

DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY

Pediatric Dentistry Department

Methodological Recommendations

for self-work on the subject

PEDIATRIC THERAPEUTIC DENTISTRY

for preparing of specialists of the second (master) level of higher education

4 th year, 8 th semester

specialty 221 "Dentistry"

Lviv 2021

Composed by:

Grynyshyn O.B., Assoc. Prof., PhD; Skybchyk O.V. assist., PhD; Krupnyk A.A., assist. PhD.; Fur M.B Assoc. Prof., PhD; Leshchuk S. Ye., Assist.

Chief Editor: Kolesnichenko O.V., Assoc. Prof., PhD

Reviewed by: Chukhray N.L., Prof., Doctor of medical science

Ripetska O.R., Assoc. Prof., PhD

Manyuk L.V., senior lecturer

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

Protocol № from « » _____ 202

Protocol № from « » _____ 202

Protocol № from « » _____ 202

Responsible for the issue

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

The structure of the discipline

(2 credits, 60 hours: 4 hours of lectures, 30 hours of practical classes, 26 hours of SW)

№	Theme	Hours		
		Totally	Practical classes	SW
1	Anatomical features of the structure of temporary teeth in children. Draw a schematic arrangement of root canals in all groups of temporary teeth.	5	3	2
2	Periods of development of temporary and permanent teeth. Radiological signs of acute and chronic periodontitis of temporary and permanent teeth.	5	3	2
3	Techniques of instrumental and features of drug treatment of root canals of temporary teeth.	5	3	2
4	The anatomical features of the structure of permanent teeth in children. X-ray stages of root formation of permanent teeth. Draw a schematic arrangement of root canals in all groups of permanent teeth.	5	3	2
5	Apexification: techniques, modern materials, techniques.	6	3	3
6	Modern techniques of instrumental treatment of root canals of permanent teeth (manual and machine). Modern endodontic instruments.	6	3	3
7	Diagnostic and radiological criteria of deep caries, acute and chronic pulpitis, acute and chronic periodontitis of temporary teeth in children. To make the scheme of differential diagnostics of these diseases.	5	3	2
8	Make a list of terms of eruption of temporary teeth and their replacement with permanent ones. To make algorithm of inspection of the child with an acute injury of a temporary tooth.	6	3	3
9	The scheme of treatment tactics for different types of injuries of permanent teeth (fracture of the tooth crown with and without exposure of the pulp; fracture of the root at the level of the neck, in the middle and apical part of the root, complete dislocation of a permanent tooth at different stages of development).	6	3	3
10	Writing a medical history	7	3	4
	Total	60	30	26

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 the code topic, initial and final level of knowledge.

Topic 1. Anatomical features of the structure of temporary teeth in children. Draw a schematic arrangement of root canals in all groups of temporary teeth.

- ▶ briefly write down the main issues of the topic
- ▶ know the anatomical features of the structure of the crown and pulp cavity in temporary teeth depending on the group affiliation of the tooth
- ▶ know the features of the anatomical structure of the root and the location of the root canals of temporary teeth depending on the group affiliation of the tooth
- ▶ draw a diagram of the structure and location of root canals in single-rooted temporary teeth (central and lateral incisors and canines)
- ▶ draw a diagram of the structure and location of root canals in multi-rooted temporary teeth (molars)
- ▶ know the periods of development of the roots of temporary teeth
- ▶ to draw schematically different stages of development of roots of temporary teeth (stages of growth, stabilization and resorption of roots)
- ▶ draw a diagram of the ratio of the roots of temporary teeth to the crown of the rudiments of permanent teeth
- ▶ to know and understand the practical significance of the anatomical structure of the roots of temporary teeth.

Topic 2. Periods of development of temporary and permanent teeth. Radiological signs of acute and chronic periodontitis of temporary and permanent teeth.

Tasks for independent work:

- ▶ briefly write down the main issues of the topic
- ▶ know the periods of development of temporary teeth and what it has practical significance
- ▶ know the periods of development of permanent teeth and what it has practical significance
- ▶ know and understand the practical significance of the location of the roots of temporary teeth and their relationship with the rudiments of permanent teeth
- ▶ know the features of the radiological structure of the periodontal gap in the norm
- ▶ know the features of the radiological picture of the healthy state of periodontal tissues of temporary and permanent teeth
- ▶ know the types of X-ray examinations to assess the condition of periodontal tissues
- ▶ know the permissible norms and doses of radiation exposure for children for X-ray examination

