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## **Elective disciplines in the Otolaryngology cycle – a method for improving the applicant's knowledge**

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### **Abstract**

Family practice physicians often encounter recurrent upper respiratory tract pathology. Their training involves mastering a course in otolaryngology. Still, this course lacks the necessary detailing concerning age-related features of various structures of the upper respiratory tract, congenital pathology in children, and interdisciplinary issues. Detailing of highly specialized issues is devoted to selective disciplines. Elective disciplines in the Otolaryngology cycle are chosen not only by students-future otolaryngologists but also by potential doctors of family medicine, therapy, and pediatrics since the prevalence of ENT pathology among therapeutic and pediatric patients is very high, and general practitioners have to provide first aid. Therefore, introducing elective disciplines is justified for the interest of applicants and practicing doctors of related specialties, forming their professional level.

**The work aims** to develop otolaryngological knowledge among family practice doctors and dentists, a holistic understanding of the reception structure among applicants, taking into

account the body's age characteristics, to improve professional training and an interdisciplinary approach, the quality of treatment, and the final result.

**Results.** The duration of optional courses in the otolaryngology cycle is 90 hours, classroom work is 30 hours, and the rest is independent work for applicants for higher education. The primary teaching methods are explanatory and illustrative, conducting webinars using modern Internet teaching technologies, and reproductive. The most difficult and interesting is mastering skills in practical classes during stimulation training, where applicants learn routine manipulations under the supervision of a teacher. Courses devoted to the peculiarities of pediatric otolaryngology, emergency conditions, and interdisciplinary problems are in demand.

**Conclusions:** Elective disciplines in the Otolaryngology cycle are interdisciplinary, necessary, justified, and interesting. They help improve the applicant's theoretical and practical knowledge for effective patient care.

#### **Abstract Abridged**

Family practice physicians often encounter recurrent upper respiratory tract pathology. The physician's training involves mastering a course in otolaryngology. Still, this course lacks the necessary detailing concerning age-related features of various structures of the upper respiratory tract, congenital pathology in children, and interdisciplinary issues. The topics of selective disciplines are devoted to detailing highly specialized issues. Elective disciplines in the Otorhinolaryngology cycle are chosen not only by students - future otolaryngologists but also by potential doctors of family medicine, therapy, and pediatrics since the prevalence of ENT pathology among therapeutic and pediatric patients is very high. Therefore, introducing elective disciplines for applicants' interest and practicing doctors of related specialties, forming their professional level, is fully justified.

**Keywords:** elective discipline, otorhinolaryngology, family medicine physician, interdisciplinary approach.

## INTRODUCTION

On the eve of graduation from a higher educational institution, senior students face the challenge of choosing their further specialization. During their studies at a medical university, applicants for higher education complete all specialized cycles and become familiar with the principles of assisting patients of various profiles. For a deeper understanding of a potential profession, each student chooses an elective course that allows them to reveal the features of a narrower area of the medical profession. For students interested in a career in otolaryngology, electives will enable them to expand their clinical knowledge and demonstrate a keen interest in this field while studying various courses [7]. A significant portion of pathological processes requiring emergency care among numerous diseases are diseases of the ENT organs [1, 2, 8].

The course of otolaryngology studies the structure and treatment methods of the upper respiratory tract (URT) and ears, which form a set of individually functioning systems. In recent years, in medicine, in particular otolaryngology, in connection with scientific and technological progress, significant achievements have been noted in diagnostics (spiral computed tomography, magnetic resonance imaging, endoscopy, ultrasound diagnostics) and treatment of various complicated diseases. The creation of protocols for the provision of ENT care, which are introduced into the practice of an otolaryngologist, a family doctor, has become a great help to the practicing physician. Despite the growth of the sanitary culture of the population and the use of new effective methods of combating URT infection, there is an increase in the number of complications of diseases requiring emergency care. Often, practicing doctors encounter significant difficulties in diagnosing and treating complicated conditions of patients, especially in childhood.

