MINISTRY
OF HIGHER AND SECONDARY SPECIAL EDUCATION OF THE REPUBLIC OF UZBEKISTAN

BUKHARA MEDICAL INSTITUTE AFTER ABU ALI IBN SINO

CHAIR OF CHILDREN'S DENTISTRY

Educational complex
for students of 4 course and on the subject

" ERRORS AND COMPLICATIONS IN CHILDREN DENTISTRY "

Field of expertise - 500000 "Health and social welfare"
Field of education - 510000 "Health"
Direction of education - 5510400 "Dentistry"

Bukhara - 2019

MINISTRY
OF HIGHER AND SECONDARY SPECIAL EDUCATION OF THE REPUBLIC OF UZBEKISTAN

BUKHARA MEDICAL INSTITUTE
NAMED AFTER ABU ALI IBN SINO

CHAIR OF CHILDREN'S DENTISTRY

"Approving"
Vice-rector for academic and
educational work
_____ G.Zh. Zharilkasinova
"_____" _____201 9 g

Educational complex
for students 4 courses on the subject

" ERRORS AND COMPLICATIONS IN CHILDREN DENTISTRY "

Field of expertise - 500000 "Health and social welfare"
Field of education - 510000 "Health"
Direction of education - 5510400 "Dentistry"

Bukhara - 2019

The educational-methodical complex was developed on the basis of the curriculum of the subject “ Errors and Complications in Pediatric Dentistry ” registered by the Ministry of Higher and Secondary Special Education

Compiled by:
Yariyeva O.O. – Basic doctorate of the Department of Pediatric Dentistry.
Kamalova F.R.- head. Department of Pediatric Dentistry.

Reviewer:

N.N. Khabibova - candidate of medical sciences, head. Department of Therapeutic Dentistry.

Chairperson of the Center for Medicine and Medicine: Ph.D., Dean of the Faculty of Dentistry Z.K. Rakhimov

The educational-methodical complex was compiled on the basis of the curriculum and curriculum in the direction 5510400 - Dentistry, discussed and approved at a cathedral meeting.

_____ protocol number «____» _____ 201 9 g

The training complex was discussed and approved at the Central Methodological Council of the Bukhara State Medical Institute.

Protocol № ____ «___» _____ 201 9 g

Methodist: _____ Zhumaev Sh.B.

TABLE OF CONTENTS

1. EDUCATIONAL MATERIAL N

1.1 LECTURE ACTIVITIES

A projection of number 1
Topic : Errors and complications in the formation and preparation of carious cavities in childhood.

1.1. T echnology cal model of the formation

Time classes 2 hours	Number of students
Type of activity	Introduction of lecture news
Lecture plan 1. Etiology . Pathogenesis. Classification of dental caries	Acquaintance with the etiology, pathogenesis, classification of dental caries.
The objective of the training session	The basis of preventive and dental caries.
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting classes	Metodi Cesky equipped audience
Monitoring and evaluation criteria	Oral survey

1.2. Technological card of lecture classes

Work st ages	**Teacher**	**Student**
Preparati on stages (5 minut es)	1.Proverka academic performance of students 2. Preparation of slides for lecture material 3. Literature on the subject T.Kh.Safarov, I.Kh. Khalilov - “Bolalar davolash dentistry amidium kullanma " T-1997 . N.V. Kuryakina - “Therapeutic dentistry of children ”.	Listens and records
1. Introd uction (15 minu tes)	***1. The purpose and objectives of the lecture material :*** **Purpose :** ✓▪Give an understanding of the etiopathogenesis of caries in children. To draw special attention of students to the clinical classification and features of the course of decay of deciduous teeth in children. ✓▪teach properly conduct differential diagnosis surface caries with hypoplasia enamel with fluorosis. Middle caries with chronic fo rms of pulpitis and periodontitis, deep caries with acute and chronic pulpitis and chronic periodo ntitis. ✓▪To teach the features of the preparation of carious cavities in milk and permanent teeth with incomplete root formation . Features of the treatment of milk and permanent teeth affected by caries. **Challenge :** • Features flow of caries in children's age and treatment . • Examination of the patient and develop a treatment plan ; • Develop basic syndrome s dental diseases • Make a treatment plan and prevention of stoma. of diseases .	Are listening Answers to questions of students

	2. Questions on the topic • By lassfikatsiya diseases caries in children ? • Complications of improper treatment of caries in children ? • The importance of fluorinated water in the prevention of caries ?	
2 main st age (5 0 min utes)	1. Familiarization topics with the indication slides 2. Handouts s materials	Listen and r ecord Listen
The final stag e of 10 mi nutes	1. Conclusion . 2. Independent work . 3. Home task .	Listens and records Writes down

Lecture text

Medical error

- *I.V. Davydovsky* 's medical errors are *attributable* to the doctor's bona fide delusion due to either imperfection of medical science, or insufficient experience of the doctor, or the particular course of the disease in a particular patient, or lack of experience and knowledge of the doctor.

- He divides the errors into two groups: subjective (inadequate examination, lack of knowledge and not careful judgments) and objective (imperfections in medical science, overly narrow specialty, difficulty of research).

A.I. Rybakov (1988) divides errors in dentistry into 4 groups:

- 1. unforeseen errors. The doctor acts correctly, but unforeseen situations arise during the treatment process.

- 2. due to the *negligence* or *negligence of a* doctor.

- 3. *low professional training of the* doctor, his *inexperience.*

- 4. *imperfections* of diagnostic methods, medical equipment, devices.

Errors in questioning a patient

- It happens that a dentist, in addition to an affected tooth, tongue or other organ of the oral cavity, sees nothing more, does not ask about anything.

- The doctor is rarely interested in the state of CVS, does not always find out the presence of pathological processes in the body.

- The doctor also rarely finds out from the patient about the tolerance of drugs (especially on anesthetics).

Errors in the preparation of the cavity

Accidental exposure of tooth pulp

- The reason may be:
- Lack of knowledge of the topographic features of the location of the tooth pulp depending on the group of teeth, especially in the treatment of deep caries;
- The use of large-sized burs and high speed of their rotation;
- Failure to comply with the basic principles for the preparation of carious cavities;

Dissection of the tooth cavity
a) place of opening;
b) the initial direction of boron;
c) the direction of boron at the second stage of tooth trepanation;
d) expansion of the cavity after opening it;
e) creating a protrusion to the apical narrowing;
Erroneous opening of the tooth cavity
a) perforation at the level of the neck of the tooth;
b) giving the wrong direction to the channel;
c) discoloration of the crown with insufficient opening of the cavity, which does not allow the removal of pulp residues or its decay;
d) perforation of the root and breaking of the tool in the channel in case of incorrect creation of the channel direction;
Opening of the premolar cavity in the jaw
a) trepanation of the tooth crown in the center of the masticatory surface;
b) removal of canopies;
c) a cavity with good access to the root canals;
Incorrect preparation of premolars in the jaw
a) opening the cavity of the tooth in the horn of the pulp in case of acceptance beyond the mouth of the canal;
b) cervical perforation with expansion of the tooth cavity;
c) perforation or breaking of the instrument in the absence of a direct approach to the root canal;
Erroneous preparation of the anterior teeth of the n / jaw
a) perforation at the level of the neck of the tooth;
b) giving the wrong direction to the channel;
c) discoloration of the crown with insufficient disclosure and removal of the residue pulp pulp or its breakdown;
d) perforation of the root or breakage of the tool in the channel when creating an incorrect
a strong approach to it;
Erroneous preparation of molars in the / jaw
a) opening the tooth cavity according to the horn of the pulp;
b) weakening of the tooth crown due to excessive dentin removal;
c) perforation of the bottom of the tooth cavity;
d) partial opening of the tooth cavity;

e) perforation of the root canal with insufficient opening of the tooth cavity;
e) perforation of the root canal when using a large instrument
size with a sharp tip;
Erroneous preparation of molars n / jaw
a) excessive removal of hard tooth tissues with a deep arrangement of
Lost
b) perforation of the bottom of the cavity;
c) perforation above - and subgingival when preparing without regard to inclination a tooth;
d) opening the horn of the pulp, taking it for the mouth of the channel;
e) perforation of the root at the site of its curvature;
Before making a final diagnosis, you must:

- find out the history of life;
- find out the history of the disease;
- use diagnostic tools and various devices to clarify the diagnosis.

Leaving ix sites softened den Tina n rivodit subsequently to infect vaniyu underlying its sites and the development of secondary caries or inflammation of the pulp - pulpitis.
If even there is no such continuity GOVERNMENTAL complications, then softened den ting absorbs a ebya pigments, measurable nyaetsya its color, which leads to darkening of the tooth crown.
When secondary caries occurs, the tooth tissues surrounding the filling are destroyed and it falls out .
Improper cavity formation leads to fractures of the filling material or breaking off (enamel edge) of the walls of the carious cavity.
Breaking of the wall of the cavity can occur with rough leverage of different movements of the excavator or boron, when excessive pressure arises on one of its walls.
Damage by boron to adjacent teeth can occur during the preparation of carious cavities located on the contact surfaces of the teeth, in cases where the rules for removing the carious cavity on the chewing (palatal) surface are neglected.
Damage to the gingival margin occurs during the preparation of cavities located on the contact surfaces and in the cervical region of the teeth.
A number of errors and complications occur during filling of the carious cavity.
When filling, it is important to choose the right filling material and prepare it.

Lecture number 2

Subject : Errors and complications when filling, incorrectly selected oh and placed oh p ombi in childhood

1.1. T echnology cal model of the formation

Time classes 2 hours	Number of students
Type of activity	Introduction of lecture news
Lecture plan Give a concept about the clinic , differential. diagnosis and treatment of non-carious lesions in children.	Acquaintance with the clinic and treatment of non-carious dental lesions .
The objective of the training session	Clinical development and treatment of non-carious tooth lesions
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting classes	Metodi Cesky equipped audience
Monitoring and evaluation criteria	Oral survey

1.2. Technological card of lecture classes

Work stages	**Teacher**	**Student**
Preparation sta ges (5 minutes)	1. Check the performance of students 2. Preparation of slides for lecture material 3. Literature on the subject T.Kh.Safarov, I.Kh. Khalilov - “Bolalar davolash dentistry amidium kullanma " T-1997 . N.V. Kuryakina - “Therapeutic dentistry of children ”.	Listens and records
1. Introduction (15 minutes)	***1. The purpose and objectives of the lecture material :*** **Purpose :** 1. Give a concept about the clinic of non-carious lesions in children. To draw students' special atten tion to the classification of non-carious dental lesions in children. 2. To teach the right to carry out a differential diagnosis of non-carious lesions of teeth in children. 3. Features of the treatment of non-carious dental lesions in children. ✓·Give an understanding of the etiopathogenesis of acute and chronic pulpitis in children. To draw special attention of students to the clinical classification and features of the course of acute and chronic pulpitis in children. ✓·Teach properly carry out differential diagnosis of	Are listening Answers to questio ns of students

	pulpitis. Features of the treatment of pulpitis of milk and permanent teeth. **The task :** To familiarize students with the etiology, pathogenesis of diseases of the teeth non-carious descended denia. To acquaint students with the anatomical and physiological features of the structure of the pulp in milk teeth, as well as with the features of the clinical course of pulpitis in children.	
2 main stage (5 0 minutes)	1. Familiarization topics with the indication slides 2. handout materials	Listen and record L isten
The final stage of 10 minutes	1. Conclusion . 2. Independent work . 3. Home task .	Listens and records Writes down

Lecture text

Incorrect application of insulating pads during medium and deep caries can cause irritation or damage to the pulp by chemical, toxic or thermal irritants of permanent filling materials.
The presence of a gasket on the side walls of the cavity (above the enamel-dentin junction) worsens the marginal fit and fixation of permanent filling material, predisposes to the occurrence of secondary caries and loss.
An overestimation of the occlusion during filling of the carious cavity causes pain or awkwardness when chewing, and may restrict the movement of the lower jaw.
Constant overload of a filled tooth can lead to chronic periodontal injury - the occurrence of acute or chronic periodontitis.
The absence of a contact point creates conditions for the accumulation of food debris between the teeth that injure the interdental papilla, contribute to the development of caries on the contact surfaces of the teeth, as well as periodontal disease (papillitis, gingivitis, periodontitis).
The application of a single filling in adjacent carious cavities violates the natural microexcursions of the teeth.
This leads to:
loosening of the seal;
breaking it off;
falling out.
Hanging edges of the fillings that protrude into the interdental space

- injure the gums;
- create conditions for the accumulation of food debris between the teeth.

Wrong choice and preparation of filling material often lead to immediate complications.
Errors and complications that arise after the treatment of caries
A number of complications can occur at different times (several months or years) after treatment.
Quite often noted:

- pulp inflammation;

- pulp necrosis.

Secondary caries can occur due to insufficient preparation of the carious cavity, when there are areas of demineralized dentin on the walls and bottom of the cavity.
Papillitis, or inflammation of the interdental gingival papilla, occurs when:

- defects in filling cavities on the contact surfaces of teeth;
- overhanging edges of fillings;
- the presence of a single seal in two adjacent cavities;
- trauma to the gums during preparation and filling of the carious cavity.

Acute and chronic apical periodontitis usually develops a few days (acute) or months (chronic) after treatment of caries.

A common cause of periodontitis is chronic tooth overload due to increased occlusion of the filling.
A change in the color of the tooth crown (to gray, dark gray) may be the result of:

- insufficient preparation;
- removal of necrotic dentin;
- pulp necrosis;
- chronic periodontitis.

Excretion of the gum sections that are adjacent to the filling in the cervical region may be a consequence of the increased sensitivity of the body to the material from which the filling is made.
Displacement, fractures and loss of fillings most often occur due to:

- violations of the rules for the preparation of filling material;
- carious cavity formation.

Inconsistency of the color of the fillings with the color of the tooth enamel most often bothers the patient if it is detected on the anterior teeth and premolars.
Ineffective drug treatment of initial caries may be considered as a complication or mistake. This may be a consequence of: the wrong choice of tactics, medication, methods of their use and duration of treatment.
Errors and complications arising from the use of composite materials
They prevent a number of complications and avoid mistakes:

- the right choice of composite filling material;
- careful observance of the application procedure.

Composite Filling Materials
Composition of composites:

- organic matrix;
- inorganic filler;
- dyes;
- additives: catalyst, inhibitor, ultraviolet stabilizer, camphoroquinone.

Classification of composite filling materials

- Macro-filled composites macrophiles (particle size 8-12 microns and more);
- Microfilled composites. Microphiles (particle size 0.04-0.1 microns);
- Hybrid composites (particle size 8-12 microns and 0.04-0.1 microns);
- Microhybrid composites (particle size 1-5 microns and 0.04-0.1 microns);
- Totally made composites. Condensable composites, postorites (particle size 5-8 microns, 1-5 microns, 0.04-0.1 microns);
- Low modulus composites. Liquid (flowing) composites.

