

DANYLO HALYTSKYLVIV NATIONAL MEDICAL UNIVERSITY

Department of Pediatric Dentistry

**Methodological Recommendations**

# **Pediatric Dental Surgery**

**for self-work of specialists of the second (master) level  
of higher education  
*4<sup>th</sup> year, 8<sup>th</sup> semester***

Lviv 2021

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Considered and approved on meeting of Pediatric Dentistry Department (protocol № 7, from 9 of April 2021) and Profiled Methodical Commission of Dental faculty (protocol № 2, from 29 of April 2021)

**Methodical recommendations were discussed, re-approved and confirmed at the meeting of the Department of Pediatric Dentistry of Lviv National Medical University named after Danylo Halytsky**

**Protocol № 1        from « 31 » \_\_\_\_\_August\_\_\_\_\_2021**

**Protocol №        from «    » \_\_\_\_\_202**

**Responsible for the issue**

**Vice-Rector for Academic Affairs, Professor M.R. Grzegotskyy**

## The structure of the discipline

(3 credits, 90 hours: 10 hours of lectures, 40 hours of practical lessons / 40 hours of self-work)

Theme	Hours		
	whole	Including	
		Practical lessons	Self-work
<i>Theme №1.</i> Anatomical and physiological features of the development and structure of tissues and organs of the maxillofacial area in children. Anesthesia for maxillofacial area surgery in children in ambulatory and hospital. Operation of extraction of primary and permanent teeth.	8	4	4
<i>Theme №2.</i> Odontogenic and non-odontogenic, acute and chronic periostitis of the jaws. Clinic, diagnostics, differential diagnostics. Surgical treatment. Complications, their treatment and prevention.	8	4	4
<i>Theme № 3.</i> Acute odontogenic osteomyelitis of the jaws in children. Acute non-odontogenic osteomyelitis of the jaws in children. Chronic osteomyelitis of the jaws in children.	8	4	4
<i>Theme № 4.</i> Odontogenic, non-odontogenic abscesses and phlegmones of the maxillofacial area. Classification, clinic and diagnosis depending on the localization of the inflammatory focus. Differential diagnostics. Surgical treatment and its complications. General principles of complex treatment.	8	4	4
<i>Theme № 5.</i> Odontogenic inflammatory jaw cysts of primary and permanent teeth. Clinic, diagnostics, differential diagnostics. Methods of treatment.	8	4	4
<i>Theme № 6.</i> Acute and chronic, odontogenic and non-odontogenic lymphadenitis of the maxillofacial area.	8	4	4

Complications and its prevention.			
<p><b>Theme № 7.</b> Acute diseases of the salivary glands in children: epidemic parotitis, non-epidemic parotitis, calculous and non-calculous submaxillitis.</p> <p>Chronic diseases of the salivary glands in children: parenchymal and interstitial submaxillitis. Clinic, diagnosis, treatment and prevention of diseases of the salivary glands in children.</p>	8	4	4
<p><b>Theme № 8.</b> Acute and chronic inflammatory diseases of temporomandibular joint (TMJ) in children. Secondary osteoarthritis, ankylosis. Causes of development, diagnosis, differential diagnosis, clinical course. Principles and stages of surgical and medicamentous treatment. Rehabilitation of such patients.</p>	8	4	4
<p><b>Theme №9.</b> Traumatic injuries of the soft tissues. Burns and frostbites.</p>	8	4	4
<p><b>Theme №10.</b> Furuncles and carbuncle of the maxillofacial area. Classification, diagnosis, differential diagnosis, treatment. Complications and its prevention.</p> <p>Summary lesson. Differentiated test.</p>	8	4	4
<b>Whole</b>	80	40	40

**Independent work** (Preparation for practical classes) (theoretical development of practical skills, abilities, 1-10 topics)).

**Purpose:** to briefly write down each topic of the practical lesson. Master the key issues of each topic, initial and final level of knowledge.

**Topic 1.** Anatomical and physiological features of development and structure of tissues and organs of the maxillofacial area in children. Anesthesia of surgical interventions in the maxillofacial area in children in an outpatient and inpatient setting. Removal of temporary and permanent teeth in children.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ know the anatomical structure of the jaws and landmarks for determining the target points during conduction anesthesia in children of different ages;
- ✓ know the anatomical structure, timing of teething and root resorption;
- ✓ know the features of innervation and vascularization of the maxillofacial area in children of different ages and their importance.
- ✓ draw diagrams - drawings of innervation and vascularization of the teeth of the upper and lower jaws;
- ✓ know the anesthetics that are most often used for local anesthesia of the tissues of the thyroid gland in children;
- ✓ know and be able to test for tolerance to anesthetics;
- ✓ know the complications during local anesthesia, be able to diagnose and treat them;
- ✓ know the types of general anesthesia and substances used for its implementation;
- ✓ know and be able to determine the indications and contraindications to general anesthesia in the clinic and hospital;
- ✓ be able to properly and effectively perform anesthesia;
- ✓ be able to provide emergency care in case of complications;
- ✓ prescribe local anesthetics for children of different ages;
- ✓ prescribe medicines to provide emergency care to children;
- ✓ draw anatomical landmarks that are used for conduction anesthesia;
- ✓ know the indications and contraindications to the removal of appropriate groups of teeth in children at different ages;
- ✓ know the stages of tooth extraction surgery in children;
- ✓ know the features of the operation of tooth extraction in children at different ages;
- ✓ know the local and general complications during and after tooth extraction, their treatment and prevention;
- ✓ know the necessary resuscitation measures in emergencies;
- ✓ be able to properly perform tooth extraction surgery;
- ✓ be able to provide appropriate medical care to the child in case of local complications.

