

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

Petro Mohyla Black Sea National University

Medical Institute

Department of Therapeutic and Surgical Disciplines



"APPROVE"
Vice-rector
enko NM

2019

CURRICULUM WORK PROGRAM

" Otorhinolaryngology "

Specialty 222 "Medicine"

Developer
Head of the Department of Developer
Guarantor of the educational program
Director of the Institute
Chief of NMV

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Description of the discipline

Characteristic	Characteristics of the discipline	
Name of discipline	Otorhinolaryngology	
Branch of knowledge	22 "Health care"	
Specialty	222 "Medicine"	
Specialization (if any)		
Educational program	Medicine	
Level of higher education	Master	
Discipline status	Normative	
Curriculum	4 years	
Academic year	2019 - 2020	
Semester numbers:	Full-time	Correspondence form
	7 y	-
Total number of ECTS credits / hours	3 credits / 90 hours	
Course structure: - lectures - practical training - hours of independent work of students	Full-time	Correspondence form
	6	-
	34 50	
Percentage of classroom load	Classroom load - 44.4 %	
Language of instruction		
Form of intermediate control (if any)		
Form of final control	Differentiated credit	

Purpose, tasks and planned learning outcomes

The purpose of studying the discipline "Otorhinolaryngology" is to master the methods of diagnosis, treatment and prevention of ENT diseases.

The main tasks of studying the discipline "Otorhinolaryngology" are the study of anatomy, physiology and pathology of the ear, upper respiratory tract and adjacent areas.

Interdisciplinary connections: anatomy, physiology, histology, pathomorphology, pathological physiology, dentistry, neurology, neurosurgery, general surgery, ophthalmology, infectious diseases, oncology.

According to the requirements of the educational-professional program, students must **know:**

- clinical anatomy and physiology of ENT organs and modern methods of their research;
- etiology, pathogenesis, clinic, methods of treatment and prevention of diseases of the nose, paranasal sinuses, pharynx, larynx, outer, middle and inner ear, as well as the complications caused by them .

be able:

- evaluate the results of ENT examination ;
- recognize the most common ENT diseases and their complications;
- prescribe treatment for these diseases.
- typical endoscopic methods of examination of ENT organs;

- the most used practical skills;
- methods of providing emergency care to patients with injuries, foreign bodies, bleeding from the ENT organs and stenosis of the upper respiratory tract.

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

general (GC) - GC1-GC3 EPP:

GC 1. Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.

GC 2. Ability to apply knowledge in practical situations.

GC 3. Knowledge and understanding of the subject area and understanding of professional activity.

professional (PC) - 1- 6, 8, 9, 11, 16, 18

- Patient interviewing skills.
- Ability to determine the required list of laboratory and instrumental studies and evaluate their results.
- Ability to establish a preliminary and clinical diagnosis of the disease.
- Ability to determine the required mode of work and rest in the treatment of diseases.
- Ability to determine the nature of nutrition in the treatment of diseases.
- Ability to determine the principles and nature of disease treatment.
- Ability to determine the tactics of emergency medical care.
- Emergency care skills.
- Skills to perform medical manipulations.
- Ability to determine the tactics of management of persons subject to dispensary supervision.
- Ability to keep medical records.

According to the educational-professional program, the expected *program learning outcomes (PLO)* include the skills of **11, 13-18, 22, 25, 28, 30, 32, 33, 35, 41** :

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

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

In the conditions of the health care institution, its subdivision and among the attached population:

- Be able to identify and record the leading clinical symptom or syndrome (according to list 1) by making an informed decision, using preliminary data of the patient's history, physical examination of the patient, knowledge of the person, his organs and systems, adhering to relevant ethical and legal norms.
- To be able to establish the most probable or syndromic diagnosis of disease (in list 2) by adopting a reasoned decision by means of comparison with standards, using preliminary data patient history and examination data of the patient, based on the leading clinical symptom or syndrome, using the knowledge of the person, its agencies and system, adhering to the relevant ethical and legal norms.

In the conditions of a health care institution, its subdivision:

- Assign laboratory and / or instrumental examination of the patient (according to list 4) by making an informed decision, based on the most probable or syndromic diagnosis, according to standard schemes, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms.
- Carry out differential diagnosis of diseases (according to list 2) by making an informed decision, according to a certain algorithm, using the most probable or syndrome diagnosis, laboratory and instrumental examination of the patient, knowledge of the person, his organs and systems, adhering to ethical and legal norms.
- Establish a preliminary clinical diagnosis (according to list 2) by making an informed decision and logical analysis, using the most probable or syndromic diagnosis, laboratory and instrumental examination of the patient, conclusions of differential diagnosis, knowledge of man, his organs and systems, adhering to relevant ethical and legal norms.

Determine the required mode of work and rest at the treatment of the disease (2 on the list), in terms of health care facility, home of the patient and during medical evacuation in t. H. In field conditions, based on previous clinical diagnosis using knowledge of man, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

To determine the necessary nutritional therapy in the treatment of disease (2 on the list), in terms of health care facility, home of the patient and the stages of medical evacuation in t. H. In field conditions on the basis of previous clinical diagnosis using knowledge of human, his bodies and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

To determine the nature of the treatment (conservative, surgical) disease (2 on the list), in terms of health care facility, home of the patient and the stages of medical evacuation in t. H. In field conditions on the basis of previous clinical diagnosis using knowledge of human, its bodies and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

To determine the principles of treatment of the disease (2 on the list), in terms of establishment health care, home of the patient and on the stages of medical evacuation in t. H. The field, based on previous clinical diagnosis using knowledge of a person of organs and systems

, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms.