In recent years, preference has been given to microhybrid composites with a large percentage of filler particles, which largely meet the requirements for restoration materials (Tetrik , Degufill , Prodigi , Arabeck , etc.).
The disadvantages inherent in these materials:

- do not possess chemical adhesion to hard tooth tissues of the tooth, i.e. do not "stick";
- form irregularities on the surface of the seal due to differences in the abrasion resistance of the inorganic filler and the organic matrix;
- have a fairly high polymerization shrinkage (2-5%);
- they are allergenic both of the composites themselves and of the elements of adhesive systems.

Condensable (packaged) composites have high strength and are distinguished by their ease of use. They are made on the basis of a modified (thick) polymer matrix.
Adhesive systems
In order to ensure the adhesion of the composite to the tissues of the tooth, adhesive systems are used, which are an obligatory composite when working with composites and consist of a primer and adhesive.
Work Stages:

1. Hygienic brushing with special fluoride-free pastes;
2. Determination of the color of the filling material;
3. Dissection of the carious cavity;
4. Isolation of teeth from saliva;
5. Treatment of the cavity with a pusher or gun;
6. Overlay pads;
7. Etching tooth tissues with acid gel;
8. Drying the cavity with the help of a puster of an air gun, cotton swab;
9. Application of adhesive system;
10. The introduction of filling material;
11. Filling processing;
12. Preventive coating of the seal.

Compomers

Compomers (glaciosites) are a combination of composite and glass-ionomer cement.

They are:

- convenient to use;
- highly aesthetic;
- have adhesion to tooth tissues;
- contain and release fluoride.

Disadvantages compared to composites:

- less strength;
- less wear resistance;
- worst polish.

Keromer, ormoker

Keromeres are a light-cured composite.

The Targis material kit includes opaque, base, enamel masses of various colors, there is also a whole gamut of dyes and effect masses. Convenient consistency and unlimited working time allow you to carry out tooth restoration without a hitch.

One of the most common mistakes when using composite materials is the use of micron-filled composites for the restoration of chewing surfaces in the cavities of class II and the cutting edges of the frontal teeth.

In these areas, the teeth are subjected to very significant chewing pressure, which microfilic composites cannot withstand. As a result, fractures or fractures of the restored teeth occur. In order to avoid such complications, it is necessary to use microhybrid or totally completed composite materials.

A similar situation occurs when restoring the chewing (occlusal) surface of the tooth, if the thickness of the applied composite is less than 1 mm. This can lead to fracture of the fine restoration under the influence of chewing pressure.

Due to the drying out of the surface of the oxygen-inhibited layer, the subsequent composite layers superimposed on it do not stick together and the restoration breaks down.

The same result can be when ignoring the rules of directing the rays of the curing lamp - they should go from the side of the surface to which a portion of the composite is glued.

Features of the use of glass-based cement (SIC).

The main disadvantage of composite materials is their weak connection with dentin.

Advantages of SIC:

- good adhesion to hard tissues;
- tight marginal fit;
- the presence of fluorine in the SIC;
- elasticity;
- do not irritate the pulp of the tooth.

The disadvantages of the JRC include:

- fragility;
- slow hardening (this applies to chemically curable materials);
- insufficiently high aesthetic properties.

That is why during restoration work involving an increased occlusal load, glass-ionomer cements are strengthened by lamination (“sandwich technique”).

Classification of glass ionomer cements [Wilson and Macklin, 1988]

- Type I - for fixing orthopedic and orthodontic constructions ("Aquacem", "Vitremer Juting Cement", "Fuji", etc.);
- Type II - restorative cement (to repair defects in hard tissues of the tooth);
- Type II 1 - for cosmetic work without occlusal load (Chemfil Superior , Fuji IILC , etc.);
- Type II 2 - if necessary, increased strength of the seals. Kerment - cements ("Ketac-Silver", "She-lon-Silver", "Argiron" , etc.);
- Type III - Lining (" Stion », «Base Line», «Vitre bond», «Lining Cement», «Jonoseal», «Time Line» and others .).

Currently, this classification should be supplemented by two more groups:

- SIC for filling root canals (“ Ketak - Endo ”, “ Endion ”, etc.);
- SIC for sealing fissures.

The need for glass ionomer gaskets arises when the composite used does not contain dentin sealant - primer.

One of the complications of large restorations in unseparated teeth is their postoperative sensitivity.

It can manifest itself in the form of a short-term pain that occurs under the influence of thermal stimuli, and in more severe cases - the development of acute or chronic pulpitis. The reasons for this sensitivity may be different.

The following groups are distinguished:

- surgical trauma during the preparation of hard tissues;
- toxic effects of composite material;
- acid etching of dentin;
- poor-quality (incomplete) light polymerization of the composite;
- reduction (shrinkage) of the composite material during polymerization;
- micro-leakage followed by the introduction of microorganisms into the pulp;
- incorrect final processing of the restoration.

The preparation of hard tissues of the teeth must be carried out in compliance with all the rules, after anesthesia, cooling the boron and hard tissues of the teeth to avoid overheating of the pulp.

It is necessary to remember the cumulative effect of previous preparations of the teeth and fillings, since ignoring this fact can cause inflammation of the pulp.

The toxic effect of the composite material is more pronounced when using chemical curing composites and, to a lesser extent, light.

Improper acid etching (conditioning) of dentin can cause pulp irritation.

Insufficient polymerization of the material leads to the appearance of an excess of unpolymerized monomers in its thickness.

One of the reasons for poor-quality polymerisation of the composite may be the use of insulating gaskets made of impervious to light materials, for example, phosphate cement.

Reduction (shrinkage) during polymerization is one of the features of composites, which can be avoided with the correct use of adhesive systems, layer-by-layer overlay and polymerization of layers no more than 1-2 mm thick, the correct direction of light rays of the polymerization lamp .
The formation of micro-leaks, cavities, violation of their sealing occurs when the adhesive system is incorrectly applied, followed by its rupture during polymerization of the base material.

A common cause of this complication may be the incorrect direction of the light beam (perpendicular to the surface of the portion of the material) during polymerization.
Improper, rough, non-cooling final processing and polishing of the restoration can lead to overheating of the pulp and the development of inflammation in it.
The postoperative sensitivity of the restored tooth is a fairly common complication.
Hidden deficiencies in tooth restorations can occur both in the near and in the long term.

This leads to the fact that the warranty obligations of the dentist must extend for at least several years.
An immediate guarantee is given to the patient for three years with the implementation of all restoration corrections within this period at the expense of the doctor or dental institution.

In any case, after restoration, the patient is advised to carefully care for the oral cavity, following all hygiene rules.

Particular attention is paid to the restored area, which is regularly thoroughly cleaned with a toothbrush and dental flosses (dental flosses).
The dentist must monitor the condition of the restoration and good oral hygiene every six months.

During these visits, they must:

- professional toothbrushing;
- remove dental deposits;
- if necessary - polishing and

correction of restoration.

Lecture number 3

Topic : Errors and complications in the diagnosis of pulpitis.

1.1. T echnology cal model of the formation

Time classes 2 hours	Number of students
Type of activity	Introduction of lecture news
Lecture plan Features of the course of acute periodontitis in childr en. Dif diagnosis of acute apical periodontitis. Treatment of acute apical periodontitis. Features of the treatment of periodontitis	Familiarization with a Sobienie s current acute periodontitis in ch ildren. Dif diagnosis of acute apical periodontitis. Treatment of acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots

of permanent teeth with unfor med roots	
The objective of the training session	The base L echeni I acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting c lasses	Metodi Cesky equipped audience
Monitoring and evaluation cri teria	Oral survey

1.2. Technological card of lecture classes

Work stages	**Teacher**	**Student**
Preparation sta ges (5 minutes)	1. Check the performance of students 2. Preparation of slides for lecture material 3. Literature on the subject T.Kh.Safarov, I.Kh. Khalilov - “Bolalar davolash dentistry amidium kullanma " T-1997 . N.V. Kuryakina - “Therapeutic dentistry of children ”.	Listens and records
1. Introduction (15 minutes)	***1. The purpose and objectives of the lecture material :*** ✓·To draw students' attention to the structural features of periodontitis in children and the path of infection. ✓·Collate particular course of acute periodontitis in children. Give a differential. diagnosis of acute apical periodontitis. ✓·Teach you how to treat milk teeth and permanent teeth with unfo rmed roots. **Objective : To** familiarize students with the etiology and pathogenesis of periodontitis of primary and permanent teeth.	Are listening Answers to question s of students
2 main stage (5 0 minutes)	1. Familiarization topics with the indication slides 2. handout materials	Listen and record Li sten
The final stage of 10 minutes	1. Conclusion . 2. Independent work . 3. Home task .	Listens and records Writes down

Lecture text

What is pulpitis? The root cause of the pain is hidden behind a recurring inflammatory process or a banal trauma of the dental element. The dentist can remove the neurovascular bundle near the apex of the tooth root, and at the same time damage the near-root tissue. During the action of anesthesia and after some time upon the completion of the procedure, pain is absent. But, after a few hours, the patient may feel discomfort in the causative tooth. Not only tissue damage can cause pain, but also the effects of medications. This means that during dental operations, the dental canal is washed with antiseptic agents, which subsequently cause pain due to irritation. Additional causes There can be many reasons for the development of pathology. The most common are: Trauma to the teeth (breaking off a fragment, as a result of which the pulp is exposed). A large number of pathogenic bacteria (as a result of caries and poor oral hygiene). Chemical effect on enamel. Poor and improper nutrition (in this case, the teeth do not receive the necessary amount of "building material"). Caries. Incorrectly selected dentifrices. Inflammatory processes in the gastrointestinal tract and oral cavity. Infectious diseases in the body. Incorrect caries treatment. However, these reasons are not unique. Pathology can develop due to improper physiological structure of teeth, demineralization of enamel, problems with the absorption of calcium and other factors. Pulpitis is an inflammatory disease of the tooth pulp, which is a neurovascular bundle of a tooth (or a nerve, as it is also called), as well as connective tissue cells. The pulp is located under the dentin, which in turn is covered with tooth enamel. Pulp is responsible for the nutrition of the teeth from the inside. Pulpitis is often a complication of another dental disease - caries, and therefore, the main cause of pulpitis, like caries, is an infection, for example, streptococcus. Thus, the prevention of pulpitis implies the protection of teeth from infection - proper care for your teeth and oral cavity. According to statistics, up to 20% of patients complaining of toothache are owners of pulpitis. Especially frequent guests of the dentist are children, who usually show pulpitis of the milk tooth. The development of pulpitis As you can see, dear readers, at the beginning of a tooth lesion, a plaque appears on it, representing food debris (which eventually begins to rot) and various microflora, most often pathogenic. If you do not brush your teeth, infectious microorganisms, in the course of their life, produce acid, which, together with decaying particles of food, begin to eat tooth enamel, which is the surface or protective layer of the tooth. Damage to tooth enamel is called - caries. The more time passes without proper oral care, the faster the pathological processes of tooth decay go. The third stage of pulpitis is infection under the tooth enamel, and infection with dentin. Dentin is the hard and main part of the tooth; in fact, it is bone. This is the last step of the infection before it reaches the pulp - the soft tissues of the tooth that are directly under the dentin. Blood vessels and nerve endings pass through the pulp. It is with this that the appearance of severe pain with pulpitis is associated. The fourth stage is actually pulpitis, in which the infection reaches the pulp, causing inflammation. The onset of pulpitis is accompanied by toothache, often of a pulsating nature, an increased sensitivity of the tooth to temperature changes, as well as a painful reaction of the tooth to cold or hot food / drink. Toothache with pulpitis can extend to several adjacent teeth, as well as to the entire jaw, and eventually even turn into a headache. It is also worth noting that the course of pulpitis may be asymptomatic. But still, one can independently determine the presence of pulpitis by the presence of gray-colored enamel of frequent bleeding, dark holes or overgrown tissue in a hole from a caries of a particular tooth, as well as increased tooth sensitivity when chewing. The result of pulpitis in many cases is tooth loss, however, if this inflammatory process is not given proper attention, it can also go to the jaw tissue, and then to sepsis, which is a rather dangerous complication. Pulpitis is a painful inflammation of the pulp - a bundle of vessels and nerves that feeds a tooth. It is located in the pulp chamber of the crown of the tooth or in its canals. Nerve endings with branched blood vessels pierce the dental tissue, passing into the pulp. There are a lot of nerve cells inside the tissue, so their irritation as a result of inflammation and squeezing of the tissues causes very severe pain.

Depending on the degree of destruction, chronic and acute forms of the disease are distinguished. For details on what pulpitis is, see the video below. The pain of the teeth with pulp damage is very strong, as the pulp tissue is pierced by nerves and blood vessels. Inflammatory reaction is accompanied by: Edema and proliferation of pulp as a result of which nerve fibers begin to compress. In advanced forms, the dental nerve is closed by a layer of carious deposits. Often in chronic forms of the development of the disease, when the pain syndrome may not be sufficiently expressed, the carious chamber is combined with the pulp chamber. In this case, the patient encounters unbearable tooth pain only after tartar gets into the pulp chamber or when it is clogged with food. Due to compression and an increase in the size of the edema, necrosis begins. In the chronic form of the disease, part of the coronal tissue located in the canals remains alive. Inflammation of the pulp requires special attention from the patient. Remember that the sooner you consult a dentist, the easier, cheaper and more painless your dental treatment will be. Causes of pulpitis. Inclination of teeth - the doctor does not take into account the position of the pulp chamber when changing the position of the tooth. The doctor’s ignorance of the anatomy of the location of the root canal mouths. Curved, narrow and obliterated canals - when more force is applied to pass them, you can perforate the root wall. The cause of tooth pulp inflammation is always an infection, mainly of a bacterial nature - staphylococcus, streptococcus, lactobacillus. As we have already said, infection, in the process of its life, produces acid, which, together with food debris, destroys the integrity of tooth enamel, after which dentin, and then begins to affect the pulp itself. However, this infection gets into the tooth through the crown, i.e. the visible part of the tooth, but there is also another way of infection - through the apical opening of the tooth, which is the anastomosis of the tooth root, through which blood vessels and nerve endings are brought to the tooth. Consider how the violation of the integrity of the dental "chamber" and the infection getting into it: Caries; Violation of the integrity of the tooth due to improper actions by the doctor (poor-quality filling, tooth turning, surgical intervention in the jaw); Sinusitis, in which the upper teeth can be affected; Fracture of the crown or root of the tooth, children often break their front teeth; Increased tooth abrasion, which is often facilitated by the presence of diseases such as diabetes mellitus or osteoporosis; Incorrectly selected and installed braces; Among other causes of pulpitis can also be identified: Non-observance of personal hygiene rules for caring for the oral cavity; Pulp overheating during tooth treatment; Incorrect dental treatment, including tooth decay; Toxic effect on the tooth filling material; Use in the treatment of teeth of low-quality materials; The presence of infection in the blood. Acute pulpitis is provoked by a variety of irritants. Pulpitis classification. There is a certain classification of pulpitis. For example, according to the localization of the inflammatory process, one can distinguish the following types of disease: coronal; root total. In addition, pathology can also be classified according to the nature of the course: chronic; acute; gangrenous. This classification of pulpitis is the most common and most accurate. Acute pulpitis. It is characterized by an acute course of inflammation with severe radiating pain, worse at night or when the tooth comes in contact with hot or cold. The acute form of pulpitis is divided into the following subspecies: Serous - is the initial stage of pulp inflammation, without the formation of purulent exudate; Focal purulent - is the second stage of pulp inflammation, in which purulent exudate forms in the tooth cavity, and the pain sometimes disappears when the tooth comes in contact with a cold substance; Diffuse purulent. Chronic pulpitis. It is usually a continuation of the development of acute pulpitis. It is characterized by weakened pain with frequent exacerbations. Sometimes it proceeds with minimal symptoms, but pathological processes continue to destroy the tooth. The chronic form of pulpitis is divided into the following subspecies: Fibrous - is the initial stage of chronic pulpitis, which is characterized by proliferation of connective tissue of the pulp, while the inflammation is almost asymptomatic; Hypertrophic (proliferative) - is a continuation of fibrous pulpitis, in which the pulp tissue grows through the carious cavity of the tooth, a fibrous polyp is formed; Gangrenous - characterized by the breakdown of pulp tissue. There is also retrograde pulpitis, which is characterized by infection by pulp tissue through the apical opening of the tooth. Acute Chronic Focal - the initial stage. Fibrous - the result of an acute form. Diffuse is a complicated