- ▶ know the features of the radiological picture of acute periodontitis of temporary and permanent teeth
- ▶ know the features of the radiological picture of the fibrous form of chronic periodontitis of temporary and permanent teeth
- ▶ know the features of the radiological picture of the granulating form of chronic periodontitis of temporary and permanent teeth
- ▶ know the features of the radiological picture of the granulomatous form of chronic periodontitis of temporary and permanent teeth
- ▶ to sketch a radiological picture of various forms of chronic periodontitis
- ▶ be able to carry out differential diagnosis of various forms of chronic periodontitis of temporary and permanent teeth on the basis of X-ray examination
- ▶ be able to assess the prognosis of treatment of chronic periodontitis of a temporary tooth on the basis of X-ray examination
- ▶ be able to assess the ratio of the roots of temporary teeth and the rudiments of permanent teeth on the basis of X-ray examination
- ▶ be able to assess the dynamics (progress or regress) of radiological changes in periodontal tissues after treatment of chronic forms of periodontitis of temporary and permanent teeth on the basis of a series of radiological examinations

Topic 3. Techniques of instrumental and features of drug treatment of root canals of temporary teeth.

Tasks for independent work:

- ▶ write down the main issues of the topic
- ▶ know the types of endodontic instruments for techniques of manual treatment of root canals and features of its use
- ▶ know the standardization of endodontic instruments for techniques of manual root canal treatment
- ▶ know the techniques of manual processing of the root canals of temporary teeth
- ▶ to know features of manual processing of root canals by the step-back technique, to draw schematically features of processing of root canals with
- ▶ to know features of manual processing of root canals by the technique of "balanced forces", to draw schematically features of processing of root canals with use of this technique
- ▶ write down the types, features of action and concentration of medicinal agents used for medical treatment (irrigation) of the root canals of temporary teeth
- ▶ know endodontic instruments and tools used for medical treatment of root canals of both temporary and permanent teeth
- ▶ know the main complications that can occur during irrigation of the root canals of temporary and permanent teeth and methods of their prevention
- ▶ hypochlorite accident: causes, methods of prevention and ways to eliminate the consequences of this complication
- ▶ modern means and methods of activation of drug mediators in the root canals of temporary and permanent teeth: purpose, methods, features of use, effectiveness
- ▶ additional modern methods of disinfection of root canals: the use of lasers, ozonation of root canals

Topic 4. Anatomical features of the structure of permanent teeth in children. X-ray stages of root formation of permanent teeth. Draw a schematic arrangement of root canals in all groups of permanent teeth.

- ▶ briefly write down the main issues of the topic
- ▶ know the anatomical features of the structure of the crown and pulp cavity in permanent teeth depending on the group affiliation of the tooth
- ▶ know the features of the anatomical structure of the roots and the location of the root canals of permanent teeth depending on the group affiliation of the tooth
- ▶ draw a diagram of the structure and location of root canals in single-rooted permanent teeth (central and lateral incisors and canines)
- ▶ draw a diagram of the structure and location of root canals in multi-rooted permanent teeth (premolars and molars)
- ▶ know the periods of development of the roots of permanent teeth
- ▶ draw schematically the different stages of development of the roots of permanent teeth
- ▶ draw the stages of formation of the tip of permanent teeth
- ▶ know and understand the practical significance of the anatomical structure and stages of development of the roots of permanent teeth
- ▶ know the features of the radiological structure of periodontal tissues in teeth with unformed roots
- ▶ be able to assess the development of the root of a permanent tooth radiologically
- ▶ understand the practical significance of the stage of development of the root of a permanent tooth for the choice of treatment
- ▶ be able to make a differential diagnosis of periodontal tissues in teeth with unformed roots in normal and pathology, using the X-ray method of examination

Topic 5. Apexification: methods, modern materials, techniques.

Tasks for independent work:

- ▶ write down the main issues of the topic
- ▶ know the stages of development of the roots of permanent teeth
- ▶ know the stages of formation of the apex of the roots of permanent teeth
- ▶ understand the principles of choosing a method of treatment of permanent teeth with incomplete root formation depending on the stage of their formation
- ▶ definition and understanding of the concept of apexification of the roots of permanent teeth
- ▶ definition and understanding of the concept of apical barrier, types and terms of formation of apical barrier
- ▶ describe the existing methods of apexification of the roots of permanent teeth (methods of remote and simultaneous apexification)
- ▶ understand the advantages and disadvantages of each of the described techniques
- ▶ describe modern materials for creating an apical barrier during the apexification of the roots of permanent teeth, their properties and features of application
- ▶ know the features of the technique and the necessary tools for apexification of a permanent tooth depending on the chosen technique
- ▶ know the features of determining the working length of the root during the method of apexification
- ▶ describe the stages and features of apexification using calcium hydroxide
- ▶ describe the stages and features of apexification using calcium silicate cements

- ▶ be able to radiologically assess the correctness of the apexification procedure, depending on the chosen method immediately after
- ▶ principle and terms of X-ray observation
- ▶ principles of tooth restoration after the apexification procedure

Topic 6. Modern techniques of instrumental treatment of root canals of permanent teeth (manual and machine). Modern endodontic instruments.