Establish a diagnosis (according to list 3) by making an informed decision and assessing the human condition, under any circumstances (at home, on the street, health care facility, its units), including in an emergency, in the field, in conditions of lack of information and limited time, using standard methods of physical examination and possible anamnesis, knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms.

Perform medical manipulations (according to list 5) in a medical institution, at home or at work on the basis of previous clinical diagnosis and / or indicators of the patient's condition, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms, by making informed decisions and using standard techniques.

To form, in the conditions of a health care institution, its division on production, using the generalized procedure of an estimation of a state of human health, knowledge of the person, its bodies and systems, adhering to the corresponding ethical and legal norms, by acceptance of the reasonable decision, among the fixed contingent of the population. :

dispensary groups of patients;

groups of healthy people subject to dispensary supervision (newborns, children, adolescents, pregnant women, representatives of professions that must undergo a mandatory dispensary examination).

Organize secondary and tertiary prevention measures among the assigned population, using a generalized procedure for assessing human health (screening, preventive medical examination, seeking medical care), knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, in a health care facility, in particular:

to form groups of dispensary supervision;

to organize medical and health-improving measures differentiated from the group of medical examination.

Carry out in the conditions of a health care institution, its subdivision:

- detection and early diagnosis of infectious diseases (according to list 2);
- * primary anti-epidemic measures in the center of an infectious disease.

In the health care facility, or at the patient's home on the basis of the obtained data on the patient's health, using standard schemes, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms, by making an informed decision:

- to determine the tactics of examination and secondary prevention of patients subject to dispensary supervision;
- to determine the tactics of examination and primary prevention of healthy persons subject to dispensary supervision;
- calculate and prescribe the necessary food for children in the first year of life.

Determine the presence and degree of restrictions on life, type, degree and duration of disability with the issuance of relevant documents in a health care institution on the basis of data on the disease and its course, features of professional activity.

On the territory of service according to standard methods of descriptive, analytical epidemiological and medical-statistical researches:

- to conduct screening for the detection of major non-communicable diseases;
- assess the dynamics and in comparison with a static medium data rates of morbidity, in fact including chronic non-communicable diseases, disability, mortality, integrated health indicators;

identify risk factors for the occurrence and course of diseases;
to form risk groups of the population.

In the conditions of a health care institution or its subdivision according to standard methods:

- to select and use unified clinical protocols for the provision of medical care, developed on the basis of evidence-based medicine;
- take part in the development of local protocols for medical care;
- conduct quality control of medical care on the basis of statistical data and expert assessment of sociological studies of the use of indicators of structure, process and performance;
- identify factors that hinder the improvement of the quality and safety of medical care.

3. The program of the discipline

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

The otorhinolaryngology program is structured in one block:

Bloc. Otorhinolaryngology

Sections:

1. Clinical anatomy, physiology, research methods of ENT organs.
2. Diseases of the ear.
3. Diseases of the upper respiratory tract.
4. Emergency care for diseases of the ENT organs.

Chapter 1

Topic 1: Endoscopic methods of examination of ENT organs. Clinical anatomy, physiology and research methods of the outer and middle ear.

Relevance of the topic: diseases of the upper respiratory tract and ears are one of the most common pathologies among all segments of the population. Therefore, mastery of methods and techniques of visual examination of ENT organs is a necessary condition not only for further mastering the following topics of practical training in otorhinolaryngology, but also for training modern highly professional general practitioners - family doctors, as a third of all patients need consultation and treatment otorhinolaryngologist. Knowledge of clinical anatomy and physiology of the auditory analyzer makes it possible to recognize lesions of this organ in time, to establish the correct diagnosis, to prescribe and perform adequate therapy.

Topic 2: Clinical anatomy, physiology, research methods of auditory and vestibular analyzers.

Relevance of the topic: mastery of the method and technique of examination of the auditory and vestibular analyzer in adults and children is necessary to establish the correct diagnosis and determine further medical tactics. This makes it possible to avoid diagnostic errors and serious complications, save a person's hearing and even life. Among the factors that adversely affect the hearing organ can be infectious, toxic, vascular, traumatic and many others, so the methods of examination of the auditory analyzer should have different doctors, especially family doctors. Even minor disorders of the vestibular system can be the first symptoms of brain damage (tumors, aneurysms, strokes, angiopathy, chronic intoxication, etc.), cerebellum, visual analyzer and other organs and systems of the body. Therefore, knowledge of the anatomy, physiology of the vestibular analyzer is necessary for a wide range of specialists.

Topic 3 : Clinical anatomy, physiology and methods of examination of the nose, paranasal sinuses, pharynx, larynx.

Actuality of theme. Patients with pathology of the upper respiratory tract (HPV) turn to doctors of almost all specialties. Often the cause of chronic tracheobronchitis can be latent sinusitis or, conversely, sinusitis can be caused by chronic pathology of the nose or bronchi. The lymphadenoid ring of the pharynx is a powerful immunocompetent organ that plays a significant role in the formation of local and systemic human immunity, but under the influence of negative factors can become a source of infection and cause pathological changes in many organs and systems. Lesions of the larynx, trachea or esophagus (eg foreign bodies) can cause airway stenosis, which requires immediate medical attention (tracheotomy, esophagoscopy) in the absence of which the patient may die. The number of allergic diseases of the upper respiratory tract is growing worldwide. Without deep knowledge of anatomy, physiology and methods of examination of VDSH it is impossible to understand the mechanisms of development of a disease, pathogenesis, complications, lesions of adjacent or distant organs and systems of the body.

Section 2

Topic 1: Diseases of the outer and middle ear. Acute purulent otitis media. Mastoiditis.