form. Hypertrophic - characterized by the appearance of a polyp on the pulp. Purulent - accompanied by the presence of a focus of pus in the tissues of the tooth. Gangrenous is the most dangerous stage. For all forms of the acute category of pulpitis, characteristic attacks of pain will be aggravated by about 9 p.m. Forms and stages In today's medicine, the following acute forms of pulpitis are distinguished: infectious / aseptic pulpitis - by etiology; reversible / irreversible pulpitis - at the end; root / total / coronal pulpitis - by location; diffuse / focal - according to morphological and clinical signs. Focal form Focal acute partial pulpitis is the initial period of inflammation in the tooth pulp. In duration, it takes about two days. In this case, the focus is usually located in that zone of the pulp, which is closest to the cavity of the caries. Pulpitis development process Pulp inflammation is associated with complex changes in the biochemical, structural, and functional nature. The intensity of the disease is primarily determined by the state of reactivity of the body. In addition, the nature of the irritant, the effects of toxins and decay products of microorganisms with biochemical activity, have a sufficient effect on the course of the inflammatory process. A variety of clinical signs and the outcome of the disease depend on these factors. The peculiarity of pulpitis is that the pathological process proceeds in a confined space - the pulp chamber - bounded on all sides by the hard tissues of the tooth. It is for this reason that this disease quickly leads to compression of the pulp, impaired trophism, venous congestion and necrosis. But, regardless of the reasons that caused the inflammatory process, pulpitis develops according to three points: Alteration - the primary change and damage to the tissues of the dental nerve. Exudation is a violation of blood flow in the microvasculature. Proliferation - the reproduction of cellular elements. The root (part of the pulp located in the root part of the tooth) and crown (part of the pulp located in the crown of the tooth) sections of the pulp, due to structural features, respond to inflammation in different ways: in the crown part, exudative phenomena are more pronounced, and in the root - processes proliferation. At the very beginning of the development of the disease, stagnation of fluid in the pulp is compensated by increased outflow of venous blood, but gradually the vascular permeability becomes too pronounced, plasma and blood cells leak into the tooth cavity. Against the background of the appearance of an inflammatory reaction of the pulp, acidity decreases, which further accelerates the development of the pathological process. As a result, the cells of the dental nerve are damaged, irreversible denaturation (decay) of proteins occurs. Exudate, at the onset of the disease having a serous character, quickly turns into a purulent discharge. Swollen tissues, purulent contents and severe hypoxia lead to severe pain and gradual pulp death. The outcome of the acute stage of pulpitis can be different, depending on whether the process is resolved by purulent fusion of the neurovascular bundle, necrosis, or transition to the chronic stage. But, chronic pulpitis has the opportunity to develop independently, bypassing the acute stage. The patient may not even suspect its presence, and the disease is detected when you contact the dentist in order to cure tooth decay. Signs of the disease If you have pulpitis, you do not immediately feel the symptoms. Only a regular dental check-up will help identify and fix the problem at an early stage of development. The disease can manifest itself with different symptoms: Pain (they can have different intensity and type). The inability to eat hot dishes, cold water. Discomfort in the oral cavity. The ability to detect holes in the tooth with the tongue. If you have acute pulpitis, symptoms are felt almost immediately. Therefore, you will have to make an appointment with the doctor very quickly, and in some cases home tooth anesthesia may not be successful. In addition, pathology can develop under a seal, and in this case, you yourself can not do anything. If you have chronic pulpitis, the symptoms may vary slightly. Naturally, pain occurs here, however, the patient does not always consult a doctor, and they can pass over time. In this case, the signs of pathology may disappear, however, tooth damage remains. Most often, the patient complains of a slight discomfort during eating, as well as a short pain while eating hot or cold dishes. If you have fibrous pulpitis, symptoms also include gingival masses, which can have different sizes. In addition, pathology may be accompanied by bleeding, an unpleasant putrefactive odor, and the destruction of enamel. Symptoms The feeling of "failing" the tool. Sore tenderness (if the patient is treated without local anesthesia). Bleeding from the site of perforation. Prevention consists in the analysis

of radiographs before endodontic tooth treatment in order to identify the features of the location and direction of the channels. Excretion of the material at the apex of the root is a frequent complication, but the presence of a large amount of filling material, as well as its excretion into the maxillary sinus (in the treatment of superior premolar and molars) can be dangerous. Such situations can lead to inflammation of the sinus mucosa (sinusitis), and tooth extraction with sinus cleaning from infection may be required. If the patient has no complaints, in most cases such teeth are dynamically observed. Post-filling pains A frequent complication, which can be caused by the removal of material beyond the apical opening, poor-quality filling, and the reaction of periodontal tissues to intervention. The latter option is most common. With an adequately sealed canal, the patient's tooth can be disturbed by pain when biting him. Within two weeks after endodontic treatment (canal filling), pains of various intensities may be present, mainly when a tooth is pressed. Typically, such sensations themselves go away within a few days, but in some cases, pain medications (for example, nimesulide) and physiotherapy are prescribed. We advise you to study: Granulating periodontitis - the clinical picture, diagnosis, treatment stom4you.ru Toothache with pulpitis is the main sign of this disease. By nature, the pain with pulpitis is usually pulsating, often the tooth hurts so much that it seems to the patient as if half of the head hurts. The intensification of pain usually occurs at night, as well as when exposed to cold or hot air or food, temperature changes, chewing food. When tapping, the tooth is insensitive or insensitive. Among other signs of pulpitis can be distinguished: The graying enamel of the affected tooth; Open cavity of the tooth; Bleeding from a tooth; Insomnia; Increased irritability. Pulpitis Complications If pulpitis is not treated, it can lead to the following complications; It is not difficult to recognize pulpitis, but it is difficult enough to determine which form of the disease is present in the patient. Symptoms of inflammation of the pulp, periodontal and periodontal have a certain similarity, which makes the diagnosis more confusing. Objective research methods are also used: Inspection; Percussion; Palpation; Sounding; Thermometry; Electroodontodiagnosis; Roentgenogr aphy. During the first visit, the doctor, during the survey, finds out the nature of the pain, anamnesis (course) of life and disease, as well as the general well-being of the patient. An anamnesis of life is necessary to identify factors that may contribute to the development of pulpitis. The survey allows you to imagine an approximate course of development of a pathological condition in a particular person. Objective research methods confirm and clarify the diagnosis made by the doctor, and treatment is prescribed depending on the form of pulpitis and the nature of its course. Diagnosis of pulpitis Diagnosis of pulpitis includes the following examination methods: History taking; Visual inspection of teeth; Survey of the patient about the nature of pain, which is necessary for the differential diagnosis of pulpitis; X-ray of teeth. Only a dentist can diagnose the disease, having studied the anamnesis, after an examination of the oral cavity with tools, electroodontodiagnosis of a disturbing tooth, and x-ray.

Lecture number 4

Topic : Errors and complications during the treatment of pulpitis in children

1.1. T echnology cal model of the formation

Lesson time 2 hours	Number of students
Occupation Type	Introduction of lecture news
Lecture plan Features of the course of acute periodontitis in children. Dif diagnosis of acute apical	Acquaintance with a Sobienie s course of acute periodontitis in children. Dif diagnosis of acute apical periodontitis. Treatment of acute apical periodontitis.

periodontitis. Treatment of acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots	Features of the treatment of periodontitis of permanent teeth with unformed roots
The objective of the training session	The base L echeni I acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots
Teaching methods	Conversation, visual aids for lectures
Occupation Type	general - collective
Related Visual Aids	Textbook , lecture material , projector, computer
Classroom Activities	Metodi Cesky equipped audience
Monitoring and evaluation criteria	Oral survey

1.2. Technological map of lectures

Work stages	**Teacher**	**Student**
Preparation stages (5 minutes)	1. Check the performance of students 2. Preparation of slides for lecture material 3. Related literature T.Kh.Safarov, I.Kh. Khalilov - "Bolalar davolash dentistry amidium kullanma "T-1997. N.V. Kuryakina - "Therapeutic dentistry of children ".	Listens and records
1. Introduction (15 minutes)	***1. The purpose and objectives of the lecture material :*** ✓▪To draw students' attention to the structural features of periodontitis in children and the path of infection. ✓▪To analyze the course of acute periodontitis in children. Give a differential. diagnosis of acute apical periodontitis. ✓▪Teach you how to treat milk teeth and permanent teeth with unformed roots. **Objective : To** familiarize students with the etiology and pathogenesis of periodontitis of primary and permanent teeth.	Are listening Answers student questions
2 main stage (50 minutes)	3. Introducing a slide show topic 4. Handouts	Listen and record Listen
The final stage of 10 minutes	1. Conclusion . 2. Independent work . 3. Homework .	Listens and records Writes down

Lecture text

Pulpitis is an inflammatory process of soft tissues in the tooth cavity. The acute and chronic course of the disease is distinguished. If left untreated, the inflammatory process progresses, and complications of pulpitis such as periodontitis, periostitis, abscesses and phlegmon, osteomyelitis

and amyloidosis occur. The causes of the appearance of the pathology are most often untreated deep caries, spalling of the tooth crown or closed pulp injury.

Acute forms are characterized by periodic pain attacks, which most often occur at night. They intensify under the influence of various irritants. The time of a pain attack is from 20-30 minutes to several hours.

For chronic forms, aching pains are characteristic. They can also intensify when exposed to cold, hot, salty or sweet foods. If untreated, further treatment will require a more complex therapeutic intervention, and in some cases, the removal of a diseased tooth. The inflammatory focus can go to neighboring areas and cause severe pathologies with serious consequences.

The most common pulpitis complications

The inflammatory process initially affects only the coronal pulp. In the future, he moves along the root canals and goes beyond the apex. Inflammation beyond the apical foramen is called periodontitis. This is the main complication of the course of acute and chronic pulpitis.

If periodontitis progresses, and a person does not seek dental care, more serious problems arise:

- Flux . Pathological damage to the periosteum of the alveolar process. It is characterized by the appearance of gingival deformity or the formation of a fistulous course.
- *Osteomyelitis* . This disease is always preceded by periostitis. With osteomyelitis, purulent-necrotic lesion of the bone tissue of the jaw occurs.
- *Phlegmon* . Severe complication in the maxillofacial region. It occurs as a result of the penetration of purulent exudate into the soft tissues of the face. In severe phlegmon, it can cause death.
- *Abscess* . It is a limited inflammatory process of soft tissues. It can precede phlegmon. Symptoms of an abscess are not as severe as with diffuse inflammation.
- *Septic shock or blood poisoning* .
- *Amyloidosis* . The disease develops due to chronic poisoning of the body by the decay products of the inflammatory focus. The clinical picture is a sharp disruption of various organs and systems.

Mistakes and complications in the treatment of pulpitis

A tooth is a complex anatomical formation. Due to the limited access to the pathological focus, it is difficult to conduct quality treatment. Requires very fine tools. Most often, errors and complications in the treatment of pulpitis occur just during endodontic intervention.

Root canals of teeth are difficult to access for mechanical and medical treatment. Of course, modern dental equipment allows you to view the structural features of the root canals under x-rays or ultrasound. But this does not exclude the occurrence of some complications.

Breaking tool

This is a common situation in endodontics. The cause of the breakdown is mainly because the channels are narrow or curved. A doctor’s mistake is often associated with improperly selected endodontic instruments.

For example, during machining files or drills are not selected in size and are not used in stages. The breaking of tools occurs in the working part. Either the top of the file or 1/3 of the file remains in the root canal . It is these areas that undergo the greatest wear and have less strength.

For machining to succeed, a good approach to the root canal must be ensured. During the manipulation, the doctor must observe the entire frequency of the technique, especially when it comes to treating a tooth with curved roots.

If a tool breakdown occurs, there are several ways to solve the problem:

- First of all, you should try to extract everything from the root canal. In most cases, this can be done even if the roots are slightly curved and previously they were filled.
- When a part of the instrument remains in the apical foramen, but closes it well, the root canal undergoes further filling. The passable part is filled with a material with an antiseptic effect, and then a permanent seal is placed. The patient must explain the situation to the patient and recommend a physiotherapeutic effect for the preventive purpose.
- When a tool breakdown is combined with perforation, it is recommended to remove it by all possible means. Despite the high-quality antiseptic treatment and special filling material, this complication increases the risk of soft tissue infection.

Perforation of the tooth cavity

In fact, such a complication after the treatment of pulpitis refers to the doctor's mistakes. Perforation of the bottom or wall in the cavity is due to excessive removal of the hard tissues of the tooth. The dentist tries, if possible, to remove the affected enamel and dentin by preparation with boron. Treatment recommendations require removal of hard tissue to apparently healthy areas. Therefore, the doctor struggles to do his job efficiently.

The consequence of the treatment of pulpitis in the form of perforation of the cavity wall is not such a serious complication. The hole is sealed with solid materials, and treatment continues. However, the crown can be perforated even during the examination, for example, with a dental probe due to the fact that the enamel is greatly thinned from the carious process. In this case, the perforation is eliminated after removal of the coronal pulp.

It is more dangerous to create holes in the area of bifurcation or trifurcation of the root system. In this case, the risk increases that the tooth simply bursts in half during further operation. In addition, soft tissues located under the bottom of the tooth cavity can be injured. If this happens, then an inflammatory process develops due to infection of the periodontal tissues by the pathogenic microflora.