Recurrent ENT infection occupies a significant place in the structure of childhood morbidity. The initial contact between the doctor and the patient in the clinic largely determines the quality and effectiveness of treatment. A family doctor's training involves mastering an otolaryngology course [3]. Still, this course lacks the necessary detail regarding the age-related characteristics of various structures of the upper respiratory tract and congenital pathology in children. Pediatric practice involves communication with children suffering from multiple pathologies of the ENT organs, which leads to a violation of hearing, speech, smell, and breathing to one degree or another, a breach of adaptation to a children's group, in some cases to a delay in intellectual development, which directly affects the

formation of personality [4, 5]. Therefore, knowledge of the features of a pediatric appointment in the practice of a family doctor and an otolaryngologist remains relevant.

Relatively recently, another problem has arisen, which lies at the junction of two specialties and requires in-depth knowledge from family practice doctors - this is the treatment of pathologies of the dental system, leading to intervention and changes in the state of ENT organs. A significant part of pathological processes requiring ENT care are patients with odontogenic maxillary sinusitis. This can be associated with both the technical achievements of modern dentistry and the anatomical features of the ENT organs, the dental system (close location of the apical sections of the roots of premolars and molars of the upper jaw with the maxillary sinuses), and not always the correct determination of the etiological factors of the disease. The lack of professional interaction between otolaryngologists and dentists facilitates this situation. Even though the interests of these specialists intersect, the education received at the university and subsequent courses of professional training do not contribute to the development of an interdisciplinary approach [6]. Dentists do not know the anatomy of ENT organs, the mechanism of sinus aeration, pathological conditions, and their clinical picture. ENT doctors are little familiar with modern methods of implant dental surgery and the possible complications of its use. All of the above indicates the relevance of creating electives that complement and deepen the standard programs for training doctors.

The purpose of studying the selective discipline is to provide otolaryngological knowledge to family practice doctors and dentists, forming in applicants a holistic understanding of the structure of the reception, taking into account the age characteristics of the body. This understanding affects the improvement of professional training, the formation of an interdisciplinary approach, and the improvement of the quality of treatment as the final result.

**Materials and methods.** The main objectives of the selective courses (SC) are to improve the understanding of medical problems diagnosed and treated in the fields of otology, rhinology, laryngology, pediatric otolaryngology, allergic lesions of ENT organs, and head and neck surgery; and otolaryngology, to develop skills in endoscopic examination of the head and neck. The duration of optional courses in the otolaryngology cycle is 90 hours, classroom work is 30 hours, and others are independent work of applicants for higher education. The primary teaching methods when studying SC are: explanatory and illustrative methods (lecturing to an audience using multimedia presentations (creating video conferences), conducting webinars using modern Internet teaching technologies) and reproductive methods (reproduction during practical and seminar classes). The cycle includes

lecture material, in which lectures on topical diagnostics of the level of damage to ENT organs cause the most significant interest. Seminars are devoted to providing emergency care for foreign bodies and injuries. However, the most incredible enthusiasm is caused by the possibility of practical implementation of the acquired knowledge. In this regard, the most difficult and interesting is the acquisition of skills in practical classes, where applicants, under the supervision of a teacher, learn routine manipulations on dummies, mannequins, phantoms, models, simulators, virtual simulators, and other technical training aids, thanks to which a medical worker can, which will undoubtedly be helpful in future practical activities.

Such electives provide students with experience working with various pathological conditions encountered in otolaryngological practice. In addition, they gain practical experience in the surgical treatment of these diseases. Students actively participate in the clinical process both in the department and in the operating room, make rounds with a teacher, collect anamnesis and conduct otolaryngological examinations of patients under the supervision of a teacher, participate in shifts, and assist in surgical cases. When making hospital rounds with a consultant, students are offered to discuss a specific clinical case. This provides an understanding of the principles of treating common ENT diseases encountered in the practice of an otolaryngologist, identifying patients who need immediate examination for effective diagnosis and treatment (for example, otitis media with threatening intracranial complications, early cancer of the upper respiratory tract, etc.). Upon completion of the one-week training, the student should, depending on the course topic, be able to collect and evaluate the patient's medical history with symptoms of diseases of the ear, nose, paranasal sinuses, mouth, pharynx, larynx and neck; prescribe appropriate treatment for threatening causes of hoarseness, dysphagia, pain or discomfort in the throat, neck lumps and airway obstruction; provide emergency care in urgent conditions; evaluate the audiogram and vestibular test results following the patient's complaints.