Relevance of the topic . Acute diseases of the outer and middle ear occupy a leading place (25 - 30%) in the structure of the pathology of the ENT organs. They cause not only deafness and an increase in the number of deaf people, but also the development of severe, life-threatening intracranial complications. Knowledge of the etiology, pathogenesis, clinic of ear diseases makes it possible to identify lesions of this organ in time, to establish the correct diagnosis, to prescribe adequate therapy.

Topic 2 : Chronic purulent otitis media. Labyrinthitis. Otogenic intracranial complications.

Actuality of theme. To date, there is a fairly high prevalence of chronic purulent otitis media, which belongs to severe ear diseases. This pathological process is one of the main causes of human hearing loss and, in addition, leads to diseases such as labyrinthitis, facial nerve palsy, intracranial complications. Therefore, knowledge of etiology, pathogenesis, pathological anatomy, clinic, principles of treatment of chronic purulent otitis media and its possible complications is extremely important in the work of a wide range of specialists - otorhinolaryngologists, neurologists, ophthalmologists, neurosurgeons, therapists, pediatricians, infectious diseases. Despite the current trend to reduce the number of intracranial complications, this pathology remains the focus of otolaryngologists and physicians of other specialties (neurologists, neurosurgeons, infectious disease specialists, ophthalmologists, anesthesiologists, etc.). Mortality from intracranial complications, according to various authors, is from 15% to 50%. Therefore, every specialist to whom such a patient turns, especially a family doctor, should be able to recognize the beginning of otogenic intracranial complication.

Topic 3: Non-purulent ear diseases.

I. Relevance of the topic: A large group of non-purulent diseases of the middle and inner ear is the most common cause of persistent and progressive deafness, both in adults and children. The causes of these pathological processes can be various negative factors: iatrogenic (unreasonable prescription of ototoxic drugs), vascular (ischemia, stroke), traumatic, metabolic disorders, decreased reactivity of the body and others. Without deep knowledge of the etiology,

pathogenesis and clinic of this group of diseases, their prevention and proper treatment are impossible .

Section 3

Topic 1: Acute and chronic diseases of the nose.

Relevance of the topic: diseases of the nose are the most common pathology of the upper respiratory tract. Given the importance of the functions performed by the nose and nasal cavity and their connection with other organs and systems, pathological processes in them can adversely affect the entire human body. The number of allergic diseases of the respiratory tract, including allergic rhinitis, is growing. Knowledge of the etiology, pathogenesis, clinic and diagnosis of diseases of the nose allows you to correctly diagnose, prescribe adequate treatment, prevent the development of various complications from other organs and systems of the body.

Topic 2: Acute and chronic diseases of the paranasal sinuses . Rhinogenic orbital and intracranial complications

Relevance of the topic: Currently there is a rapid increase in the incidence of acute and chronic rhinosinusitis. Inflammatory processes around the nasal sinuses often lead to the development of chronic bronchitis, bronchial asthma, pneumonia. Sinusitis can cause severe life-threatening orbital and intracranial complications. Therefore, knowledge of the clinic, diagnosis and principles of treatment of these diseases is necessary in the clinical practice of doctors of various specialties - otorhinolaryngologists, neurosurgeons, neurologists, ophthalmologists, infectious disease specialists, surgeons, family doctors, etc.

Topic 3: Acute and chronic diseases of the pharynx

Relevance of the topic: pharyngeal diseases are a common pathology among children and young people, which determines the social significance of this pathology. The lymphadenoid apparatus of the pharynx is of great importance in the formation of local and systemic human immunity. At the same time, the pathological process in the tonsils can cause damage to the heart, kidneys, upper respiratory tract, connective tissue, nervous system and other organs. On the other hand, the pathology of the internal organs can adversely affect the condition of the pharyngeal organs. Therefore, a doctor of any specialty should know the etiology, pathogenesis, clinic and methods of research of throat pathology .

Topic 4: Acute and chronic diseases of the larynx

Actuality: pathological processes larynx especially dangerous threat of obstruction of the airways that can become a cause asphyxia. The symptom complex of lesions of this area is diverse, which is encountered by doctors of different specialties (therapists, pediatricians. Infectious disease specialists, allergists, gastroenterologists, endocrinologists, neurologists, etc.). Deep knowledge of the etiology, pathogenesis and clinic of laryngeal pathology will help to avoid diagnostic and treatment errors in the doctor's practice .

Topic 5: Tumors and infectious granulomas of the upper respiratory tract.

Relevance of the topic: In Ukraine, about 7,000 ENT cancer patients are diagnosed annually, which is up to 7.8% of the total oncological pathology. VDS tumors, especially malignant, are the most complex and urgent problem of modern otorhinolaryngology, due to the steady tendency to increase their number, late diagnosis, complexity and duration of treatment, high recurrence rate. Over the past decade, the number of patients with TB and pulmonary tuberculosis, primary and secondary syphilis has increased significantly. Therefore, knowledge of the clinic, early diagnosis of tumors and infectious granulomas of VDS is needed by a wide range of physicians.

Section 4.

Topic: Injuries, foreign bodies, bleeding, foreign bodies of the ENT - organs, respiratory tract and esophagus.

Relevance of the topic: Injuries, foreign bodies, bleeding from the ENT organs - this pathology is very dangerous for human life. A doctor of any specialty should provide qualified care in such cases: otorhinolaryngologists, surgeons, family doctors, anesthesiologists, resuscitators, surgeons, traumatologists, dentists. Therefore, knowledge of the etiology, pathogenesis, clinic of emergencies in otolaryngology is necessary for proper assessment of the clinical situation and the provision of adequate medical care to the patient.