This complication is possible for several reasons:

- *Medical error*. The doctor did not take into account the anatomical features of the location of the mouths of the root canals.
- *The inclination of the teeth.* During treatment, the position of the pulp chamber must be taken into account, especially if the placement of the teeth has changed due to anomalies in the structure of the maxillofacial region.
- *Root canal obliteration.* In certain cases, they can grow on their own. The doctor during the preparation tries to find the mouth of the canal. As a result, with prolonged drilling, perforation outside the cavity occurs.
- *Strong root curvature*. Such a pathology leads to a change in the shape of the coronal part. That is why an X-ray examination before treatment is so important.

Removal of filling material beyond the apical opening

Filling a treated tooth with pulpitis is no less an important event than preparation. The outcome of treatment directly depends on its quality. Withdrawal of material for apex, unfortunately, is a frequent complication. In this case, after treatment of pulpitis, physiotherapeutic procedures and antibacterial drugs are prescribed. If they do not help, then the tooth has to be removed.

It is especially dangerous when filling some groups of teeth on the upper jaw. This applies mainly to premolars. Their roots can be located very close to the maxillary sinus. With excessive injection of filling material, it can get into it and cause inflammation - sinusitis. It is extremely difficult to treat the disease, often it is necessary to carry out additional surgical intervention.

Periodontal tissue burn with chemicals

Many dental products, if used improperly or for a long time on soft tissues of the oral cavity, can cause severe damage. The most dangerous substance is arsenic acid. It is used in the treatment

of pulpitis by the devital method. After applying arsenic paste, the doctor must tightly close the tooth cavity with artificial dentin. For the best effect, a cotton ball moistened with an anesthesin solution should be applied over the material, and then a temporary filling should be placed.

It is recommended that the patient try not to chew on the side of the treated tooth, at least while the arsenic paste is in it. It is necessary to carefully brush your teeth in this area and not use toothpicks.

In the event of a temporary filling, it is necessary to remove its residues from the tooth and consult a doctor. To prevent burns with arsenic acid, treat the affected area with hydrogen peroxide and sprinkle with burnt magnesia. Lubrication of the mucous membrane with diluted tincture of iodine is allowed.

A more serious complication is arsenic periodontitis. Usually, paste for devitalization of pulp is usually applied for no more than 48 hours, after which it should be removed. If left for a longer period, aggressive acid will penetrate beyond the apex of the root and cause inflammation of the apical tissues. Against arsenic anhydrite there is an excellent antidote - this is a 5% solution of Unithiol. It helps not only neutralize acid, but also partially anesthetize, and also have an antiseptic effect.

Complications after pulpitis treatment

Even after the tooth is filled with quality, certain problems are not excluded. Their occurrence is associated not only with the mistakes of the doctor, but, for example, with the duration of the course of the disease.

Following pulpitis treatment, the following complications may occur:

- loss of seal;
- fracture of the tooth crown due to a significant thinning of its carious process;
- development of periodontitis;
- the formation of localized gingivitis and periodontitis due to the pressure of an overhanging seal on the soft periodontal tissues;
- discoloration of the enamel of the treated tooth.

Most often, pain after filling is observed, especially in the early days. Such complaints are made up to 90% of patients.

Pain after filling

Unpleasant sensations may be associated with the removal of the filling material beyond the apical hole. Today, these are quite rare consequences of pulpitis, since filling is carried out mainly under visual observation, using special equipment.

It is worth considering that endodontic intervention is a certain micro-operation. A pulp of a tooth is a living tissue rich in vessels and nerves. During its removal, trauma to these formations occurs. Post-filling pains are nothing more than a soft tissue reaction to surgery.

Another reason for the pain reaction after filling may be precisely poor-quality filling of the root canal with material and the multiplication of pathogenic microflora. The development of the inflammatory focus may also be associated with poor antistatic treatment of the canal.

Most often it is the reaction of the body to remove the pulp. In this case, complaints of minor pain appear when biting on the tooth, during meals, drinking cold or hot drinks.

Painful reaction for many occurs with a sharp change in ambient temperature. If a person has been in the cold for a long time, and then went into a warm room, discomfort begins to appear in the tooth. Typically, these phenomena persist for 14-20 days, then slowly decline. However, further unpleasant sensations, for example, after hypothermia, are not excluded.

Dental tissue is a good thermal conductor. While there is pulp in it, the thermal conductivity of enamel and dentin is reduced due to the protective functions of this soft tissue. In its absence, protection is impaired, hard tissues are quickly cooled and transfer this effect to the ligamentous apparatus surrounding the root. As a result, an attack of aching spilled pain appears.

If such problems are very worrying, you should consult a dentist. The doctor will help you choose the right and effective medication, and if necessary, prescribe a course of physiotherapy procedures. When slight discomfort is observed, it is recommended to take simple painkillers (Analgin, Nimesulide).

Complications after the treatment of pulpitis, unfortunately, are not rare. This is due not only to errors in the work of the doctor, as is usually considered. A lot depends on the duration of the disease and the structural features of the maxillofacial region. Of great importance in the success of treatment is the timely appeal of the patient to the clinic for help.

With prolonged treatment of pulpitis, serious complications are possible, leading to tooth loss. This must be taken into account for those who are fond of non-traditional methods of getting rid of the problem. Effective treatment of pulpitis can only be done by a qualified specialist.

Lecture number 5

Topic : Errors and complications in the diagnosis and treatment. periodontal disease in children

1.1. T echnology cal model of the formation

Lesson time 2 hours	Number of students
Occupation Type	Introduction of lecture news
Lecture plan Features of the course of acute periodontitis in children. Dif diagnosis of acute apical periodontitis. Treatment of acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots	Acquaintance with a Sobienie s course of acute periodontitis in children. Dif diagnosis of acute apical periodontitis. Treatment of acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots
The objective of the training session	The base L echeni I acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots
Teaching methods	Conversation, visual aids for lectures
Occupation Type	general - collective
Related Visual Aids	Textbook , lecture material , projector, computer
Classroom Activities	Metodi Cesky equipped audience
Monitoring and evaluation criteria	Oral survey

1.2. Technological map of lectures

Work stages	**Teacher**	**Student**

Preparation stages (5 minutes)	1. Check the performance of students 2. Preparation of slides for lecture material 3. Related literature T.Kh.Safarov, I.Kh. Khalilov - “Bolalar davolash dentistry amidium kullanma "T-1997. N.V. Kuryakina - “Therapeutic dentistry of children ”.	Listens and records
1. Introduction (15 minutes)	***1. The purpose and objectives of the lecture material :*** ✓·To draw students' attention to the structural features of periodontitis in children and the path of infection. ✓·To analyze the course of acute periodontitis in children. Give a differential. diagnosis of acute apical periodontitis. ✓·Teach you how to treat milk teeth and permanent teeth with unformed roots. **Objective : To** familiarize students with the etiology and pathogenesis of periodontitis of primary and permanent teeth.	Are listening Answers student questions
2 main stage (50 minutes)	5. Introducing a slide show topic 6. Handouts	Listen and record Listen
The final stage of 10 minutes	1. Conclusion . 2. Independent work . 3. Homework .	Listens and records Writes down

Lecture text

The desire to preserve the tooth in acute and chronic inflammation of the periodontium from ancient times has prompted many researchers to search for the perfect diagnostic methods and therapeutic effects on the focus of inflammation.

Classification of periodontitis. Three groups of periodontitis are distinguished with the course - acute, chronic and exacerbated chronic. Acute periodontitis by the nature of the exudate is divided into serous and purulent, and by localization - into apical, marginal and diffuse; chronic - on fibrous, granulomatous and granulating. This classification fully reflects the essence of the course of pathology in the periodontium.

Despite the fact that the diagnosis of periodontitis is well developed, nevertheless errors are made during the diagnosis. They occur when they do not differentiate diseases of the marginal (marginal) and apical (apical) periodontium; errors are usually associated with an incorrect assessment of the symptoms of inflammation of the marginal periodontium. Checking one symptom (pain with lateral percussion of the tooth), which is not clearly expressed, the doctor does not attach any importance to it. At the same time, a thorough x-ray examination, examination of the periodontal pockets show in these cases the presence of a process at the edge of the periodontium.

With an X-ray examination, it is sometimes difficult to differentiate periodontitis from periodontitis. Identification of the etiology and pathogenesis of the disease, determination of tooth resistance, dynamic observation allow you to correctly establish the diagnosis.

It is clinically difficult to distinguish primary acute periodontitis from exacerbated chronic. In this regard, there may be errors in the diagnosis of apical periodontitis. It is necessary to decide which periodontitis is acute or an exacerbation of a chronic one, as their treatment is different. To establish a final diagnosis, X-ray examination is crucial: if there are no pronounced changes in the bone, then the process is acute and developed for the first time; if there are abnormalities in bone pattern, rarefaction areas, and expansion of the periodontal gap, then a chronic process is diagnosed in the acute stage. Sometimes the clinical and radiological data are inconsistent - with a sharply expressed clinical picture of exacerbated chronic periodontitis in the radiograph, the apical focus is weakly expressed and vice versa.

It is not easy to establish a diagnosis of periodontitis of multi-rooted teeth. It is known that in chronic periodontitis in some roots, the pulp remains alive and even slightly changed. In such cases, combined treatment methods are used.

In order to prevent errors in determining the condition of the pulp in chronic periodontitis of multi-rooted teeth, it is necessary to study the pulp in each channel by electrometric and thermal methods, as well as analyze radiological data. Very carefully you need to conduct a study of the teeth of the upper jaw. In inflammatory processes in the maxillary sinus, the same symptoms in the palate can be as with periodontitis. Only a thorough examination and the exclusion of signs characteristic of sinusitis and processes in the sky helps to avoid errors in the diagnosis of periodontitis.

Complications of acute or exacerbated chronic periodontitis are periostitis and acute odontogenic osteomyelitis. In a number of patients, differential diagnosis between periodontitis and its complications presents significant difficulties, however, it is necessary for the correct choice of therapy.

The inflammatory process with periodontitis has clear boundaries; it captures the periodontium of the affected tooth and the surrounding bone tissue of the alveoli, edema is limited to the gum. And jaw periostitis is an acute abscessing inflammation of the periosteum of the alveolar ridge. A characteristic feature of periostitis is pronounced collateral soft tissue edema, causing facial asymmetry and spreading far beyond the focus of inflammation. If periostitis has developed on the vestibular surface of the upper jaw, then there is swelling of the lower eyelid, sometimes the upper, cheek, and upper lip. With the localization of periostitis in the lower jaw, edema of the lower lip, cheek, soft tissues in the submental and submandibular region is determined. In cases of acute purulent or exacerbated chronic periodontitis, only the smoothness of the bone contours due to reactive inflammatory changes in the periosteum is determined.

Acute osteomyelitis of the jaw is determined primarily by the features of the clinical course and the characteristic x-ray picture - the presence of gross bone lesions leading to necrosis and sequestration of individual sites. The clinical picture is characterized by acute, boring, shooting pain in the jaw, insomnia, lack of appetite, difficulty swallowing, high temperature, often reaching 39-40 ° C, with significant fluctuations and accompanied by chills, delirium. The face is asymmetric due to collateral edema, the tongue is overlaid, sharp pain in several teeth, their mobility, enlarged and painful regional lymph nodes. In the blood: ESR 40-70 mm / h, leukocytosis, a shift of the leukocyte formula to the left, the disappearance of eosinophils, a decrease in lymphocytes to 10-15%, the content of albumin decreases and alkaline and ag globulins increase. The test for C-reactive protein is positive. In 7-10

days, the bone rarefaction zone is determined according to the size of the focus of osteomyelitis. With knowledge of this symptomatology and an individual approach to

each patient, the doctor will not make mistakes in the differential diagnosis of acute and exacerbated chronic periodontitis and their complications - periostitis and osteomyelitis.

Apical periodontitis. The apical periodontium is closely connected with surrounding tissues, neighboring teeth, has a branched network of nerve fibers and blood vessels, and therefore, periodontal lesion symptoms can also occur in a number of diseases of the alveolar ridge (interdental septum), adjacent teeth, soft tissues, neuralgia, etc. in difficult cases after 2-3 days it is necessary to conduct a second examination.

In order to avoid errors in diagnosis and treatment, it is first necessary to understand the causes of pathological changes in tissues around the apex of the root. All attention should be paid to the condition of the pulp. It is necessary to find out where the disease originated — from the apex of the root due to pulp damage or the process spread from the marginal periodontium over the course. It is important not to miss the hidden carious cavity. signs, such as a reaction to cold and heat, chemical irritations, soreness during probing, sensitivity during exertion.The absence of such phenomena in the area of other teeth is valuable for differential diagnosis.

A dentist is faced with great difficulties when it is necessary to establish to what extent apical periodontitis is a hotbed of latent infection and to what extent it is not currently showing clinical symptoms, but has an effect on the body. The focus of infection should be understood as localized chronic inflammation, possibly subjected to drug exposure, but capable of causing or causing a pathological reaction of the body or damage to individual organs and systems. The focus of infection is not only the accumulation of microbes, their metabolic products and the breakdown of tissue elements that are antigens, but also a constantly reflex focus of irritation of nerve receptors.

In order to avoid mistakes in resolving the danger of latent infection with periodontitis, it is necessary first of all to proceed from the possibility of eliminating the lesion by conservative methods and preserving the tooth.

Experience shows that with all types of periodontitis, the use of modern methods of instrumental and drug treatment of root canals and filling them at the root apex eliminates the infectious focus. However, if after treatment there are phenomena of periodontitis, as well as leukocytosis, low-grade fever, elevated ESR, positive tests, then the tooth should be removed.

Conservative treatment of chronic apical periodontitis is considered full-fledged in cases when the cured tooth functions normally, the root canal is filled throughout and the signs of restoration of the bone structure are determined on repeated radiographs. Re-examination of the patient is very important to establish the desensitizing effect of the treatment, its beneficial effect on the state of nonspecific resistance of the body and the permeability of capillaries.

Diagnostic tools at the doctor’s disposal make it possible to correctly and timely diagnose apical periodontitis and evaluate its value as a hidden infectious focus in the oral cavity.

Despite the well-developed methods for the treatment of periodontitis, during instrumental and drug treatment of root canals, their filling, errors are made that entail various complications or the need to remove a periodontitis tooth. All errors and related complications that arise during the treatment of periodontitis can be divided into the following groups: 1) perforation of the tooth cavity; 2) perforation of the walls of the root canal; 3) the formation of a step in the root canal; 4)

aspiration or ingestion of the instrument; 5) the development of emphysema; 6) breaking off the tool in the channel; 7) periodontal irritation with potent drugs; 8) exacerbation of the removal of filling material; 9) incomplete filling of the channel; 10) deep removal of the pin; 11) formulation of an incorrect diagnosis by x-ray.