The discipline "Pediatric Otolaryngology" is studied in a cycle of selective academic disciplines corresponding to the structural and logical scheme of the curriculum. Its study follows the goals of the educational and professional program for training graduates of a higher medical educational institution. It is determined by the content of the systemic knowledge and skills that a medical specialist must master. The knowledge obtained by applicants in the academic discipline is fundamental for all clinical disciplines. As a result of studying this discipline, the applicant acquires the following skills: listening to the patient and his relatives to understand treatment problems, asking questions and drawing parallels to understand the patient's situation, mastering the following skills: technique of consulting a

patient with problems of diseases of the upper respiratory tract and ear by modern requirements; use of a collegial model of communication with a patient in need of correction of the condition; explanation of the problem, stimulation for examination and treatment; search for motivation for treatment. Each topic of the elective course is highly informative, recognizable, and experienced. Thus, conducting this discipline showed that topics should be slightly modified due to excessive information content, which is more difficult to understand in a 2-hour lesson. However, after studying this elective discipline, the applicant, and later a medical specialist, will be able to have good knowledge of the features of the anatomical structure and physiology of the ear, throat, and nose of a child (and for each age category they are individual), which provide a tendency to several diseases, knowledge that allows timely detection of conditions: to provide emergency care in urgent situations, for example, stenosis of the larynx, foreign bodies, bleeding from ENT organs, etc. Elective cycles in pediatric otolaryngology are chosen not only by students-future ENT doctors but also potential doctors of family medicine, therapy, and pediatrics since the prevalence of ENT pathology among patients of different ages is very high, and general practitioners have to be the first line of care in acute ENT. As a result of studying this discipline, the applicant masters the skills of listening to the patient and his relatives to understand the problems of treatment, asking questions and drawing a parallel to understand the patient's situation, masters the skills techniques for consulting a patient with problems of diseases of the upper respiratory tract and ear by modern requirements; using a collegial model of communication with a patient in need of correction of the condition; explaining the problem, stimulating examination and treatment; finding motivation for treatment. After studying this selective discipline, the applicant, and later the medical specialist, will be able to possess information about the peculiarities of the anatomical structure and physiology of the ear, throat, and nose of a child (and for each age category, they are individual), which provide a tendency to several diseases, knowledge that allows timely detection and correction. The problem of treating patients with extreme pathology is significant when an interdisciplinary approach is necessary to establish the correct diagnosis. For example, odontogenic or dental sinusitis is an inflammatory process in one of the maxillary sinuses of the nose—the cause of the spread of infection from the affected tooth. Treatment of odontogenic sinusitis refers to the field of maxillofacial surgery.

In such cases, patient treatment results are affected by the relationship between otolaryngologists and dentists. Related specialists do not always have access to programs and knowledge to interpret the obtained radiographic and spiral CT images. In such cases, patient

treatment results are affected by the relationship between otolaryngologists and dentists. Related specialists do not always have access to programs and knowledge to interpret the obtained radiographic and spiral CT images. Patients often seek help from ENT specialists with problems that arose after dental intervention: perforation of the maxillary sinus due to unsuccessful root canal treatment, upper tooth extraction, unsuccessful sinus lift, odontogenic periostitis, or neoplasms in the nasal sinuses, granuloma, mycetoma, polyps), which otolaryngologists are forced to treat. Thus, there is a situation of need to create an ENT-dentistry direction, which will involve a comprehensive approach, the use of endoscopic equipment, surgical microscopes, and gentle methods of surgical intervention, which allows for the most effective help to patients with complex cases. Therefore, introducing selective disciplines is justified for the interest of applicants and practicing doctors of related specialties, forming their professional level.

## **CONCLUSIONS**

The elective courses in the Otolaryngology cycle are interdisciplinary, necessary, justified, and interesting. They help improve the applicant's theoretical and practical knowledge. The elective courses' mastery is based on the students' high degree of professional motivation, mastering the review skills and diagnostic techniques, allowing for the wide application of the acquired theoretical knowledge for effective patient care.

### **Authors contribution:**

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**All authors have read and agreed with the published version of the manuscript.**

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