The structure of the discipline

Title of sections and topics 1	Number of hours					
	total	including				
		l	n	l	i	s.r.
2	3	4	5	6	7	
Bloc. Otorhinolaryngology						
Section 1 . Clinical anatomy, physiology, methods of research of ENT organs.						
Topic 1. Clinical anatomy, physiology and methods of research of the outer and middle ear.	4		2			2
Topic 2. Clinical anatomy, physiology and methods of research of the auditory and vestibular apparatus.	4		2			2
Topic 3. Clinical anatomy, physiology and methods of examination of the nose and paranasal sinuses.	4		2			2
Topic 4. Clinical anatomy, physiology and methods of examination of the pharynx, larynx, trachea.	4		2			2
Together under Section 1	16		8			8
Section 2 . Ear diseases.						
Topic 1. Diseases of the outer and middle ear. Acute purulent otitis media. Mastoiditis. Anthromastoidotomy.	8	2	2			4
Topic 2. Chronic purulent otitis media, labyrinthitis. Sanitizing and hearing restoration operations of the ear.	8	2	2			4
Topic 3. Otogenic intracranial complications.	2					2
Topic 4. Non-purulent ear diseases.	6		2			4
Together under Section 2	24	4	6			14
Section 3. Diseases of the upper respiratory tract.						
Topic 1. Diseases of the nose.	4		2			2
Topic 2. Acute and chronic sinusitis.	6	2	2			2
Topic 3. Acute and chronic pharyngitis. Acute tonsillitis and their complications.	4		2			2
Topic 4. Chronic tonsillitis, hypertrophy of the palatine and pharyngeal tonsils.	4		2			2
Topic 5. Acute diseases of the larynx.	4		2			2
Topic 6. Chronic diseases of the larynx.	4		2			2
Topic 7. Tumors and infectious granulomas of the ENT organs.	4		2			2
Together under Section 3	30	2	14			14
Section 4. Emergency care for diseases of the ENT organs.						
Topic 1. Nasal injuries, nosebleeds.	4		2			2
Topic 2. Acute and chronic laryngeal stenosis.	2		2			
Topic 3. Foreign bodies of ENT organs.	4		2			2
Together under Section 4	10		6			4

Total hours	80	6	34	40
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4. The content of the discipline

4.1 Lecture topics

№	TOPIC
1.	Diseases of the outer and middle ear. Acute purulent otitis media. Mastoiditis. Anthromastoid
2.	Chronic purulent otitis media, labyrinthitis. Sanitizing and hearing restoration operations of th
3.	Acute and chronic sinusitis.
	Together

4.2. Topics of practical classes

№ z.p.	TOPIC	Number hours
1	Clinical anatomy, physiology and research methods of the outer and middle ear.	2
2	Clinical anatomy, physiology and methods of research of the auditory and vestibular apparatus.	2
3	Clinical anatomy, physiology and methods of examination of the nose and paranasal sinuses.	2
4	Clinical anatomy, physiology and methods of examination of the pharynx, larynx, trachea.	2
5	Diseases of the outer and middle ear. Acute purulent otitis media. Mastoiditis. Anthromastoidotomy.	2
6	Chronic purulent otitis media, labyrinthitis. Sanitizing and hearing restoration operations of the ear.	2
7	Non-purulent ear diseases.	2
8	Diseases of the nose.	2
9	Acute and chronic sinusitis.	2
10	Acute and chronic pharyngitis. Acute tonsillitis and their complications.	2
11	Chronic tonsillitis, hypertrophy of the palatine and pharyngeal tonsils.	2
12	Acute diseases of the larynx.	2
13	Chronic diseases of the larynx.	2
14	Tumors and infectious granulomas of the ENT organs.	2
15	Nasal injuries, nosebleeds.	2
16	Acute and chronic laryngeal stenosis.	2
17	Foreign bodies of ENT organs.	2
	Together	34

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4.3. Individual work

№	Theme of methodical development	hours	View control
1	Impedancemetry.	4	Abstracts
2	Differential diagnostics of disorders of sound-conducting and sound-receiving devices.	4	Abstracts
3	Otomycosis.	4	Abstracts
4	Exudative otitis.	4	Abstracts
5	Otogenic intracranial complications.	4	Abstracts
6	Nasal valve and osteomeatal complex.	4	Abstracts
7	Physiology of the lymphadenoid pharyngeal ring.	4	Abstracts
8	Malignant tumors of the pharynx.	4	Abstracts
9	Complications of sore throat.	4	Abstracts
10	Precancerous diseases of the larynx.	4	Abstracts
Total		40	

Individual tasks (report, discussion of a clinical case)

- modern approaches to the diagnosis of peripheral olfactory disorders;
- new methods of treatment of olfactory disorders;
- son nasal and non-sinusoidal dysosmia;
- diagnosis of peripheral disorders of the vestibular analyzer;
- differential diagnosis of central and peripheral vestibular syndrome;
- gentle surgery in the treatment of chronic otitis media;
- juvenile angiofibroma of the nasopharynx;
- modern methods of early diagnosis of laryngeal cancer;
- diagnosis of ENT tumors;
- methods of rehabilitation of patients after surgery for malignant tumors of the larynx;
- foreign bodies of ENT organs. Modern methods of diagnosis and removal.
- use of physiotherapeutic methods in the treatment and prevention of ENT diseases.