When preparing a tooth cavity that is inclined towards the dentition defect or is displaced in the lingual or buccal direction, perforation of the side wall of the cavity can occur. As a rule, this occurs when the position of the boron is incorrect (the axis of the tooth is not taken into

account). Perforation is not a big danger. It is eliminated simultaneously with the seal. If the bottom of the tooth cavity is perforated during the search for the mouth of the root canal, then after the canals are sealed, the bleeding from the perforation hole is stopped (cauterized with phenol, resorcinol or a hot plug), cover it with a piece of amalgam and fill. It is much more difficult to eliminate a large perforation hole formed at the bottom of the cavity in the area of root bifurcation with improper preparation of the tooth cavity or removal of an unorganized, tightly welded denticle. In this case, two treatment options are used: 1) the perforation hole is closed in the same way as when the perforation was closed in the area of the canal orifice, 2) separation (separation of the roots), hemisection of one of the roots in the upper premolar or lower molar molars, or coronoradicular amputation in molars of the upper jaw.

Perforation of the walls of the root canal can occur if it is improperly machined (the axis of the tool does not coincide with the axis of the root canal), which is more often observed when using a machine drill or a large-caliber tool that does not correspond to the shape of the canal. In addition, perforation of the channel wall can occur near the mouth of the channel when trying to expand it with a bur or a reamer to a depth of more than 3 mm. In this case, at the site of perforation, the damaged periodontium usually bleeds, so the defect is clearly visible.

During perforation of the wall of the root canal, bleeding can be observed, which is stopped in the same way as during perforation of the tooth cavity, after which the perforation hole is tightly plugged with a small cotton ball, and the channel below the perforation is filled with cement or hardening paste. Then the cotton ball is removed, the mouth of the channel with the perforation hole is filled with an amalgam. When a false path is formed in the middle and lower third of the canal, they try to find, go through, and instrumentally and medically process the true root canal. At the moment of filling the true root canal, the filling material during condensation falls into a false path and fills it throughout.

Closing the perforation hole with a silver amalgam is considered ideal, but if there is no amalgam, then the perforation hole can be closed with any hardening paste (for example, resorcinol-formalin), which is used to seal the channels.

The formation of a ledge in the root canal during its instrumental processing is a medical error. This can happen for two reasons: 1) access to the root canal was made incorrectly and the instrument was not going to the apex in a straight line, 2) straight or too thick instruments were used in the curved canals. The possibility of unexpected anatomical deviations of the channel is also possible. When the step is formed, the doctor loses the feeling of the passage of the root canal and feels that the tip of the instrument has come up against an obstacle and does not budge. In this case, the tool is not jammed, it rotates freely in the channel. To determine the location of the ledge, you need to take an x-ray.

Removing such an obstacle is quite difficult. To this end, they take a thin drill or drill No. 2, the working end of the tool is bent at an angle and inserted into the channel so that its tip is pressed against the wall opposite the ledge. With careful rocking and rotation, they try to move the tool further. If the tool extends over the entire working length, then take the next tool in diameter and bring it to the apex. After that, to determine the position of the tool, a contact x-ray is taken, and then the channel is ground with vertical movements, pressing the tool blade against the ledge. When working in the channel, it is necessary to constantly monitor the working end of the tool so that it is not straight and does not rest against the ledge.

Aspiration or ingestion of the instrument. If the instrument is poorly fixed or the instrumental processing of the canal was careless, with an involuntary movement of the patient’s tongue, the instrument may fall out of the doctor’s fingers and fall into the bronchi or esophagus during inspiration or swallowing. Most often this happens when working in the canals of the lower premolars and molars, and also when the patient is referred for radiography with a needle poorly

fixed in the root canal. These complications must be constantly remembered and simple precautions must be taken - never a single tool can be left in the tooth without fixation.

A. I. Rybakov (1976) draws the attention of doctors to the seriousness of this complication and the measures for its prevention. Several cases of aspiration and ingestion of instruments are described by D. Svrakov and B. Dachev (1978). These complications are fraught with serious consequences that go beyond the competence of dentists. In such cases, the dentist must immediately seek the help of other specialists - an otolaryngologist or surgeon. Based on the X-ray examination, the localization of the swallowed or aspirated instrument is established, after which the necessary treatment method is selected, up to surgery.

When swallowing a tool, a special diet is prescribed, which includes potatoes, peas, jelly, liquid cereals. These types of food increase the possibility of separating the instrument from the fixation sites and moving it along the digestive tract. For several days, X-ray control is necessary. If the instrument is in one place on X-ray photographs for 3-8 days, then a decision is made on the surgical intervention to remove it. Of course, with such a complication, in addition to physical damage, the patient is subjected to severe mental trauma. In this regard, it should be recalled once again that the dentist should be extremely focused on the instrumental processing of root canals, not be distracted by conversations with the patient and colleagues, and not for a moment not let the tool out of his hands.

After instrumental treatment of the root canals *, air guns are used to dry them. Compressed air passes with great force into the root canals, penetrates through the apical opening and causes subcutaneous emphysema of the face and neck (a wide apical opening contributes to this). At the same time, microbes from the tooth get into the hypodermic base with air flow, it becomes infected, which can lead to serious consequences, up to mediastinitis, therefore only impassable or previously sealed canals can be dried with air.

During manipulations in the root canals with improper load on the tool, mismatch of the axis of the tooth and its direction, breakage of the drill, pulp extractor or root needle may occur. Damage to the instrument during processing of the canal is not a serious complication, but aspiration or ingestion of a fragment of the instrument is a serious complication. Therefore, measures should be taken to remove the fragment or (in some cases) preserve it in the canal. A free-lying fragment protruding into the cavity of the tooth is captured with beak-shaped forceps, tweezers, a clamp or other instrument and is usually easily removed. But if the end of the fragment is below the mouth of the root canal, then it cannot be captured in this way. To remove fragments of core tools from the root canal, a domestic set is used, consisting of tongs with narrow lips, collet tongs and trepone burs. The fragment stuck in the root canal is removed using a collet tool, which allows to overcome a certain resistance during extraction. If it is not possible to capture the fragment using boron-trepan, hard tissues are drilled around the fragment, and then the end of the fragment is captured with collet forceps. Instead of collet forceps, the doctor N.F. Baking tray (1970) proposed the use of an injection needle with a drill screw screwed into it. A cut-off injection needle is put on the end of the fragment and screwed into it drilllbor. With a little effort, the drill drill presses the end of the fragment to the wall of the needle, firmly wedges it, and then the doctor freely removes the fragment. Fragments of the instrument remaining in the middle and apical part of the root canal, as a rule, cannot be removed.

If a tool fragment cannot be removed using the described methods, then you can try to get near it with a drill or a drill and pulling yourself, pulling the tool firmly against the fragment, try to remove it. If it is not possible to remove the fragment, electrophoresis of the potassium iodide channel (in single-rooted teeth) or 5% alcohol solution of iodine (in multi-rooted teeth) is recommended and the passable part of the canal is filled with zinc-oxyevgenol or resorcinol-formalin paste. Sometimes it is possible to go through the top of the root with a drill, next to the fragment, to expand and seal the root canal well.

In the presence of clinical indications, when the end of the fragment protrudes beyond the apex into the periapical tissue, an incision is made on the gum, trepanation of the jaw over the fragment of the instrument and try to remove the fragment through this opening. If you cannot remove it, then you need to resect the apex of the root (in single-root teeth of the upper jaw). In the presence of a fragment of the instrument in one of the roots of multi-rooted teeth and rarefaction in the apex of this root, hemisection or coronoradicular amputation can be performed. If there is a fragment of the instrument in the root canals, the prognosis is favorable in cases of extirpation of the root pulp and if the tooth is depulped and there is no rarefaction at the root apex, but if there was a rarefaction area before treatment, the prognosis is favorable in less than 50% of patients.

To prevent breaking of the instruments in the canal, the doctor must observe the following rules: 1) use high-quality instruments made of stainless or carbon steel;

2) use only sharp tools;

3) carefully inspect the tool blades before, during and after work to identify deformations;

4) use pulp extractors 1-2 times, root drills and drills - 2-5 times, root rasps and reamers - 5 times or more;

5) comply with rotation angles for pulp extractors, drills, drills and rasps when working in corridor channels;

6) apply drills and drills in a strict sequence of calibers, without “jumping” over size;

7) do not use a tool with a bend at an acute angle;

8) do not use tools covered with rust or * burnt on fire;

9) operate the tool only in a "wet environment".

A common mistake in the treatment of periodontitis is insufficient opening of the apical foramen. This is especially important in the treatment of acute periodontitis, when serous exudate or pus accumulates in the periapical tissues. Instrumental cleansing of the canal without sufficient opening of the apical (apical) opening not only does not bring relief, but also contributes to the spread of the process to adjacent tissues. The appearance of pus or exudate from the canal indicates that the apical opening is open. A clear mistake when opening the apical foramen of the tooth is the deep and sharp advancement of the needle into the periapical tissues. In this case, pushing the infected contents beyond the apex of the root, periodontal injury and opening of the maxillary cavity (in the treatment of lateral teeth of the upper jaw) are possible.

Some doctors, relying on the omnipotent effect of medicines, neglect thorough instrumental processing of the canal, which is a mistake. However, they also make mistakes during drug treatment of root canals, using powerful agents for their treatment that cause periodontal irritation (high concentrations of formalin, formaldehyde formalin, silver nitrate, etc.). Clinically, this complication is manifested by mild pain, which appears mainly when biting on a diseased tooth. In these cases, a substance should be left in the canals that does not irritate the periodontium (eugenol, antibiotics with enzymes), as a result, the pain usually subsides and the tooth can be sealed in the second or third visit. Currently, instead of potent drugs, it is recommended to use antibiotics with enzymes that dissolve the contents of the channels well and have a beneficial effect on periodontal tissues. When using enzymes, the following errors are possible: 1) the use of enzymes with increased sensitivity to them; 2) the use of enzymes with an expired shelf life; 3) the use of enzymes when they are no longer effective; 4) the simultaneous use of enzymes and potent substances.

Enzymes are very sensitive to various substances. The worst mistake is the use of enzymes along with potent substances that inactivate them.

Particular attention in the treatment of periodontitis must be paid to teeth that do not withstand hermetic closure. Often a similar condition occurs with * insufficiently complete passage of the root canal. After the expansion of the root canal and its drug treatment, pain does not occur after the application of an airtight dressing. However, sometimes an exacerbation of the inflammatory process can occur with a well-traveled canal, as soon as a hermetic dressing is applied to the tooth. In this case, it is necessary to appoint an electrophoresis or apply a drainage bandage. After its antiseptic treatment on the root needle, a turunda with a medicinal substance is introduced into the root canal, and then, without removing the needles, a bandage of artificial dentin is applied. After hardening of the dentin, the root needle is removed, and the bandage is held with a cotton swab. Drainage in the bandage can be done after its application, making a hole in it with a probe. After 1-2 days, the turunda is replaced and an airtight dressing is applied.

In single-rooted teeth that cannot withstand hermetic closure, it is also advisable to immediately fill the root canal with phosphate cement with the preliminary introduction of an antibiotic through the root canal or into the transition fold (100 LLC — 200 LLC ED of penicillin diluted in novocaine).

The treatment of periodontitis is often accompanied by post-filling pain associated with the direct effect of the filling material on periapical tissues or its excessive excretion. As a rule, the pain is aching or pulsating in nature, the reaction of the tooth to percussion is sharply painful. It is noted that pain after filling the canal with phosphate cement is less intense and lasting (for several days) than pain after filling with zinc-hydroxyevgenol or resorcinol-formalin pastes, sometimes lasting up to 7-10 days. In this case, pain is noted with vertical percussion and palpation, swelling of the gums, the appearance of the fistulous course. Some doctors make a gross mistake while trying to unseal the root canal, however, remove the filling

mass is impossible. Cold rinses with decoctions of herbs (chamomile, sage, St. John's wort), physiotherapeutic treatment (UHF-therapy, darsonvalization, fluctuation), novocaine blockade, injection of hydrocortisone into the transitional fold in the area of the treated tooth are recommended to eliminate post-lump pain. In cases where it is not possible to stop the inflammatory process by these means and an abscess occurs on the gum, it should be opened and an iodine-shaped turunda or rubber graduate (drainage) should be left for 1-2 days. Incisions in all cases lead to the rapid elimination of exacerbation of the inflammatory process.

Significantly less often (in cases of using a large amount of phosphate cement or other filling material with insignificant destruction of the periapical tissues), patients experience long-term pain during palpation of the gums and sometimes pain when biting on a tooth that is filled. Often on the gum in the area of such a tooth, a fistulous passage opens.

A serious, although rare complication is the ingress of filling material (paste or phosphate cement) into the mandibular canal when filling premolar and distal canals of the roots of molars of the lower jaw. This complication leads to irritation and compression of the nerve trunk, which is accompanied by numbness of the skin of the chin and maxillary soft tissues on the corresponding side. The prognosis in this case is unfavorable, since physiotherapy and other anti-inflammatory treatment, as a rule, do not give the desired effect. The only appropriate treatment in this case is electrophoresis of lidase of the gingival mucosa according to the projection of the apex of the root of the treated tooth; in the absence of effect - the removal of a foreign body.

When treating periodontitis, one more mistake should be remembered - about not bringing the filling material to the apical hole, i.e., about incomplete filling of the root canal. To resolve the issue

the feasibility of treating such a tooth requires an x-ray, which determines the degree of filling of the canal and the nature of the filling material. The question is most simply resolved if there are non-hardening pastes in the channel (iodoform, zinc-glycerin, etc.), their removal is not

difficult. It is much more difficult to remove hardened resorcinol-formalin paste from the tooth canal, and even more so - phosphate cement.

If the channel is sealed only on XU-7s or less, then it can often be sealed. The roots of single-rooted teeth, cemented with cement at 2/3 or 3JI length of the canal, it is desirable to resect. In order for the canal to be completely sealed, it is necessary to seal it not with the root needle, but with the canal filling under the control of radiographs.

In the treatment of periodontitis of the upper jaw, a deep pushing of the filling material into the maxillary sinus is possible, which is a gross mistake. This can occur due to an abnormality in the relationship of teeth with the maxillary sinus, with inflammatory purulent processes in the periodontium, when the lower sinus wall is thinning. The pushing of the filling material can also occur during rough advancement of the material along the channel. After pushing the filling material under the periosteum of the jaw, a subperiostal abscess develops. Measurement of the channel with a needle (depth gauge), x-ray control, gentle work can avoid such errors.

Complications in the treatment of periodontitis can occur if the diagnosis is incorrect as a result of an incorrect assessment of radiographs, when normal anatomical formations, as a result of an unsuccessful 'projection, are superimposed on the apex of the tooth root and are taken as a pathological focus. For example, applying a chin hole to the apex of the root of the first or second premolar of the lower jaw, or when the incisive hole is projected onto the root of the central incisor of the upper jaw.