Tasks for independent work:

- ▶ write down the main issues of the topic
- ▶ know the types of endodontic instruments for techniques of manual and machine treatment of root canals
- ▶ know the standardization of endodontic instruments for techniques of manual and machine treatment of root canals
- ▶ steel and nickel-titanium tools, features
- ▶ importance, methods and features of determining the working length of the root canals of teeth during endodontic treatment
- ▶ know the techniques of manual processing of the root canals of permanent teeth
- ▶ know the features of manual processing of root canals by the technique of "step-back", the technique of "balanced forces"
- ▶ devices and tools for the technique of machine (rotational) treatment of root canals: lowering tips, endodontic micromotors, retail endodontic tools
- ▶ know the basic principles and features of rotational treatment of root canals of teeth using the technique of "crown-down"
- ▶ the importance of understanding the concept of torque when working with rotating rotary tools
- ▶ the concept of using reciprocal methods of root canal treatment
- ▶ multiplicity of use of rotary instruments and features of sterilization

Topic 7. Diagnostic and radiological criteria of deep caries, acute and chronic pulpitis, acute and chronic periodontitis of temporary teeth in children. To make the scheme of differential diagnostics of these diseases.

Tasks for independent work:

- ▶ write down the main issues of the topic
- ▶ know the patterns, features of the clinical course and radiological picture of acute and chronic initial and superficial caries of enamel of temporary teeth
- ▶ know the patterns, features of the clinical course and radiological picture of acute and chronic secondary caries of dentin of temporary teeth
- ▶ know the patterns, features of the clinical course and radiological picture of acute and chronic deep caries of dentin of temporary teeth
- ▶ know the patterns and features of the clinical course of pulp hyperemia, acute and chronic pulpitis of temporary teeth
- ▶ be able to make a differential diagnosis between reversible and irreversible conditions of inflammation of the pulp of a temporary tooth
- ▶ know the features of the clinical course and radiological picture of acute inflammation of the apical periodontium of a temporary tooth
- ▶ be able to make a differential diagnosis of inflammation of the pulp and acute inflammation of the apical periodontium of a temporary tooth
- ▶ know the features of the clinical course and radiological picture of various forms of chronic inflammation of the apical periodontium of a temporary tooth

- ▶ be able to make a differential diagnosis between acute and chronic forms of inflammation of the apical periodontium on the basis of clinical and radiological picture
- ▶ be able to differentiate chronic forms of inflammation of the apical periodontium on the basis of radiological studies
- ▶ to make the scheme of differential diagnosis of acute and chronic pulpitis on the basis of clinical inspection
- ▶ draw up a scheme of differential diagnosis between caries, pulp and periodontal diseases based on clinical examination data
- ▶ to make the scheme of differential diagnosis between caries, diseases of pulp and periodontium on the basis of data of X-ray inspection

Topic 8. Make a table of terms of eruption of temporary teeth and replace them with permanent ones. To make algorithm of inspection of the child with an acute injury of a temporary tooth.

Tasks for independent work:

- ▶ write down the main provisions of the topic
- ▶ make a table of terms and sequences of eruption and loss of temporary teeth
- ▶ make a table of terms of eruption of permanent teeth
- ▶ types of injuries of temporary teeth, classification
- ▶ know the indications and contraindications for the treatment of temporary teeth with acute trauma, depending on the type of acute trauma, the age of the child and the group of teeth
- ▶ know the features of complaints and the clinical picture of various types of acute injuries of temporary teeth
- ▶ to make algorithm of inspection of the child with an acute injury of a temporary tooth
- ▶ draw up a scheme of treatment tactics for various types of acute injuries of temporary teeth in children
- ▶ principles and features of splinting of temporary teeth
- ▶ principles of rehabilitation of a child with an acute injury of a temporary tooth

Topic 9. Scheme of treatment tactics for various types of injuries of permanent teeth (fracture of the tooth crown with and without pulp exposure; root fracture at the level of the neck, in the middle and apical part of the root, complete dislocation of a permanent tooth at different stages of development).