Typical test problems to be solved in practical classes

I. What instrument is used for anterior rhinoscopy?

1. spatula

2. ear funnel

3. nose mirror

- 4. *nasal dilator*
- 5. *nasopharyngeal mirror*
- II. What is the main function of the eardrum?
 - 1. *sound-sensitive*
 - 2. *sound-conducting*
 - 3. *loudspeaker for collecting sound waves*
 - 4. *aesthetic*
- III. The external auditory canal is divided into the following sections:
 - 1. *external and internal*
 - 2. *cartilaginous and membranous*
 - 3. *cartilaginous, bony and membranous*
 - 4. *membranous-cartilaginous and bony*
- IV. What anatomical formations are connected by the ear canal?
 - 1. *tympanic cavity and nasopharynx*
 - 2. *tympanic cavity and oropharynx*
 - 3. *tympanic cavity and larynx*
 - 4. *tympanic cavity and inner ear*
- V. The formation of the walls of the tympanic cavity is completed by...
 - 1. *moment of birth*
 - 2. *3 months of life*
 - 3. *6 months of life*
 - 4. *1st year*
 - 5. *3 years of life*
 - 6. *5 years of life*

4.4. Ensuring the educational process

1. Multimedia projectors, computers, screens for multimedia presentations, lecture presentations.
2. Demonstration screens, laptops, files in Power Point and Word with tasks "Step-1" for practical and final classes.
3. Credit cards.

Final control

List of questions of final control (differentiated credit)

1. The main stages of development of otorhinolaryngology as an independent medical discipline.
2. History of otorhinolaryngology development in Ukraine.
3. History of the Department of Otorhinolaryngology of Danylo Halytskyi LNMU.
4. The main directions of development and achievements of modern otorhinolaryngology.
5. ENT organs and human analyzers, their functional significance.
6. Clinical anatomy of the outer ear.
7. Clinical anatomy of the tympanic membrane. Features of the location and structure of the tympanic membrane in young children.
8. Clinical anatomy of the tympanic cavity.
9. Walls and floors of the tympanic cavity.

10. Auditory bones and muscles of the tympanic cavity.
11. Clinical anatomy of the mammary process. Types of structure of the papillary process. Age features.
12. Clinical anatomy, physiology of the ear canal. Features of its structure in childhood .
13. Clinical anatomy of inner ear curls.
14. The structure of the spiral organ. Adequate stimulus of the auditory analyzer.
15. Mechanism of sound conduction (air, bone conduction).
16. Leading paths of the auditory analyzer.
17. Theories of sound perception.
18. Clinical anatomy of the dorsum of the inner ear.
19. Clinical anatomy of the semicircular canals of the inner ear.
20. The structure of the ampullary receptor. Adequate stimuli.
21. The structure of the otolith apparatus. Adequate stimuli.
22. Vestibular nuclei and their connections.
23. Vestibular reflexes.
24. Ewald's laws and regularities of nystagmus reaction.
25. Determination of patency of the ear canals.
26. Research of hearing by language and tuning forks.
27. Tonal threshold and speech audiometry.
28. Differential diagnostics of lesions of the sound-conducting and sound-receiving devices.
29. Spontaneous vestibular disorders.
30. Methods of ampullary receptor research (caloric, rotational, pressor tests).
31. Investigation of otolith function.
32. Clinical anatomy of the external nose.
33. Clinical anatomy of the nasal cavity .
34. Clinical anatomy of the lateral wall of the nose.
35. The structure of the nasal septum.
36. Blood supply and innervation of the nasal cavity .
37. Age features of development of paranasal sinuses.
38. Clinical significance of the afferent cavities. Clinical anatomy of the maxillary sinus.
39. Clinical anatomy of the frontal sinus.
40. Clinical anatomy of the lattice sinus.
41. Clinical anatomy of the main sinus.
42. Clinical physiology of the nasal cavity and paranasal sinuses.
43. The value of nasal breathing for the development of the child's body. Methods of examination of the nose and paranasal sinuses.
44. Clinical anatomy of the pharynx, its departments.
45. Anatomy of the lymphadenoid pharyngeal ring. Age features of lymphadenoid tissue of the pharynx.
46. The structure of the tonsils, blood supply, innervation.
47. Physiology of the lymphadenoid pharyngeal ring.
48. Pharyngeal research methods .
49. Topography of the larynx.
50. Cartilage and ligaments of the larynx.
51. Muscles of the larynx.
52. Innervation of the larynx.
53. Clinical anatomy of the laryngeal cavity .
54. Physiological functions of the larynx.
55. Methods of examination of the larynx in adults and children.

56. Anatomy of the esophagus: topography, walls, physiological narrowing.
57. Hematoma and perichondritis of the auricle .
58. Sulfur plug, clinic, methods of removal.
59. Otitis externa: forms, etiology, clinic, treatment.
60. Acute purulent otitis media. Etiology, pathogenesis, clinic.
61. Features of the course of acute purulent otitis media in children
62. early age.
63. Features course of acute suppurative otitis media with
infectious diseases: influenza, scarlet fever, measles, tuberculosis.
64. Treatment of acute purulent otitis media.
65. Treatment of acute purulent otitis media in the preperforative stage. Indications and
technique of paracentesis.
66. Acute mastoiditis: definition, clinic, diagnosis, treatment. Anthromastoidotomy.
67. Atypical forms of mastoiditis.
68. Complications of acute purulent otitis media.
69. Chronic purulent otitis media: mandatory symptoms, classification.
70. Chronic purulent mesothympanitis, clinic, methods of treatment.
71. Chronic purulent epitympanitis. Cholesteatoma. Diagnosis, clinic, treatment.
72. Differential diagnosis of epitympanitis and mesothympanitis.
73. Conservative treatment of chronic purulent otitis media.
74. Types of operations on the ear in chronic purulent otitis media.
75. Labyrinthitis: forms, clinic, treatment.
76. Ways and stages of spread of infection from the ear to the cranial cavity .
77. Otogenic brain abscesses: clinic, treatment.
78. Sinus thrombosis and otogenic sepsis: clinic, treatment.
79. Otogenic meningitis: clinic and treatment.
80. Meniere's disease: etiology, pathogenesis, clinic.
81. Treatment of Meniere's disease. Methods of treatment of acute vestibular
dysfunction.
82. Sensorineural hearing loss: causes, clinic.
83. Treatment of acute and chronic sensorineural hearing loss.
84. Otosclerosis: pathogenesis, clinic, modern methods of surgical treatment.
86. Nasal boil, clinic, treatment.
87. Acute rhinitis: etiology, pathogenesis, clinic and treatment.
88. Acute runny nose in infants.
89. Chronic rhinitis: etiology, pathogenesis, pathological anatomy,
classification.
90. Chronic catarrhal rhinitis: clinic, differential diagnosis, treatment.
91. Chronic hypertrophic rhinitis: clinic, differential diagnosis, treatment.
92. Chronic atrophic rhinitis: clinic, differential diagnosis, treatment.
93. Ozen: clinic, differential diagnosis, principles of treatment.
94. Vasomotor rhinitis, allergic form: etiology, clinic, treatment.
95. Vasomotor rhinitis, neurovegetative form: etiology, clinic, treatment.
96. Hematoma and abscess of the nasal septum: clinic, treatment.
97. Curvature of the nasal septum, synechia and atresia of
the nasal cavity ; clinic, treatment.
98. Classification of acute and chronic sinusitis.
99. General and local signs of acute and chronic sinusitis.
100. Acute and chronic ethmoiditis: clinic, treatment.

