci of infection and intoxication.

Getting started studying the discipline the student should:

Know:

- structure, topography and development of cells, tissues, organs and systems in conjunction with their function in norm and pathology, particular features of organismal and population levels of life organization;
- anatomico-physiological, age-sexual and individual characteristics of the structure and development of healthy and diseased organism;
- theoretical foundations of computer science, collection, storage, retrieval, processing, transformation, distribution of information in the medical and biological systems, the use of computer information systems in medicine and health;
- topographical anatomy to justify the diagnosis, pathogenesis, rational choice approaches and surgical interventions, prevention of intraoperative errors and complications caused by topographic anatomical areas, organs or systems;

- general principle of layered structure of the human body, topographical anatomy of specific areas;
- clinical anatomy of internal organs, musculo-fascial lodges, cellular spaces, neurovascular bundles;
- zones of sensory and motor innervation of the major nerve trunks; the principles and the main stages of operations.

Be handy at:

- use of educational, scientific, popular-scientific literature, the Internet for professional activities;
- palpate the main osseous anatomical marks on a human body, identify topographic contours outling organs and to locate major vascular and nerve trunks;
- utilize general and specialized surgical instruments;
- perform surgical techniques on models and simulators;
- place sutures using simple, double-surgical, sea and apodactyl knots;
- perform layer separation and layer suturing of superficial soft tissue wounds;
- remove skin sutures;

Manage:

- basic technologies of transformation of information: text, tabular editors, search on the Internet;
- medico-anatomic conceptual framework;
- the elementary medical tools (scalpel, forceps, scissors, clip, dilator, etc.).

4. Volume of discipline and types of study

General credit value of the discipline is 3 credit units.

Type of study load		Total hours	Semester
Classroom training (academic hours)		**54**	**54**
Including:			
Lectures			
Practical trainings (PT)		54	54
Seminars (S)			
Laboratory work (LW)			
Independent work (total)		54	54
Total labor input	hours	108	108
	Credit Unit	3	3

5. Content of the discipline.

5.1. The content of the discipline sections

№	Name of the section of discipline	Contents of the section
1	Introduction to the discipline	Topographic anatomy and operative surgery as an educational discipline and its place in the training of doctors. Applied anatomy and its main types. Operative surgery: contents and methods of study.
2	Topographic anatomy of the head	Topographic anatomy of the cerebral part of the cranium. Cranial vault. Fronto-parietal-occipital,

		temporal regions, mastoid. Covers of brain and intermeningeal space. Venous sinus of dura matter of the brain. Blood supply of the brain. Topographic anatomy of the facial part of the head. The front area of the face. Area orbit. Suborbital and zygomatic area. Nose region. External nose. Nasal cavity. Paranasal sinuses. The spread of pus in maxillitis and sinusitis. Topographic anatomy of the mouth area. Upper and lower lips. Vestibule of mouth. Teeth, gingiva. Oral cavity: hard palate, soft palate, tongue. Floor of the mouth. Incisions at phlegmons floor of the mouth. Malformations of the lips, palate, and operations at them. Topographic anatomy of the lateral superficial region of the face. Surgical anatomy of the facial nerve. Buccal region. Addipose tissue of the cheek. Parotid-masticatory region. Surgical anatomy of the parotid gland. Incisions in parotitis. Surgical anatomy of the temporo-mandibular joint. Topographic anatomy of the deep lateral region of the face. Pterygoid venous plexus. Surgical anatomy of the maxillary artery and mandibular nerve. Cellular spaces and pathways of pus drainage.
3	Topographic anatomy of the neck	Topographic anatomy of the neck. Fascias and cellular spaces of the neck. Middle region of the neck. Submandibular, carotic triangles. Submental and scapular-tracheal triangle. Sternocleidomastoid region. Scaleno-vertebral triangle. Lateral region of the neck. Surgical anatomy of the subclavian artery and vein, brachial plexus. Surgical anatomy of the larynx, trachea, pharynx, cervical esophagus and thyroid gland.
4	Operative surgery of the head and neck	Surgical instruments. Suture material. The main elements of operational techniques are: the separation of tissues, stop bleeding, technology application and removal of skin sutures, tying ligature knots. Equipment for suturing wounds on face (hidden, plate suture). Operations on the calvaria. Primary surgical treatment of wounds areas of the cranial vault. Ways to stop bleeding of damaged soft tissues, bones of the cranial vault, middle meningeal artery, venous sinuses. Trepanation of the skull: osteoplastic and resection (decompressive). Special instruments.