Tasks for independent work:

- ▶ write down the main issues of the topic
- ▶ make a scheme of eruption of permanent teeth
- ▶ to make the scheme of development of a root of a permanent tooth
- ▶ types of injuries of permanent teeth
- ▶ tooth decay: features of clinical manifestations and radiological picture
- ▶ principles of treatment tactics for permanent tooth slaughter
- ▶ dislocation of a permanent tooth: types, features of clinical and radiological picture
- ▶ dislocation of a permanent tooth: principles of choosing a method of treatment depending on the type and severity of the injury
- ▶ terms and features of splinting of permanent teeth depending on the type of injury
- ▶ features of clinical manifestations and radiological picture of tooth crown fracture without exposure and with pulp exposure
- ▶ features of the choice of treatment tactics depending on the type of fracture of the crown of a permanent tooth

- ▶ root fracture: types, features of clinical manifestations and radiological picture depending on the level and type of root fracture
- ▶ features of the choice of treatment tactics depending on the level and type of fracture of the root of a permanent tooth
- ▶ features of the choice of treatment tactics for fractures of the root of the tooth depending on the type and degree of formation of the root of a permanent tooth

Topic 10. Writing a medical history.

List of basic literature:

1. Therapeutic dentistry of children's age. Vol.1. "Dental caries and its complications" / L.O. Khomenko, Yu.B. Tchaikovsky, NI Smolyar [etc.]; for order. L.O. Khomenko - Book-plus, 2016. - 432p
2. Therapeutic dentistry of children: textbook Volume 1. / LA Khomenko, [and others]; ed. L.A. Khomenko. - K. : Kniga-plus, 2018. --- 395 p.

List of additional literature:

1. Baranskaya-Gakhovskaya M. Endodontics of adolescence and adulthood. - Lviv: GalDent, 2011. --- 496p.
2. Protocols for providing medical care in the specialties "orthopedic dentistry", "therapeutic dentistry", "surgical dentistry", "orthodontics", "pediatric therapeutic dentistry", "pediatric surgical dentistry": Normative production and practical edition. - Kyiv: Institute of Medical Statistics; IEC "Medinform", 2007. - 236 p.
3. Kazakova R.V., Melnik V.S., Gorzov L.F. Propaedeutics of pediatric therapeutic dentistry: A textbook. / Ed. prof. R.V. Cossack. - Uzhhorod: Uzhhorod National University Publishing House "Hoverla", 2018. - 128 p.
4. Disorders of development and formation of teeth: textbook. way. for students doctors-interns, dentists / E.V. Bezvushko, M.M. Ugrin, Z.R. Popovich; L.F. Kaskova, O.V. Money. - Lviv: GalDent, 2007. - 72 p.
5. Propaedeutics of pediatric therapeutic dentistry (edited by Prof. LO Khomenko). - K. : "Kniga-plus", 2011. - 320 c.
6. Danilevsky M.F., Sidelnikova L.F., Rakhniy J.I. Pulpitis. - K. Health, 2003. – 168.
7. Pediatric dentistry: per. from English / Ed. R. Welbury, M. Daggal, M.-T. Hozl. - M: GEOTAR-Media, 2014. --- 454 p.
8. Ivanov V.S., Vinnichenko Yu.A., Ivanova E.V. Inflammation of the pulp of the tooth. - M.: MIA, 2003. --- 264p.
9. Nikolaev A.I., Tsepov L.M. Practical therapeutic dentistry: Textbook / A.I. Nikolaev, L.M. Tsepov. - 8th ed. - M.: MED press-inform, 2008.- 960 p.
10. Nikolishin A.K. Modern endodontics of a practical doctor. - Poltava, 2003. —208.
11. Popruzhenko T.V. Prevention of major dental diseases / T.V. Popruzhenko, T.N. Terekhova. - M.: MED pressinform, 2009. --- 464 p.
12. Ralph E. McDonald, David R. Avery Dentistry of children and adolescents. M.: Medical Information Agency, 2003.- 766s.
13. Stephen Cohen, Richard Burns Endodontics. - M. : STBOOK, 2007. --- 502c.
14. Handbook of pediatric dentistry (Edited by A.C. Cameron, R.P. Widmer / Translated from English. Edited by T.F. Vinogradova, N.V. Ginali, O.Z. Topolnitskiy - M. : MEDpress-inform, 2003. - 288s .

15. Khomenko L.A., Ostapko E.I., Bidenko N.V. Clinical and X-ray diagnostics of dental and periodontal diseases in children and adolescents. - Kiev: "Book Plus", 2004. - 200 p.
16. Khomenko L.A., Bidenko N.V. Practical endodontics tools, materials and methods.- Kiev, Book plus, 2002.- 216p.
17. Khomenko L.A., Savichuk A.V., Bidenko N.V., Ostapko E.I. and other Prevention of dental diseases: textbook. allowance. - Part 1. –K.: "Book Plus", 2007. –127 p.
18. Khomenko L.A., Savichuk A.V., Bidenko N.V., Ostapko E.I. and other Prevention of dental diseases: textbook. allowance. - Part 2. –K.: "Book Plus", 2008. –132 p.