101. Acute sinusitis: clinic, treatment.
102. Chronic sinusitis: forms, clinic, treatment.
103. Chronic odontogenic sinusitis: clinic, diagnosis, treatment.
104. Acute and chronic frontitis: clinic, treatment.
105. Acute and chronic sphenoiditis: clinic, treatment.
106. Chronic polyposis sinusitis: etiology, clinic, complex treatment.
107. Rhinogenic intracranial complications: ways of infection, types of complications, principles of treatment.
108. Rhinogenic orbital complications: ways of infection,
109. types of complications, principles of treatment.
110. Classification of tonsillitis.
111. Catarrhal angina: clinic, treatment.
112. Follicular angina: clinic, treatment.
113. Lacunar angina: clinic, differential diagnosis, treatment.
114. Ulcerative-membranous angina: etiology, clinic, treatment.
115. Secondary tonsillitis.
116. Monocytic angina: etiology, clinic, treatment.
117. Pharyngeal diphtheria: clinic, differential diagnosis.
118. Paratonsillitis and paratonsillar abscess: etiology, classification, treatment.
119. Acute tonsillogenic sepsis: clinic, treatment.
120. Pharyngeal abscess in children: clinic, treatment.
121. Adenoid vegetations: clinic, treatment.
122. Hypertrophy of the palatine tonsils: clinic, treatment.
123. Chronic tonsillitis: etiology, pathogenesis, classification.
124. Local signs of chronic tonsillitis.
125. Types of decompensation of chronic tonsillitis, formulation of the diagnosis.
126. Conservative treatment of chronic tonsillitis.
127. Surgical treatment of chronic tonsillitis.
128. Leptotrichosis: clinic, treatment.
129. Acute pharyngitis: etiology, clinic, treatment.
130. Chronic pharyngitis: etiology, forms, clinic, treatment.
131. Acute catarrhal laryngitis: etiology, clinic, treatment.
132. Laryngeal sore throat: clinic, treatment.
133. Phlegmonous laryngitis: clinic, treatment.
134. Epiglottitis abscess: clinic, treatment.
135. Chondroperichondritis of the larynx: causes, clinic, treatment.
136. Acute stenotic laryngotracheitis *in* children: etiology, pathogenesis, clinic.
137. Acute stenotic laryngotracheitis in children. Intensive care.
138. Chronic laryngitis: etiology, forms, clinic.
139. Paresis and paralysis of the larynx: causes, laryngoscopic picture, principles of treatment.
140. Juvenile angiofibroma of the nasopharynx: clinic, diagnosis, methods of removal.
141. Malignant tumors of the nose and paranasal sinuses: diagnosis, treatment.
142. Malignant tumors of the pharynx: localization, clinic, methods of treatment.
143. Benign tumors of the larynx.
144. Laryngeal papillomatosis in adults and children.
145. Precancerous diseases of the larynx.
146. Laryngeal cancer: etiology, localization, clinic, stages of disease development.

147. Principles of early diagnosis of laryngeal cancer .
148. Treatment of laryngeal cancer .
149. Surgical treatment of laryngeal cancer, its types, indications.
150. Scleroma of the upper respiratory tract: etiology, pathoanatomy, stages, treatment.
151. Tuberculosis of the upper respiratory tract: clinical manifestations, differential diagnosis.
152. Syphilis of the upper respiratory tract: features of clinical manifestations, differential diagnosis.
153. The importance of preventive examinations and medical examinations in the prevention of diseases of the ENT organs and their complications.
154. Foreign bodies of the ear, ways to remove them .
155. Bleeding from the ear.
156. Ear injuries, traumatic rupture of the eardrum.
157. Foreign bodies of the nose. Removal tools. Rhinoliths.
158. Injuries of the nose and paranasal sinuses: classification, clinic, treatment.
159. Nasal bleeding: causes, symptoms, methods of stopping.
160. Foreign bodies of the pharynx: clinic, treatment.
161. Laryngeal stenosis: definition, causes of acute and chronic laryngeal stenosis .
162. Stages of laryngeal stenosis, principles of treatment (medical, prolonged intubation, tracheotomy).
163. Tracheostomy: indications, its variants, technique .
164. Foreign body foreign bodies: causes of aspiration, anamnesis, characteristics of foreign bodies.
165. Foreign bodies of the larynx: clinic, methods of removal in adults and children.