**Topic 2.** Odontogenic and neodontogenic, acute and chronic periostitis of the jaws. Clinic, diagnostics, differential diagnosis. Surgical treatment. Complications, their treatment and prevention.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ know the anatomical and physiological features of the structure of the tissues of the maxillofacial area, which affect the development of inflammatory processes;
- ✓ know the peculiarities of the structure of the jaws and teeth in children of different ages;
- ✓ know the symptom complex of acute and chronic periostitis of the jaws in children;
- ✓ know the features of acute and chronic periostitis of the jaws in children;
- ✓ know the differential diagnosis of periostitis of the jaws in children;
- ✓ know the possible complications of periostitis of the jaws in children and their prevention;
- ✓ be able to make a differential diagnosis of acute and chronic periostitis of the jaws in children;
- ✓ be able to open a subcutaneous abscess in the mouth.

**Topic 3.** Acute odontogenic osteomyelitis of the jaws in children. Acute neodontogenic osteomyelitis of the jaws in children. Chronic osteomyelitis of the jaws in children.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ know the symptom complex of acute odontogenic osteomyelitis in childhood;
- ✓ know the features of the clinical course of acute odontogenic osteomyelitis of the jaws of children;
- ✓ know the diagnosis of various forms of osteomyelitis of the jaws in childhood;
- ✓ know the principles of surgical and medical treatment of various forms of odontogenic osteomyelitis of the jaws;
- ✓ be able to make a differential diagnosis of acute odontogenic osteomyelitis of the jaws in children with other diseases of the maxillofacial area;
- ✓ have the technique of internal and external oral autopsies;
- ✓ be able to make a treatment plan for the child on the basis of a certain clinical diagnosis and determine the conditions in which to treat this patient (clinic, hospital);
- ✓ know the symptom complex of acute neodontogenic (hematogenous, traumatic) osteomyelitis in childhood;
- ✓ know the features of the clinical course of acute neodontogenic (hematogenous, traumatic) osteomyelitis of the jaws in children;
- ✓ know the principles of surgical and medical treatment of various forms of neodontogenic (hematogenous, traumatic) osteomyelitis of the jaws;

- ✓ be able to make a treatment plan for a child with acute odontogenic (hematogenous, traumatic) osteomyelitis of children on the basis of a certain clinical diagnosis;
- ✓ be able to fill in the history of the disease with various forms of osteomyelitis of the upper and lower jaws in children;
- ✓ make a table of differential diagnosis of acute odontogenic (hematogenous, traumatic) osteomyelitis of the jaw bones in children;
- ✓ prescribe medications used in the treatment of acute osteomyelitis of the jaws in childhood;
- ✓ be able to evaluate radiographs of children with various forms of chronic osteomyelitis and make a diagnosis;
- ✓ be able to make a differential diagnosis of chronic osteomyelitis with other diseases of the maxillofacial area;
- ✓ know the possible complications of osteomyelitis and be able to prevent them.

**Topic 4.** Odontogenic, odontogenic abscesses and phlegmons of MFA. Classification, clinic and diagnosis depending on the location of the inflammatory focus. Differential diagnosis. Surgical treatment and its complications. General provisions of complex treatment.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ know clinical symptoms, be able to diagnose maxillofacial abscesses, make a differential diagnosis, prescribe treatment;
- ✓ be able to open a superficial abscess of small size;
- ✓ know the principles of surgical and medical treatment of abscesses;
- ✓ know the technique of autopsies in the mouth, face and neck when opening abscesses, especially drainage of the wound.
- ✓ know the clinical symptoms, be able to diagnose phlegmons of the maxillofacial area, to make a differential diagnosis, prescribe treatment;
- ✓ be able to open a superficial abscess of small size;
- ✓ to make the scheme of differential diagnosis of phlegmon at children;
- ✓ draw a diagram of rational autopsies in the head and neck in the presence of inflammatory processes in soft tissues;
- ✓ prescribe medications that are used in the treatment of inflammatory processes of the soft tissues of the maxillofacial area in children and indicate their pharmacotherapeutic effect;
- ✓ be able to make a clinical diagnosis and make a treatment plan for the child;
- ✓ be able to determine the conditions in which to treat this patient (clinic, hospital).