		Principles of surgical treatment of wounds of the maxillofacial region. Incisions in purulent processes. Incisions at purulent inflammation of the middle of the neck. Ligation operation facial, lingual, common and external carotid artery. Tracheostomy. Conicotomy. The operation on the thyroid gland.

5.2. Sections of disciplines and types of classes

№	Name of Unit	Lecture	PT	LW	S	Self-study	Total hours
1.	Introduction	-	1	-	-	1	2
2.	Topographic anatomy of the head	-	30	-	-	30	60
3.	Topographic anatomy of the neck	-	10	-	-	10	20
4.	Operative surgery of the head, neck	-	13	-	-	13	26
	Final		**54**			**54**	**108**

6. Laboratory training *(Is not provided)*

7. Seminars

№	№ discipline section	Subject of a practical training (seminars)	Workload (hours)
1	Topographic anatomy of the head	Topographic anatomy and operative surgery as an educational discipline and its place in the training of doctors. Applied anatomy and its main types. Operative surgery: contents and methods of study. Topographic anatomy of the head.	1
2	Topographic anatomy of the head	Topographic anatomy of the cerebral part of the head. Cranial vault. Fronto-parietal-occipital, temporal regions, the area of the mastoid process. Brain. Meningeas of the brain and intermeningeal spaces. Sinuses of the dura mater. Blood supply to the brain.	6
3	Topographic anatomy of the head	Topographic anatomy of the facial part of the head. Anterior face region. The area of the orbit. Infraorbital and zygomatic areas. Nose area. External nose. Nasal cavity. Paranasal (accessorial) sinuses. Pathways of pus spreading at maxillitis and sinusitis.	6
4	Topographic anatomy of the head	Topographic anatomy of the mouth region. Surgical anatomy of the upper and lower lips. Oral cavity. The vestibule of the mouth. Teeth, periodont, parodont, gums. The hard palate, soft palate, tongue and the sublingual space. The bottom of the oral cavity: the muscles, cellular tissue gaps and spaces. Topographic-anatomical substantiation of anesthesia in maxillo-facial surgery (infiltration, extra- and intraoral, conduction anesthesia	6

		during operations on the maxillodental segment, the teeth, formations of the oral cavity).	
5	Topographic anatomy of the head	Topographic anatomy of the lateral superficial face region. Surgical anatomy of the facial nerve and its branches. Buccal region. Fat body of the cheek. Parotid-masseteric region. Surgical anatomy of the parotid gland and its excretory duct. Surgical anatomy of the temporomandibular joint.	6
6	Topographic anatomy of the head	Topographic anatomy of the deep lateral face region. Venous pterygium plexus. Surgical anatomy of the maxillary artery and mandibular nerve. Cellular spaces and pathways of spreading burrowing pus.	6
7	Topographic anatomy of the neck	The division into the parts, regions and triangles. Fascias and cellular spaces of the neck. The middle region of the neck. Submandibular and carotic triangles. Surgical anatomy of the submandibular salivary gland. Submental and scapular-tracheal triangles.	5
8	Topographic anatomy of the neck	Sterno-claido-mastoid region. Scaleno-vertebral triangle. The lateral neck region. The topography of the subclavian artery and vein, the brachial plexus. Antescalene and interscalene spaces. Surgical anatomy of: larynx, trachea, pharynx, cervical esophagus and thyroid gland.	5
9	Operative surgery of the head and neck	Surgical instruments. Suture material. The main elements of operational techniques are: the separation of tissues, stop bleeding, application and removal of skin sutures, tying ligature knots.	3
10	Operative surgery of the head and neck	Operations on the head. Primary surgical treatment of the head wounds. Trepanation. Trepanation of mastoid procesus. Incisions at parotiditis. Restorative and reconstructive operations in malformations of the lips, palate. Incisions in phlegmon of the mouth floor.	5
11	Operative surgery of the head and neck	Operations on the neck. Primary surgical treatment of neck wounds. Incisions in phlegmon of the neck. Tracheostomy. Conicotomy. Operations on the thyroid gland.	5

8. Material and technical support of the discipline:

Specially equipped classrooms. Museum of anatomical preparations, training topographo-anatomical tables, models, skeletons, waxworks, simulators for operational skills. General and specialized surgical sets of tools. Anatomical table (Anatomage) with 3D- vizualization.