Often, the low located maxillary sinus is mistaken for a periapical cyst. In order to avoid this and not mistakenly injure the crown of a healthy tooth, it is necessary to carefully study the clinical condition of the tooth itself, and in the x-ray - periodontal gap throughout the tooth root. The diagnosis of chronic periodontitis or root cyst is excluded if, against the background of the maxillary sinus, a periodontal gap is clearly visible around the entire root of the tooth. In cases where there is a pathological lesion in the periodontium, against the background of darkening of the maxillary sinus, an additional lesion is visible associated with an unchanged periodontal gap.

An even more serious mistake is made by those who, for a pathological formation (granuloma), take the sprout zone in the incompletely formed apex of the tooth root.

When filling root canals with a pin, the pin must not be moved too deep beyond the tip of the tooth, since it constantly injures the teeth.

It is unacceptable to fill the root canal with one pin without phosphate cement, since when the root canal and the apex of the root are not completely closed, the canal and paradental tissues are reinfected, which inevitably leads to an increase in the pathological focus. At the final stage of treatment, improper application of a filling on the contact surface of the tooth leads to papillitis or even marginal periodontitis with resorption of the top of the alveolar septum ..

In the treatment of periodontitis, errors can be made in determining the indications of the limit of conservative treatment. However, after the introduction of modern methods of treatment of periodontitis (antibiotics with enzymes, glucocorticoids, protein anabolizers, diathermocoagulation, UHF, etc.), the limits of conservative therapy have expanded significantly. However, in certain situations, conservative methods are contraindicated and their use can only compromise the method. This is especially often observed during single-session treatment methods, which have their own strict indications.

The main criterion for evaluating periodontitis treatment methods is long-term results (from 3 to 6 years), obtained on the basis of a clinical x-ray check. It was established that already 3 months after a quality root canal filling, partial restoration of bone tissue in the periapical region is observed, after 6 months a significant restoration of bone tissue is observed, and after 12 months its restoration is almost complete. Long-term results of treatment at a later date (3 years -

7 years) indicate a significant percentage (80 - 90t) i favorable outcomes. With inferior root canal filling at the same time, there is a significantly larger number of cases of progression and stabilization of the pathological process and much less cases of bone restoration.

The observations of many researchers on the study of the long-term results of treatment of periodontitis convincing * • io showed the advantages of therapeutic methods over surgical ones, so all existing therapeutic methods should be used and only in case of failure go to surgical ones. Surgical treatments for periodontitis should only be used when it is not possible to go through the canals and seal them.

In addition to the listed errors that are allowed in the treatment of periodontitis, the most significant is the duration, multi-session treatment - instead of protecting the periodontium from irritation and the influence of harmful factors as early as possible, the doctor infects the canal and periodontal tissues more and more with each visit. As a result, existing products are ineffective, and the tooth must be removed soon after such a "treatment".

In the literature, there are various data on the long-term results of treatment of periapical inflammation depending on the duration of treatment (number of visits). Most authors believe that the timing of endodontic treatment does not matter for the restoration of the destructive focus in the periodontium. Varying the duration of treatment is mainly associated with the bacteriological status of the root canals, reflecting the effectiveness of the use of one or another antibacterial drug. The terms of treatment are determined by the volume of endodontic intervention per visit (per visit), the presence or absence of complications. That is why the timing of treatment does not have a significant impact on the regeneration processes, but are only indirect in nature.

I would like to end the section with the words of A. I. Rybakov (1976): "The treatment of periodontitis is a great art, it should be widely introduced into the practice of dental institutions. The introduction of specialized periodontitis treatment rooms> A & й will only improve the state of affairs of specialized care, but also prevent mistakes in the treatment of periodontal diseases. "

Lecture number 6

Topic : Errors and complications in endodontic treatment root canals in children

1.1. T echnology cal model of the formation

Lesson time 2 hours	Number of students
Occupation Type	Introduction of lecture news
Lecture plan Features of the course of acute periodontitis in children. Dif diagnosis of acute apical periodontitis. Treatment of acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots	Acquaintance with a Sobienie s course of acute periodontitis in children. Dif diagnosis of acute apical periodontitis. Treatment of acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots

The objective of the training session	The base L echeni I acute apical periodontitis. Features of the treatment of periodontitis of permanent teeth with unformed roots
Teaching methods	Conversation, visual aids for lectures
Occupation Type	general - collective
Related Visual Aids	Textbook , lecture material , projector, computer
Classroom Activities	Metodi Cesky equipped audience
Monitoring and evaluation criteria	Oral survey

1.2. Technological map of lectures

Work stages	**Teacher**	**Student**
Preparation stages (5 minutes)	1. Check the performance of students 2. Preparation of slides for lecture material 3. Related literature T.Kh.Safarov, I.Kh. Khalilov - "Bolalar davolash dentistry amidium kullanma "T-1997. N.V. Kuryakina - "Therapeutic dentistry of children ".	Listens and records
1. Introduction (15 minutes)	***1. The purpose and objectives of the lecture material :*** ✓·To draw students' attention to the structural features of periodontitis in children and the path of infection. ✓·To analyze the course of acute periodontitis in children. Give a differential. diagnosis of acute apical periodontitis. ✓·Teach you how to treat milk teeth and permanent teeth with unformed roots. **Objective : To** familiarize students with the etiology and pathogenesis of periodontitis of primary and permanent teeth.	Are listening Answers student questions
2 main stage (50 minutes)	7. Introducing a slide show topic 8. Handouts	Listen and record Listen
The final stage of 10 minutes	1. Conclusion . 2. Independent work . 3. Homework .	Listens and records Writes down

Lecture text

Errors and complications in endodontic treatment
Classification of errors and complications in endodontic treatment

I. Errors in the diagnostic phase:

- In the presence of facial pain radiating to a particular tooth.
- Incorrect interpretation of radiographs.

II . Errors at the treatment stage:
1. At the preparatory stage:

a) Root canal infection
b) Lack of adequate access to the mouth of the root canal
c) Perforation of the bottom and walls of the tooth

2. In the process of machining the root canal:
- Incomplete root pulp removal
- Obstruction of the lumen of the root canal with dental filings
- The formation of an apical ledge with channel curvature
- Excessive lateral expansion of the middle third of the channel along the internal curvature of the root
- Perforation of the walls of the root
- Destruction of anatomical narrowing

Channel fracture

3. In the process of root canal filling
- Inhomogeneous, insufficient filling of the lumen of the channel
- Removing filling material beyond the apical foramen

Longitudinal root fracture.

Facial pain radiating to the teeth

Many doctors find in their practice neuralgia II , III branches of the trigeminal nerve, glossalgia. Often, the patient indicates a "causal" tooth, requiring treatment or removal. In such cases, the criterion for the need for treatment or removal is a thorough clinical examination using odontometry. If neuritis, neuralgia is suspected, a neurologist consultation is necessary.

X-ray errors

Incorrect interpretation of radiographs may be associated with the imposition of the contours of the maxillary sinus, incisal and mental openings. The continued continuity of the periodontal gap at the apex of the root indicates that this tooth is not the cause of destructive changes. The most important thing is to determine the state of the tooth - electrodiagnostics.

Root canal infection

The penetration of microorganisms into the root canal can occur due to sparing preparation under pressure on the coronal pulp, with careless amputation and removal of tissues from the wellhead. The development and reproduction of microbes is possible due to the reuse of tools, including hogs, excavators. In the prevention of this complication, great importance is attached to the thorough isolation of the surgical field. Before instrumental treatment, it is advisable to completely excise carious dentin from the walls of the carious cavity in order to prevent infection from entering the root canal.

Errors in creating root canal access

The reasons for this situation are insufficient preparation of the cavity, incomplete excision of the roof of the pulp chamber, lack of control of the introduction of an ecodontic instrument. A preventive measure for such an error is the formation of proper access, which is characterized by the absence of overhanging edges and the straightness of the cavity walls, which should be smooth, without roughness and nicks.

Perforation of the bottom or walls of the tooth cavity

poor knowledge of the topography of the tooth cavity,
* insufficient disclosure of the tooth cavity,
* wrong choice of tool and violation of the methodology of its use,
* excessive expansion of the mouths,
* Decreased crown height due to abrasion
* Conducting treatment through an artificial crown
* Perforation of the wall of the tooth cavity at the level of the neck of the incisor or canine as a result of the preparation, without regard to the position of the tooth
* Perforation of the bottom of the molar cavity in the bifurcation area due to excessive preparation with boron

* Perforation of the tooth wall in the cervical region when attempting endodontic treatment through
* Perforation of the bottom of the tooth cavity during the search for the mouth of the obliterated root canal

Incomplete root pulp removal

It is allowed in cases where adequate access to the mouths of the canals is not provided or the latter are unavailable due to the location of denticles in them. The reason may be insufficient expansion of the mouths of the channels or incorrect determination of the working length = length. The anatomical features of the root structure will also blink to become a factor in poor passability of the channel for tools. Violation of the working technique, for example, the removal of tissues by a pulp extractor with a rupture of the neurovascular bundle, incomplete removal of the root pulp leads to bleeding from the canal, which prevents further endodontic interventions.

Obturation of the lumen of the canal with dentin filings

The reason is the accumulation of dentin filings in the lumen of the canal and their compaction. An attempt to re-pass the canal may entail pushing the products of the mechanical processing of the root canal (endolubrikants, dentine filings, pulp residues, etc.) beyond the apical opening, which can cause pain after endodontic treatment. A similar complication is prevented by cautionous passage of the canal to apical narrowing with small instruments after every second step, as well as washing the canal lumen with solutions.

The formation of an apical ledge

Most often takes place in curved channels. During the processing of the channel, slipping of the tip of the tool during rotation leads to the so-called “funnel-tooth” effect. The reason is the use of inflexible large files that cannot follow the shape of the channel. It is possible to block the lumen of the channel with dentin filings. Significantly increases the risk of creating an apical extension when working with files that have an aggressive tip.

Perforation of the walls of the root canal

- Careless use of tools for preparing root canals for various pin-based, inadequate actions with hand tools
- Instructions Brute force applied by a doctor when filling the root canal with mechanical instruments.
- machining curved impassable root canals using a rotating machine tool
- Idiopathic root resorption.

Channel fracture

Very high in case of file deformation, most often occurs when cooling and expanding narrow and curved, previously sealed channels. The main reasons may be the lack of adequate access to the mouth of the root canal, a violation of the sequence of the use of endodontic instruments, the use of instruments without indications, non-compliance with the operating mode and rotation speed, the application of considerable force during manual or machine processing, metal fatigue due to repeated use of the instrument.

Inadequate antiseptic root canal treatment

* hydrogen peroxide has a very weak antibacterial effect, does not dissolve organic substances, can disrupt the adhesion of constant
* sodium hypochlorite is extremely toxic in high concentrations
* There are studies on the appearance of a hypersensitivity reaction to sodium hypochlorite.

INADQUATE OBSTRUCTION OF ROOT CHANNELS

- Removal of filling material beyond the apical opening
- non-filling the root canal gives a significantly worse result than a slight removal of material beyond the apical opening
- phosphate cement does not provide an airtight closure of the apical hole and dentinal tubules, has an irritating effect on periodontal tissue
- resorcinol-formalin method also does not provide guaranteed obstruction of the apical foramen

- Incorrect determination of working length
- Incomplete passage of channels
- Methods of using a gutta-perforated or silver pin in channels having an oval, slit-like, dumbbell-shaped

Pushing the filling material into the mandibular canal

Pain after endodontic intervention

One of the most common complications. It may be due to the irritating effect of the products of machining of the root canal, which are pushed beyond the apex in the process of instrumental processing of the canal. The cause of pain can be a root sealer, excreted in periodontal tissue. In this case, the pains are short-term in nature and can pass independently without any effect.

A particular problem is the pain that wears for a long time. One of the reasons is the use of the vital treatment method in one visit, which is associated with the impossibility of influencing the deltoid and additional tubules. Poor mechanical and drug treatment leads to the movement of microorganisms in periodontium. An individual reaction can develop with intolerance to the components of the root filler or excessive filling.

1-practical lesson

Topic: Errors and complications in the formation and preparation carious cavity in childhood.

1.1. T echnology cal model of the formation

Time employment 4 hour and	Number of students 7 8
Type of activity	Practical lesson on deepening, expanding and practical implem entation of knowledge.
Plan	1. E tiologi I, the pathogenesis of dental caries molochn 's teeth. 2. Features of the clinical course and differential diagnosis of decay of deciduous teeth. 3. Examination of the oral cavity.
The purpose of the training sessions	Examine e tiologi w, pathogenesis caries molochn 's teeth. Feat ures of the clinical course and differential diagnosis of decay of deciduous teeth. Examination of the oral cavity.
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting cla sses	Metodi Cesky equipped audience
Monitoring and evaluation crite ria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (5 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening
1.	1. Declares the topic, purpose of the lesson,	Record a subject and listen

Introduction to the preparation stage s (5 minutes)	the plan of educational results, justifies their signific ance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2 . Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K. Georgieva- "Emergency care in dentistry"	
2 main step (25 minutes)	1. The division of students into 2 small subgroups , asks qu estions on the topic ; 2. Use of slides and multimedia; 3. conducts therapeutic work; 4. Combines all the information on a given topic, actively participate ni their stud ents poosch and ryaet and general estimates .	Divided into small groups , watching , participating , listen ing. Student expresses his opinion complements and asks questio ns
The final stage (5 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Interactive method on the topic: “ Synectics ”

Text

Medical error

- *I.V. Davydovsky* 's medical errors are *attributable* to the doctor’s bona fide delusion due to either imperfection of medical science, or insufficient experience of the doctor, or the particular course of the disease in a particular patient, or lack of experience and knowledge of the doctor.

- He divides the errors into two groups: subjective (inadequate examination, lack of knowledge and not careful judgments) and objective (imperfections in medical science, overly narrow specialty, difficulty of research).

A.I. Rybakov (1988) divides errors in dentistry into 4 groups:

- 1. unforeseen errors. The doctor acts correctly, but unforeseen situations arise during the treatment process.
- 2. due to the *negligence* or *negligence of a* doctor.
- 3. *low professional training of the* doctor, his *inexperience.*
- 4. *imperfections* of diagnostic methods, medical equipment, devices.

Errors in questioning a patient

- It happens that a dentist, in addition to an affected tooth, tongue or other organ of the oral cavity, sees nothing more, does not ask about anything.
- The doctor is rarely interested in the state of CVS, does not always find out the presence of pathological processes in the body.
- The doctor also rarely finds out from the patient about the tolerance of drugs (especially on anesthetics).