**Topic 5.** Inflammatory odontogenic cysts of the jaws from temporary and permanent teeth. Clinical course, diagnosis, differential diagnosis. Methods of treatment.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ know the clinical manifestations of cysts of the jaws of inflammatory origin from temporary and permanent teeth;
- ✓ be able to diagnose cysts of the jaws of inflammatory origin from temporary and permanent teeth;
- ✓ to carry out differential diagnosis of cysts of jaws of inflammatory origin from temporary and permanent teeth;
- ✓ prescribe treatment of odontogenic cysts of the jaws of inflammatory origin from temporary and permanent teeth;
- ✓ write a table of differential diagnosis of jaw cysts;
- ✓ know and be able to perform cystectomy and cytotomy.

**Topic 6.** Acute and chronic, odontogenic and neodontogenic lymphadenitis MFA. Complications and their prevention.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ know the features of the structure of the soft tissues of the maxillofacial area in children, which affect the course of inflammatory processes;
- ✓ to know the clinical symptoms characteristic of inflammatory diseases of soft tissues of a maxillofacial site;
- ✓ be able to examine a child with an inflammatory process of the maxillofacial area and establish a diagnosis;
- ✓ be able to determine the method and place of treatment of the child depending on the stage of development of soft tissue inflammation;
- ✓ know the clinical symptoms and be able to justify the indications for hospitalization of children with lymphadenitis;
- ✓ be able to diagnose acute and chronic inflammation in the lymph node, to make a differential diagnosis and determine treatment tactics;
- ✓ be able to make a treatment plan for a child with lymphadenitis based on the clinical diagnosis;
- ✓ be able to provide emergency surgical care in full;
- ✓ be able to determine the conditions in which to treat this patient (clinic, hospital).

**Topic 7.** Acute (epidemic and non-epidemic parotitis, calculous and non-calculous submaxillitis), chronic (parenchymal and interstitial submaxillitis) diseases of the salivary glands in children. Clinic, diagnosis, treatment and prevention of salivary gland diseases in children.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ draw a diagram of the topographic location of the large salivary glands, the location of their excretory ducts and the anatomical structure of each of them;
- ✓ indicate (in writing) the chemical - biological composition of saliva;
- ✓ name the main substances used for contrast radiography;
- ✓ know conservative methods of treatment of patients.
- ✓ be able to analyze contrast radiographs with varying degrees of damage to the excretory ducts of the gland in chronic parenchymal mumps;
- ✓ to know the volume of surgical interventions when providing care to patients.

**Topic 8.** Acute and chronic inflammatory diseases of the temporomandibular joint (TMJ) in children. Secondary deforming arthrosis, ankylosis. Causes of development, diagnosis, differential diagnosis, clinical course. Principles and stages of surgical and medical treatment. Rehabilitation of such patients.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ know the features of the anatomical and physiological structure of the temporomandibular joint (TMJ) in children of different ages;
- ✓ be able to examine the TMJ and interpret the data of additional methods of its study;
- ✓ make a table of classification of diseases of the temporomandibular joint (TMJ) in children;
- ✓ be able to carry out differential diagnosis with other diseases;
- ✓ know the methods of treatment of acute inflammatory diseases of the temporomandibular joint (TMJ) in children of different ages.
- ✓ know the clinical manifestations of acute and chronic arthritis and secondary deforming osteoarthritis of the TMJ, be able to diagnose, make a differential diagnosis and prescribe treatment;
- ✓ know the clinical symptoms of acute and chronic arthritis, be able to examine the TMJ
- ✓ be able to diagnose secondary deforming arthrosis and ankylosis of the TMJ, to make a differential diagnosis, to determine a treatment plan;
- ✓ draw a diagram of reconstructive surgery for diseases of the temporomandibular joint (TMJ) in children;

**Topic 9.** Traumatic soft tissue injuries. Burns, frostbite.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ be able to make a final diagnosis of traumatic soft tissue injuries: bruises, hematomas, abrasions, wounds;
- ✓ be able to carry out primary surgical treatment of traumatic soft tissue injuries.

- ✓ be able to make a final diagnosis of burns and frostbite;
- ✓ be able to provide emergency care for burns and frostbite.

**Topic 10.** Boils and carbuncles of MFA. Classification, diagnosis, differential diagnosis, treatment. Complications and their prevention.

**Tasks for independent work:**

- ✓ briefly write down the main issues of the topic;
- ✓ know the clinical symptoms and be able to justify the indications for hospitalization of children with boils, carbuncles;
- ✓ be able to make a treatment plan for a child with this pathology;
- ✓ know the complications of boils and carbuncles in children.

***Recommended literature:***

1. Pediatric Oral and Maxillofacial Surgery: textbook. — 2nd edition / L.V. Kharkov, L.M.Yakovenko, N.V. Kiselyova. — K., 2020. — 104 p. + 24 p. colour insert.
2. Michael Miloro, 2016 London PETERSON'S PRINCIPLES OF ORAL AND MAXILLOFACIAL SURGERY Third Edition
3. Pediatric Oral and Maxillofacial Surgery Leonard B. Kaban, Maria J. Troulis, 2004.