Multimedia complex (laptop, projector, screen). Sets multimedia visual materials on various topics in the discipline. The video movies. Situational tasks, tests on various topics.

9. Information support of the discipline:

a) The basic literature

Database of tests and presentations of classes on the subjects of the discipline in TUIS

b) Database, Information and Search Systems:

RUDN library : http://lib.rudn.ru/

The information platform : https://esystem.rudn.ru/course/view.php?id=1572

University library ONLINE: http://www.biblioclub.ru/

Vestnik RUDN. Series "Medicine": http://journals.rudn.ru/medicine

Universal database of East View: http://online.ebiblioteka.ru/
Scientific electronic library: http://elibrary.ru/defaultx.asp
On-line access to the logs. A database of information on all branches of science and electronic document delivery: https://www.swetswise.com
The electronic library of Elsevier: http://www.elsevier.com/about/open-access/open-archives

10. Educational and methodical support of the discipline:

a) Main Literature

1. Topographic anatomy and operative surgery: textbook/A.V.Nikolaev.-Moscow.-Geotar-Media, 2019.
http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=497916&idb=0

б) Additional literature sources.

1) General surgery. The manual/ V.K. Gostishchev. - Moscow.-Geotar-Media, 2020. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=497901&idb=0
2) Netter's Clinical Anatomy / J.T. Hansen, F.H. Netter. - 4th Edition. - Philadelphia: Elsevier, 2019. - 588 p.
3) Gray's Anatomy for Students / R.L. Drake, W.A. Vogl, Mitchell Adam W.M. - Third Edition. - Philadelphia: Elsevier, 2015. - 1161 p.: il.
4) Atlas of human anatomy/ F.H. Netter. - 6th ed.; International edition. - Philadelphia: Saunders: Elsevier, 2014. - 591 p.: il.

11. Guidelines for students on the development of the discipline (module):

The training consists of classroom classes, including practical exercises and independent work. The main study time is allocated for practical work on topographic anatomy and operative surgery. When studying the discipline, it is necessary to use knowledge and master practical skills.
Practical classes are held in the form of practicing surgical operations, demonstrating anatomical material, preparations, using visual aids, educational films and presentations, solving situational problems, and answering test tasks.
During the study of operative surgery, students practice practical skills on the main elements of operative techniques.
Independent work of students involves preparation for classes, for a computer test control, for an oral survey and includes the study of visual aids (tables, anatomical preparations) and educational materials.
Work with educational literature is considered as a type of educational work in the discipline of topographic anatomy and operative surgery and is performed within the hours allotted for its study (in the section extra study material).
Educational materials in electronic form for the study of the discipline are available in the TUIS, on the local resources of the electronic library system of the RUDN. Presentations on the topics of classes can be recorded on CDs or flash cards for students to work independently on their home computer.
The initial level of knowledge of students is determined by testing, the current control of the assimilation of the subject is determined by an oral survey during classes, during analysis, when solving typical situational problems.
At the end of the study of the discipline, an intermediate certification is conducted in the form of an exam, which includes: test control, an oral survey on anatomical material, testing of practical skills, solving situational problems.
Questions on the discipline are included in the program of the final state certification.

12. Fund of estimated means for the interim assessment of students in the discipline:

Materials for assessing the level of development of educational material of the discipline "Topografic Anatomy and Operative Surgery of Head and Neck" (evaluation materials), including

a list of competencies indicating the stages of their formation, a description of indicators and criteria for evaluating competencies at various stages of their formation, a description of assessment scales, standard control tasks or other materials necessary for assessing knowledge, skills, and (or) experience of activities that characterize the stages of competence formation in the process of mastering the educational program, methodological materials, the defining procedures for assessing knowledge, skills, and (or) experience of activities that characterize the stages of competence formation are fully developed and are available to students on the discipline page in the TUIS RUDN.

Developers:
Associate Professor Department of operative surgery
and clinical anatomy named for I.D. Kirpatovsky D.L. Titarov

Head of Department of operative surgery
and clinical anatomy named for I.D. Kirpatovsky A.V. Protasov

Head of Program
Professor S.N. Rasumova