Errors in the preparation of the cavity
Accidental exposure of tooth pulp

- The reason may be:
- Lack of knowledge of the topographic features of the location of the tooth pulp depending on the group of teeth, especially in the treatment of deep caries;
- The use of large-sized burs and high speed of rotation;
- Failure to comply with the basic principles for the preparation of carious cavities;

Dissection of the tooth cavity
a) place of opening;
b) the initial direction of boron;
c) the direction of boron at the second stage of tooth trepanation;
d) expansion of the cavity after opening it;
d) creating a protrusion to the apical narrowing;
Erroneous opening of the tooth cavity
a) perforation at the level of the neck of the tooth;
b) giving the wrong direction to the channel;
c) discoloration of the crown with insufficient opening of the cavity, which does not allow the removal of pulp residues or its decay;
d) perforation of the root and breaking of the tool in the channel in case of incorrect creation of the channel direction;
Opening of the premolar cavity in the jaw
a) trepanation of the tooth crown in the center of the masticatory surface;
b) removal of canopies;
c) a cavity with good access to the root canals;
Incorrect preparation of premolars in the jaw
a) opening the cavity of the tooth in the horn of the pulp in case of acceptance
beyond the mouth of the canal;
b) cervical perforation with expansion of the tooth cavity;
c) perforation or breaking of the instrument in the absence of a direct approach to the root canal;
Erroneous preparation of the anterior teeth of the n / jaw
a) perforation at the level of the neck of the tooth;

b) giving the wrong direction to the channel;
c) discoloration of the crown with insufficient disclosure and removal of the residue
pulp pulp or its breakdown;
d) perforation of the root or breakage of the tool in the channel when creating an incorrect
a strong approach to it;
Erroneous preparation of molars in the / jaw
a) opening the tooth cavity according to the horn of the pulp;
b) weakening of the tooth crown due to excessive dentin removal;
c) perforation of the bottom of the tooth cavity;
d) partial opening of the tooth cavity;
e) perforation of the root canal with insufficient opening of the tooth cavity;
e) perforation of the root canal when using a large instrument
size with a sharp tip;
Erroneous preparation of molars n / jaw
a) excessive removal of hard tooth tissues with a deep arrangement of
Lost
b) perforation of the bottom of the cavity;
c) perforation above - and subgingival when preparing without regard to inclination
a tooth;
d) opening the horn of the pulp, taking it for the mouth of the channel;
e) perforation of the root at the site of its curvature;
Before making a final diagnosis, you must:

- find out the history of life;
- find out the history of the disease;
- use diagnostic tools and various devices to clarify the diagnosis.

Leaving areas of softened dentin subsequently leads to infection of the underlying areas and the development of secondary caries or inflammation of the pulp - pulpitis.
Even if such unpleasant complications do not arise, softened dentin absorbs pigments, its color changes, which leads to darkening of the tooth crown.
When secondary caries occurs, the tooth tissues surrounding the filling are destroyed and it falls out.
Improper cavity formation leads to fractures of the filling material or breaking off (enamel edge) of the walls of the carious cavity.
Breaking the wall of the cavity can occur with rough lever-like movements of the excavator or boron, when excessive pressure arises on one of its walls.
Damage by boron to adjacent teeth can occur during the preparation of carious cavities located on the contact surfaces of the teeth, in cases where the rules for removing the carious cavity on the chewing (palatal) surface are neglected.
Damage to the gingival margin occurs during the preparation of cavities located on the contact surfaces and in the cervical region of the teeth.
A number of errors and complications occur during filling of the carious cavity.
When filling, it is important to choose the right filling material and prepare it.

2- Practical lesson

Topic: Errors and complications when filling, incorrect podobru n th and placed oh n Lomb in childhood

1.1. T echnology cal model of the formation

Time employment 4 hour and	Number of students 8-1 0
Type of activity	Practical lesson on deepening, expanding and practical implem entation of knowledge.
Plan	1.E tiologi I and classification of diseases non-carious lesions of teeth hereditary origin in children 2. Enamel hypoplasia . 3. Etiology , clinical forms. 4. Treatment methods
The purpose of the training sessions	Explore e tiologi th and the classification of diseases non-carious lesions of teeth hereditary origin in children. Enamel hypoplasia . To teach clinical forms and method of treatment
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting cla sses	Metodi Cesky equipped audience
Monitoring and evaluation crite ria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (5 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening
1. Introduction to the preparation stages (5 minutes)	1. Declares the topic, purpose of the lesson, the plan of educational results, justifies their signifi cance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2. Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K.Georgieva- "Emergency assistance in dentistry" 1983	Record a subject and listen

	g	
2 main step (25 minutes)	1. The division of students into 2 small subgroups , asks q uestions on the topic ; 2. Use of slides and multimedia; 3. conducts therapeutic work; 4. Combines all the information on a given topic, actively participate ni their stu dents pooschiryaet and general estimates.	Divided into small groups , watching , participating , listeni ng. Student expresses his opinion c omplements and asks questions
The final stage (10 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Interactive method on the topic: The Apples Method

Text

Incorrect application of insulating pads during medium and deep caries can cause irritation or damage to the pulp by chemical, toxic or thermal irritants of permanent filling materials.
The presence of a gasket on the side walls of the cavity (above the enamel-dentin junction) worsens the marginal fit and fixation of permanent filling material, predisposes to the occurrence of secondary caries and loss.
An overestimation of the occlusion during filling of the carious cavity causes pain or awkwardness when chewing, and may restrict the movement of the lower jaw.
Constant overload of a filled tooth can lead to chronic periodontal injury - the occurrence of acute or chronic periodontitis.
The absence of a contact point creates conditions for the accumulation of food debris between the teeth that injure the interdental papilla, contribute to the development of caries on the contact surfaces of the teeth, as well as periodontal disease (papillitis, gingivitis, periodontitis).
The application of a single filling in adjacent carious cavities violates the natural microexcursions of the teeth.
This leads to:
loosening of the seal;
breaking it off;
falling out.
Hanging edges of the fillings that protrude into the interdental space

- injure the gums;
- create conditions for the accumulation of food debris between the teeth.

Wrong choice and preparation of filling material often lead to immediate complications.
Errors and complications that arise after the treatment of caries
A number of complications can occur at different times (several months or years) after treatment.
Quite often noted:

- pulp inflammation;
- pulp necrosis.

Secondary caries can occur due to insufficient preparation of the carious cavity, when there are areas of demineralized dentin on the walls and bottom of the cavity.
Papillitis, or inflammation of the interdental gingival papilla, occurs when:

- defects in filling cavities on the contact surfaces of teeth;
- overhanging edges of fillings;
- the presence of a single seal in two adjacent cavities;
- trauma to the gums during preparation and filling of the carious cavity.

Acute and chronic apical periodontitis usually develops a few days (acute) or months (chronic) after treatment of caries.
A common cause of periodontitis is chronic tooth overload due to increased occlusion of the filling.
A change in the color of the tooth crown (to gray, dark gray) may be the result of:

- insufficient preparation;
- removal of necrotic dentin;
- pulp necrosis;
- chronic periodontitis.

Excretion of the gum sections that are adjacent to the filling in the cervical region may be a consequence of the increased sensitivity of the body to the material from which the filling is made.
Displacement, fractures and loss of fillings most often occur due to:

- violations of the rules for the preparation of filling material;
- carious cavity formation.

Inconsistency of the color of the fillings with the color of the tooth enamel most often bothers the patient if it is detected on the anterior teeth and premolars.
Ineffective drug treatment of initial caries may be considered as a complication or mistake.
This may be a consequence of: the wrong choice of tactics, medication, methods of their use and duration of treatment.
Errors and complications arising from the use of composite
materials
They prevent a number of complications and avoid mistakes:

- the right choice of composite filling material;
- careful observance of the application procedure.

Composite Filling Materials
Composition of composites:

- organic matrix;
- inorganic filler;
- dyes;
- additives: catalyst, inhibitor, ultraviolet stabilizer, camphoroquinone.

Classification of composite filling materials

- Macro-filled composites macrophiles (particle size 8-12 microns and more);

- Microfilled composites. Microphiles (particle size 0.04-0.1 microns);
- Hybrid composites (particle size 8-12 microns and 0.04-0.1 microns);
- Microhybrid composites (particle size 1-5 microns and 0.04-0.1 microns);
- Totally made composites. Condensable composites, postorites (particle size 5-8 microns, 1-5 microns, 0.04-0.1 microns);
- Low modulus composites. Liquid (flowing) composites.

In recent years, preference has been given to microhybrid composites with a large percentage of filler particles, which largely meet the requirements for restoration materials
(Tetrik , Degufill , Prodigi , Arabeck , etc.).
The disadvantages inherent in these materials:

- do not possess chemical adhesion to hard tooth tissues of the tooth, i.e. do not "stick";
- form irregularities on the surface of the seal due to differences in the abrasion resistance of the inorganic filler and the organic matrix;
- have a fairly high polymerization shrinkage (2-5%);
- they are allergenic both of the composites themselves and of the elements of adhesive systems.

Condensable (packaged) composites have high strength and are distinguished by their ease of use. They are made on the basis of a modified (thick) polymer matrix.
Adhesive systems
In order to ensure the adhesion of the composite to the tissues of the tooth, adhesive systems are used, which are an obligatory composite when working with composites and consist of a primer and adhesive.
Work Stages:

13. Hygienic brushing with special fluoride-free pastes;
14. Determination of the color of the filling material;
15. Dissection of the carious cavity;
16. Isolation of teeth from saliva;
17. Treatment of the cavity with a pusher or gun;
18. Overlay pads;
19. Etching tooth tissues with acid gel;
20. Drying the cavity with the help of a puster of an air gun, cotton swab;
21. Application of adhesive system;
22. The introduction of filling material;
23. Filling processing;
24. Preventive coating of the seal.

Compomers

Compomers (glaciosites) are a combination of composite and glass-ionomer cement.
They are:

- convenient to use;
- highly aesthetic;
- have adhesion to tooth tissues;
- contain and release fluoride.

Disadvantages compared to composites:

- less strength;
- less wear resistance;
- worst polish.

Keromer, ormoker
Keromeres are a light-cured composite.
The Targis material kit includes opaque, base, enamel masses of various colors, there is also a whole gamut of dyes and effect masses. Convenient consistency and unlimited working time allow you to carry out tooth restoration without a hitch.
One of the most common mistakes when using composite materials is the use of micron-filled composites for the restoration of chewing surfaces in the cavities of class II and the cutting edges of the frontal teeth.
In these areas, the teeth are subjected to very significant chewing pressure, which microfilic composites cannot withstand. As a result, fractures or fractures of the restored teeth occur. In order to avoid such complications, it is necessary to use microhybrid or totally completed composite materials.
A similar situation occurs when restoring the chewing (occlusal) surface of the tooth, if the thickness of the applied composite is less than 1 mm. This can lead to fracture of the fine restoration under the influence of chewing pressure.
Due to the drying out of the surface of the oxygen-inhibited layer, the subsequent composite layers superimposed on it do not stick together and the restoration breaks down.
The same result can be when ignoring the rules of directing the rays of the curing lamp - they should go from the side of the surface to which a portion of the composite is glued.
Features of the use of glass-based cement (SIC).
The main disadvantage of composite materials is their weak connection with dentin.
Advantages of SIC:

- good adhesion to hard tissues;
- tight marginal fit;
- the presence of fluorine in the SIC;
- elasticity;
- do not irritate the pulp of the tooth.

The disadvantages of the JRC include:

- fragility;
- slow hardening (this applies to chemically curable materials);
- insufficiently high aesthetic properties.

That is why during restoration work involving an increased occlusal load, glass-ionomer cements are strengthened by lamination (“sandwich technique”).
Classification of glass ionomer cements [Wilson and Macklin, 1988]

- Type I - for fixing orthopedic and orthodontic constructions ("Aquacem", "Vitremer Juting Cement", "Fuji", etc.);
- Type II - restorative cement (to repair defects in hard tissues of the tooth);
- Type II 1 - for cosmetic work without occlusal load (Chemfil Superior , Fuji IILC , etc.);
- Type II 2 - if necessary, increased strength of the seals. Kerment - cements ("Ketac-Silver", "She-lon-Silver", "Argiron" , etc.);
- Type III - Lining (" Stion », «Base Line», «Vitre bond», «Lining Cement», «Jonoseal», «Time Line» and others .).

Currently, this classification should be supplemented by two more groups:

- SIC for filling root canals (“ Ketak - Endo ”, “ Endion ”, etc.);
- SIC for sealing fissures.

The need for glass ionomer gaskets arises when the composite used does not contain dentin sealant - primer.
One of the complications of large restorations in unseparated teeth is their postoperative sensitivity.
It can manifest itself in the form of a short-term pain that occurs under the influence of thermal irritants, and in more severe cases - the development of acute or chronic pulpitis. The reasons for this sensitivity may be different.
The following groups are distinguished:

- surgical trauma during the preparation of hard tissues;
- toxic effects of composite material;
- acid etching of dentin;
- poor-quality (incomplete) light polymerization of the composite;
- reduction (shrinkage) of the composite material during polymerization;
- micro-leakage followed by the introduction of microorganisms into the pulp;
- incorrect final processing of the restoration.

Preparation of hard tissues of teeth should be carried out in compliance with all the rules, after anesthesia, by cooling the boron and hard tissues of the teeth in order to avoid overheating of the pulp.
It is necessary to remember the cumulative effect of previous preparations of the teeth and fillings, since ignoring this fact can cause inflammation of the pulp.
The toxic effect of the composite material is more pronounced when using chemical curing composites and, to a lesser extent, light.
Improper acid drainage (conditioning) of dentin can cause pulp irritation.
Insufficient polymerization of the material leads to the appearance of an excess of unpolymerized monomers in its thickness.
One of the reasons for poor-quality polymerisation of the composite may be the use of insulating gaskets made of impervious to light materials, for example, phosphate cement.

Reduction (shrinkage) during polymerization is one of the features of composites, which can be avoided with the correct use of adhesive systems, layer-by-layer overlay and polymerization of layers no more than 1-2 mm thick, the correct direction of light rays of the polymerization lamp . The formation of micro-leaks, cavities, violation of their sealing occurs when the adhesive system is incorrectly applied, followed by its rupture during polymerization of the base material.

A common cause of this complication may be the incorrect direction of the light beam (perpendicular to the surface of the portion of the material) during polymerization.

Improper, rough, without cooling, final processing and polishing of the restoration can lead to overheating of the pulp and the development of inflammation in it.

The postoperative sensitivity of the restored tooth is a fairly common complication.

Hidden deficiencies in tooth restorations can occur both in the near and in the long term.

This leads to the fact that the warranty obligations of the dentist must extend for at least several years.

An immediate guarantee is given to the patient for three years with the implementation of all restoration corrections within this period at the expense of the doctor or dental institution.

In any case, after restoration, the patient is advised to carefully care for the oral cavity, following all hygiene rules.

Particular attention is paid to the restored area, which is regularly thoroughly cleaned with a toothbrush and dental flosses (dental flosses).

The dentist must monitor the condition of the restoration and good oral hygiene every six months.

During these visits, they must:

- professional toothbrushing;
- remove dental deposits;
- if necessary - polishing and

correction of restoration.