List of practical skills, diagnostic and therapeutic manipulations that a student must learn during practical classes in otorhinolaryngology

I. Be able to use a forehead reflector.

II. Learn to master the following techniques:

1. Anterior rhinoscopy.
2. Posterior rhinoscopy.
3. Oropharyngoscopy.
4. Indirect laryngoscopy.
5. Otoscopy.

III. Learn to perform the following manipulations :

6. Applying a sling bandage.
7. Collection of smears from the nasal cavity and pharynx.
8. Lubrication of the mucous membrane of the nasal cavity and pharynx.
9. Insufflation and instillation of drugs to the ear, nose, pharynx.
10. Tracheostomy toilet and tracheostomy cannula care.
11. Removal of sulfur plug from the external auditory canal.
12. Applying an ear bandage and a compress on the ear.

IV. Be able to read the main types of radiographs of the ENT organs:

13. Frontal radiograph of the paranasal sinuses.
14. Lateral radiograph of the nasal bones.
15. Lateral radiograph of the paranasal sinuses.

16. Radiograph of the temporal bone by the method of Schuler.
17. Computed tomography and magnetic resonance imaging of ENT organs.

V. Be able to evaluate the results of acu- and audiometric examination:

18. Hearing research using whispered and spoken language.
19. Research tuning forks.
20. The main types of tonal threshold audiograms.

VI. Be able to conduct and evaluate the results of the simplest tests of the vestibular analyzer:

21. Coordination tests.
22. Fukuda walking test .

23. Fukuda and Bazarov's writing test.
24. Cephalogram.
25. Rotating test.

The scheme of the medical history

1. Passport part (surname, name, patronymic, age, place of work, profession, home address).
2. Date of admission of the patient to the clinic (ambulance, in the direction of the clinic).
3. Complaints of the patient.
4. History of the disease and the patient's life .
5. General status: skin, peripheral lymph nodes, cardiovascular system, respiratory system, digestive tract, musculoskeletal system.
6. Special status:
 - a) anterior rhinoscopy: external examination of the nose, anterior rhinoscopy in I and II positions (mucous membrane, nasal sinuses and passages, septum); research of breath and smell;
 - b) oropharyngoscopy: gums, teeth, mucous membranes of the mouth and pharynx, tonsils, soft palate, posterior pharyngeal wall;
 - c) posterior rhinoscopy: nasopharyngeal vault, choana, posterior ends of nasal sinuses, pharyngeal mouth of nasal tubes;
 - d) laryngoscopy: epiglottis, entrance to the larynx, mucous membrane, parietal and vocal folds, glottis, respiratory and vocal functions, laryngeal motility;
 - e) otoscopy: lumen and skin of the external auditory canal, eardrum and its cognitive signs.
7. Preliminary diagnosis.
8. Additional clinical and laboratory research methods: a) hearing research ;

- b) vestibulometry;
 - c) X-ray examination;
 - d) punctures of the paranasal sinuses, tympanic cavity, abscesses; e) blood and urine tests;
 - e) histopathological examination.
9. Differential diagnosis.
 10. The final diagnosis.
 11. Treatment.
 12. Diary.
 13. Forecast.
 14. Epicrisis.
 15. Abstract on one of the questions (determined by the teacher), which relates to the disease of the supervised patient: etiology, pathogenesis , etc.

"0" version of the test ticket

Petro Mohyla Black Sea National University

Educational qualification level - master

Field of knowledge: 22 Health care

specialty 222 Medicine

Course - OTORHINOLONGOLOGY

Credit card № 0

Theoretical questions

1. Chronic polyposis sinusitis: etiology, clinic, complex treatment. **The maximum number of points is 20.**
2. Chronic pharyngitis: etiology, forms, clinic, treatment. **The maximum number of points is 20.**

Practical questions

3. Posterior rhinoscopy. **The maximum number of points is 20.**
4. Radiograph of the temporal bone by the method of Schuler. **The maximum number of points is 20.**

Approved at the meeting of the Department of "Medical Biology and Chemistry, Biochemistry, Microbiology, Physiology, Pathophysiology and Pharmacology", the protocol № ____ from " __ " _____ 2020.

Head of Department Zack M.U.

Examiner Associate Professor B.Sc. Chernyshov OV

Example of final control work

Solving problems Step-2

- I. The thinnest wall of the frontal sinus is
1. *front*
 2. *back*
 3. *lower*
 4. *medial*
- II. The upper wall of the nasal cavity is formed...
1. *small wing of the sphenoid bone*
 2. *large wing of the sphenoid bone*
 3. *sieve-like plate of the lattice bone*
 4. *rear edge horizontal plates palatine bone*
- III. The upper nasal passage opens... ..
1. *frontal sinus*
 2. *maxillary sinus*
 3. *rear cells of the lattice labyrinth*
 4. *front cells of the lattice labyrinth*
- IV. In which places of the nasal cavity is the bulk of the cavernous cavernous tissue?
1. *lower nasal cavity*
 2. *upper nasal cavity*
 3. *middle nasal cavity*
 4. *at the bottom of the nasal cavity*
- V. The middle nasal passage is located between:
1. *middle and lower nasal sinuses*
 2. *middle and upper nasal sinuses*
 3. *middle nasal conch and the bottom of the nasal cavity*
- VI. The middle nasal passage is located between:
1. *middle and lower nasal sinuses*
 2. *middle and upper nasal sinuses*
 3. *the middle nasal conch and the bottom of the nasal cavity*
- VII. Elastic cartilages of the larynx:
1. *thyroid, perstnepodibnyy, cherpakuvatyy*
 2. *epiglottis, horn- shaped , wedge-shaped*
 3. *epiglottis, horn-shaped, annular*
- VIII. Vascularization of the palatine tonsils is carried out mainly
1. *branches of the external carotid artery*
 2. *branches of the internal carotid artery*
 3. *branches of the vertebral artery*
- IX. What is the name of the structural unit of the tonsils?
1. *crypt*
 2. *cryptolymph*
 3. *lacuna*

X. How much moisture during the day produces the mucous membrane of the nasal cavity?

1. *about 500 ml.*
2. *about 50 ml.*
3. *about 200 ml.*
4. *about 3000 ml.*

6. Evaluation criteria and tools for diagnosing learning outcomes

Control methods

- Survey (testing of theoretical knowledge and practical skills).
- Test control.
- Writing a review of scientific literature (abstracts), performing individual tasks, their defense.

Current control. Testing in practical classes of theoretical knowledge and the acquisition of practical skills, as well as the results of independent work of students. Supervised by teachers according to the specific purpose of the curriculum. Assessment of the level of students' training is carried out by: interviewing students, solving and analyzing situational tasks and test tasks, interpreting the results of clinical-instrumental and clinical-laboratory research, monitoring the acquisition of practical skills.

Intermediate control. Checking the possibility of students using for clinical and diagnostic analysis of theoretical knowledge and practical skills on all topics studied, as well as the results of independent work of students. Carried out in the last lesson by section by passing practical skills, solving situational problems and testing.

The final control is carried out upon completion of the study of all topics of the block in the last lesson.

In order to establish the results of training in the discipline is also the final control in the form of **differential credit**. Students who have attended all the lectures, classrooms, full-time independent work and scored a total of **70 points** in the course of study, not less than the minimum - **70 points** , are admitted to the test .

Distribution of points received by students

The maximum number of points that a student can receive for the current educational activity is 120. Accordingly, the maximum number of points for each practical lesson is: 120 points: 17 classes = **7 points**. The minimum number of points is 70 points: 17 classes = **4.1 points**. A score below 4.1 points means "unsatisfactory", the topic is not credited and must be worked out in the prescribed manner.

In a differentiated test, a student can get a maximum of **80 points**. The credit is considered credited if the student scored at least **50 points**.

Assessment of student performance

Block (current educational activity)	Maximum number of points
Practical classes from the 1st to the 17th	7 points for each practical lesson

Together for 17 practical classes	120
Difzalik	80
Together for block and diff. test	200

Criteria for assessing knowledge

Score 6.1-7 points in practice and 71-80 points in diff. credit (A on the ECTS scale and 5 on the national scale) the student's answer is evaluated if it demonstrates a deep knowledge of all theoretical principles and the ability to apply theoretical material for practical analysis and has no inaccuracies.

Score 5.1-6 points in practice and 61-70 points in diff. credit (B and C on the ECTS scale and 4 on the national scale) the answer is evaluated if it shows knowledge of all theoretical provisions, the ability to apply them in practice, but some fundamental inaccuracies are allowed.

Score 4.1 - 5 points for practical training and 50-60 points for diff. credit (D and E on the ECTS scale and 3 on the national scale) the student's answer is evaluated provided that he knows the main theoretical provisions and can use them in practice.

Methodical support

- Otorhinology: a textbook / D.I. Zabolotny, Yu.V. Mitin, S.B. Bezshapochny, Yu.V. Deeva. - K.: ВСВ «Медицина», 2011. - 496 с.
- Otorhinology: a textbook / D.I. Zabolotny, Ю.В. Mitin, S.B. Bezshapochny, Yu.V. Деєва. - K., 2010. - 472 p.
- Mitin Yu. V. Otorhinology (lectures). - K., 2000. - 185 с.
- Otorhinology: textbook / Yu.V.Mitin, Yu.V.Deeva, MM Zavaliy. - K., 2010. - 472 p.
- Guide to practical classes in otorhinology for teaching on the credit-block system (2nd edition corrected and supplemented)
Mitin Yu.V., Naumenko OM, Deeva Yu.V., Shevchuk Yu.V., Ostrovskaya OO
- Manual "Urgent otorhinology" Naumenko AN, Vasiliev VM, Deeva YV Kyiv, 2013
- Differential diagnosis by symptoms in otorhinology. Edited by Yu.V. Mitina. St. Petersburg, Russia, 2014

13. Recommended literature

Basic:

- Otorhinology: a textbook / D.I. Zabolotny, Yu.V. Mitin, S.B. Bezshapochny, Yu.V. Deeva. - K.: ВСВ «Медицина», 2011. - 496 с.
- Otorhinology: a textbook / D.I. Zabolotny, Ю.В. Mitin, S.B. Bezshapochny, Yu.V. Деєва. - K.: , 2010. - 472 p.
- Mitin Yu. V. Otorhinology (lectures). - K.: , 2000. - 185 p.

Auxiliary:

1. Clinical otorhinolaryngology: A guide for doctors / V.I. Babiyak, Ya.A. Nakatis. - SPb .: Hippocrates, 2005. - 800 p.
2. Otorhinolaryngology: a textbook / V.T. Palchun, M.M. Магомедов, Л.А. Luchikhin - 2nd ed., Corrected. and ext. - M.: , 2011. - 656 p.
3. Otorhinolaryngology. National leadership / Ed. VT Palchun. - GEOTAR-Media, 2008. - 960 p.
4. Abizov RA Oncootolaryngology / Lectures. - К .: Книга плюс, 2001.

14. Information resources

- electronic site of the National Library of Ukraine named after VI Vernadsky;
- electronic site of the National Scientific Medical Library of Ukraine;
- electronic database of scientific publications of the National Medical Library of the National Institutes of Health of the United States.
- educational portal of NMU named after OO Worshipers.