3- Practical lesson

Topic: Errors and complications in the diagnosis of non-carious lesions. hard tissue before teething

1.1. T echnology cal model of the formation

Time employment 6 hour s	Number of students 8-1 0
Type of activity	Practical lesson on deepening, expanding and practical implem entation of knowledge.
Plan	1. Damage to teeth of non- carious origin with hereditary features. 2. Antiseptic treatment of the oral mucosa. 3.Chtenie R-X-ray image
The purpose of the training sessions	To study tooth damage of non-carious origin with hereditary features. To teach students the antiseptic treatment of the oral mucosa. Reading R-X-ray image
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective

Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting cla sses	Metodi Cesky equipped audience
Monitoring and evaluation crite ria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (10 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening
1. Introduction to the preparation stages (1 0 minutes)	1. Declares the topic, purpose of the lesson, the plan of educational results, justifies their signifi cance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2. Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K.Georgieva- "Emergency assistance in dentistry" 1983 g	Record a subject and listen
2 main step (9 0 minutes)	1. The division of students into 2 small subgroups , asks q uestions on the topic ; 2. Use of slides and multimedia; 3. conducts therapeutic work; 4. Combines all the information on a given topic, actively participate ni their stu dents pooschiryaet and general estimates.	Divided into small groups , watching , participating , listeni ng. Student expresses his opinion c omplements and asks questions
The final stage (10 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Interactive method on the topic: “Hot Potatoes”

Text

Enamel hypoplasia is a developmental defect that occurs as a result of metabolic disturbances in a developing tooth and manifests itself in a quantitative and qualitative violation of the tooth structure, as a violation of mineralization during its formation. The etiological factor of enamel hypoplasia is considered insufficient or delayed function of odontoblasts, which occurs due to metabolic imbalance throughout the body under the influence of various diseases or as a result of metabolic imbalance in individual follicles under the influence of mechanical trauma, infection, penetrating radiation, etc. Depending on the current cause the violation occurs in the group of teeth that form in the same period (systemic hypoplasia); on several adjacent teeth of the same or different developmental periods (focal hypoplasia); on one or more teeth (local hypoplasia). Systemic hypoplasia accounts for 90.6% of lesions of this kind.

Systemic enamel **hypoplasia** occurs in 2-14% of cases, characterized by impaired development of enamel in all or a group of teeth at the same time. Enamel hypoplasia occurs in 12-19% of children. Clinically, hypoplasia manifests itself in the form of spots, depressions of various sizes and shapes, grooves, and even the complete absence of enamel on any part of the tooth. Based on the localization of the hypoplasia site, one can judge the age at which mineral metabolism is disturbed, and the duration of the violation is determined by the width of the lesion site. By the number of hypoplasia sites located parallel to the cutting edge, it is specified how many times metabolic disturbance occurred in the child's body. It should be noted that more than 60% of hypoplasia defects develop in the first 9 months of a child's life, when compensatory and adaptive mechanisms are still weakly expressed, and any adverse factors (illness, malnutrition) can cause metabolic disturbances in the body (Dyakova S, V., 1965) Therefore, hypoplasia is more common in the incisal region of incisors, fangs and tubercles of the first molars. In diseases of children during 3-4 years of life, hypoplasia manifests itself in the remaining teeth. In this case, the crown of the teeth is affected up to the cervical region, and in premolars and second molars, spots can be on the chewing surface.

Hypoplasia also occurs in children who have suffered a central nervous system lesion, who have had hemolytic jaundice against a background of Rhesus conflict, rickets, tetany, gastrointestinal diseases, with endocrine system damage, in artificially fed, with congenital syphilis.

Clinically, hypoplasia manifests itself in the form of spots, depressions of different

Local hypoplasia is characterized by impaired tissue development of one and rarely two teeth. The cause of its occurrence is either a mechanical trauma of the developing follicle of the permanent tooth, or the inflammatory process in it under the influence of biogenic amines and infections entering the follicle during chronic periodontitis of the deciduous tooth. On temporary teeth, local hypoplasia is not observed.

More often, the cause of local hypoplasia is an inflammatory process that spreads from the apex of the root of the temporary tooth or from the osteomyelitis focus of the jaw. The rudiment of any permanent tooth may be involved in the inflammatory process, but the rudiments of premolar located between the roots of temporary molars are more often affected. As you know, temporary molars are most often affected by caries, and consequently, apical periodontitis.

As for the treatment of local hypoplasia, with a significant deformation of the tooth crown, the manufacture of an artificial crown is indicated. In case of a clinical defect in enamel that does not extend to the entire vestibular surface of the tooth, aesthetic filling materials with minimal preparation of hard tooth tissues should be preferred. With hypoplasia, treatment is prescribed for the whole year, monitoring its results and the conscientiousness of therapeutic measures for patients on average every 1.5-2 months. The patient should undergo a 3-month course of glycerophosphate

calcium, multivitamins, antioxidants at intervals of 3 months.

Children with enamel hypoplasia should be taken for follow-up by the dentist to determine the indications for treatment using various methods (remineralizing therapy, elimination of enamel defects using filling materials) and its implementation.
The following preventive measures are important to prevent the development of hypoplasia:
1) caring for the health of a pregnant woman, and then a newborn;
2) the prevention of infectious and non-communicable diseases in children;
3) timely and effective comprehensive treatment of the arising somatic disease (acute infectious diseases, alimentary dystrophies, toxic dyspepsia, hypo- and vitamin deficiencies, etc.);
4) strengthening of dental health education in women's and children's consultations.

Hyperplasia of tooth enamel

Hyperplasia of the teeth is manifested in the excessive formation of tooth tissue, which is called enamel drops or enamel pearls. Their origin is associated with the process of differentiation of the cells of the Gertvig vagina into enameloblasts.
Enamel drops are more common in the area of the necks of the teeth, sometimes in the area of root bifurcation. Their size reaches 2-4 mm in diameter. Most often, they are associated with excessive formation of dentin, which is coated on the outside with enamel. Sometimes in the center of the drop find a cavity made of tissue similar to pulp. In the clinic, they do not manifest themselves and are detected during the examination. I studied in more detail this form of non-carious tooth lesions (AOCawanha A965). He divided the enamel drops into 3 types: root, cervical, crown. Based on microscopic studies, the author identified 5 groups:
a) true enamel drops;
b) enamel-dentin drops;
c) enamel-dentin droplets with pulp, often associated with the cavity of the tooth;
d) Rodriguez-Ponti drops - small enamel drops (nodules) in the periodontium;
e) intradental enamel drops included in dentin crowns or roots
a tooth.
Cervical enamel drops are usually found with gum retraction and exposure of the neck of the tooth. Root - can be seen during x-ray examination or after tooth extraction.
Meanwhile, intradental (intradentinal) enamel drops are more common when the doctor, when preparing a carious cavity within the dentin, “bumps” with a boron on its harder area. It is in this place that the enamel drop is located. Only cervical enamel drops are subject to treatment. They need to be ground with a diamond bur, sanded and polished this part of the tooth, and then after training to give the patient recommendations on how to conduct daily applications of phosphate-containing toothpastes for 7-10 days.

Endemic tooth fluorosis

Endemic fluorosis is associated with excessive intake of fluoride in the human body with drinking water, food. More common in areas with high concentrations of fluoride in drinking water. However, it is known that the presence of significant amounts of calcium in water reduces the development of fluorosis (Koshovskaya V.A., 1975).
To a certain extent, fluorosis is a common disease of the skeleton of humans and animals, but we are concerned only with fluorosis of the teeth. Depending on the severity of tooth changes in endemic fluorosis, the following clinical forms of dental fluorosis were distinguished (V. Patikeev).
The dashed form is characterized by subtle chalky strips on the enamel of the anterior teeth (the most light form). The white color of the strips from the center to the periphery becomes less bright and imperceptibly goes into the normal color of the tooth.
The spotted form manifests itself in the form of chalk-like spots located in different parts of the tooth crown. The intensity of the white color disappears from the center to the periphery. The surface of the enamel in the area of the spot is usually smooth, shiny. Sometimes there is a mild light yellow pigmentation.

The chalky-speckled form appears in the area of all, and not just the front teeth, clinically very diverse: white shiny and matte spots, spots of pigmentation spots from light to dark brown in color. Spots are usually located on the vestibular surface of the anterior teeth. Sometimes there are small round defects in the enamel - speckles.

Erosive form - a more severe damage to the teeth, characterized by the formation of defects - erosion in the area of chalk-shaped enamel. The presence of at least one erosion already indicates a qualitatively new, more severe, stage in the development of fluorosis.

Stain removal and weak pigmentation can be achieved by complex remy non-implementing therapy according to the scheme already described. Therefore, the dashed, spotted, chalky-mottled forms of generalized dental fluorosis should be treated as a spotted form of hypoplasia with courses of complex remineralizing therapy for an average of 6 months. - 2 years. It should be noted that the results are faster than with enamel hypoplasia. More complex and severe forms of fluorosis require filling of enamel defects after
preliminary monthly course of general and local remineralizing therapy, as was
indicated earlier. In this case, dental fillings in children in these cases should be carried out
using glass ionomer cements. Then they can be partially replaced by composite filling materials .

Treatment of dental fluorosis. The treatment of fluorosis depends on the stage of tooth damage and its prevalence in the oral cavity. So, according to the recommendations of I.O. Novik A951) and G.D.Ovrutsky A962), the first stage, characterized by the appearance of subtle white spots, stripes, waviness, does not need special treatment and is considered reversible. The second and third stages are characterized by irreversible lesions of enamel and dentin, which require medical intervention.

Electron microscopic studies of teeth affected by fluorosis have shown that interprismatic spaces are expanded in the area of spots in the enamel, the connection between the structural formations of the enamel is reduced, which indicates a decrease in its strength. In more severe forms of tooth damage, a decrease in the contours of the structural units of enamel, blurred boundaries of enamel prisms and even foci of their decay, alternating with amorphous formations in which individual hydroxyapatite crystals are interspersed. All this is evidence of violation of the strength and resistance of tooth enamel.

(Patrikeev V.K., 1968; Leus P.A., Galchenko V.M., 1983).

The foregoing determines the treatment of dental fluorosis. Firstly, it should be aimed at remineralization of tooth tissues and be general and local in nature. Secondly, it should be restoration — to restore the shape and color of teeth. In this regard, taking into account the available morphological data, one should not begin treatment of teeth affected by fluorosis, using even modern composites. Covering their teeth is fraught with large destruction of the structure of enamel and dentin and subsequent loss of filling material.

As for the direct treatment of dental fluorosis, most authors recommended a general treatment: the appointment of phosphorus-calcium preparations and vitamins, the elimination of excess fluoride from drinking water and food.

4- Practical lesson

Topic: Errors and complications in the diagnosis of non-carious lesions. hard tissue after teething

1.1. T echnology cal model of the formation

Time employment 6 hour s	Number of students 8-1 0
Type of activity	Practical lesson on deepening, expanding and practical implem

	entation of knowledge.
Plan	1. Anatomy and physiological functions of the pulp of teeth in children. 2. Classification of pulpitis.
The purpose of the training sessions	To study the anatomy and physiological functions of dental pulp in children. Train the classification of pulpitis.
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting cla sses	Metodi Cesky equipped audience
Monitoring and evaluation crite ria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (10 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening
1. Introduction to the preparation stages (10 minutes)	1. Declares the topic, purpose of the lesson, the plan of educational results, justifies their signifi cance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2. Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K.Georgieva- "Emergency assistance in dentistry" 1983 g	Record a subject and listen
2 main step (9 0 minutes)	1. The division of students into 2 small subgroups , asks q uestions on the topic ; 2. Use of slides and multimedia; 3. conducts therapeutic work;	Divided into small groups , watching , participating , listeni ng. Student expresses his opinion c omplements and asks questions

	4. Combines all the information on a given topic, actively participate ni their stu dents pooschiryaet and general estimates.	
The final stage (10 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Interactive method on the topic: “Hot Potatoes”

The teacher should make a few questions. You need to make a ball out of cardboard paper . The teacher asks a question and throws the hot potato to the student in his hands, in his turn, the student answers on the question and throws the potatoes back to the teacher in his hands. The teacher controls the work of the group and everyone's participation in it . The general correct variant is written in a notebook. Students are given the right options for answers, get the maximum score - 100% of the rating of the theoretical part - 0.8b. Students runner - up - 85.9% rating. Those who took the third place - 70.9% of the rating. Not responding or incorrectly responding 30% of the rating. The resulting score is taken into account when exhibiting ratings for the current session.

Text

Erosion of teeth

Dental erosion is a progressive lesion of enamel and dentin of unknown etiology. Baume, Port and Euler believed that erosion occurs due to improper brushing of teeth, with mechanical stress. A certain role is given to the large consumption of citrus, fruit juices, etc. Unfavorable factors of the working environment (acids, metal and mineral dust, etc.), as well as surfactants both in the field of their production and in the composition of hygiene products, are important. Nevertheless, many authors are not inclined to believe that the occurrence tooth erosion is a local, purely mechanical or chemical process, and they prefer to attribute this problem to the category of unsolved. D.A. Entin saw the cause of erosion in neurodystrophic processes that cause decalcification of hard tissues of the tooth. However, no one could explain why erosion sometimes occurs and sometimes wedge-shaped defects. Erosion more often occurs in older people on the vestibular surface of the central and lateral incisors of the upper jaw, they are found on fangs and premolars. Sometimes the lesion is symmetrical. Their occurrence may be associated with a violation of mineral metabolism due to endocrine or other disorders in the body and, accordingly, in the pulp of the tooth. This is confirmed by the results of clinical observations and the data of a radioimmunological study, which indicated the presence of clear previous and concomitant thyroid dysfunction in
patients with erosion of tooth enamel. The developed erosion is a round-shaped enamel defect, which is located in the oblique or transverse direction of the most convex part of the vestibular surface of the tooth enamel. Usually the bottom of erosion is smooth, shiny, hard. Gradual expansion and deepening of it can lead to complete
loss of enamel and exposure of dentin on the vestibular surface of the tooth. Erosion is often combined with the erasure of the cutting edges of crowns, incisors and tubercles of molars. Pain is often absent or mild, but there is a fairly strong dentin hyperesthesia. E.V. Borovsky et al. There are two stages of damage: initial (enamel erosion) and severe (enamel and dentin erosion). Dental erosion is usually characterized by a chronic course, but there are 2 clinical stages of erosion: active and stable.

For the active stage, a typically progressing course and loss of tooth tissue, accompanied by hyperesthesia, the disappearance of the luster of the surface of erosion, are typical. In the active phase, changes in the size of erosion occur every 1.5-2 months. The remineralization index reaches 4-3 points. The stable form of erosion of the hard tissues of the tooth is characterized by a calmer, slower flow, the shiny enamel surface in the affected area is preserved. Change in its size does not occur within 9-11 months.

The remineralization index does not exceed 1-1.5 points. The transition of the stabilized form of erosion to the active one is possible, especially when the background pathology worsens. The microhardness of enamel in the area of erosion is significantly reduced; foci of demineralization of the enamel surface are noted. In this case, unlike tooth decay, where subsurface enamel demineralization takes place, with erosion surface foci of demineralization are formed, which gradually enamel the tooth enamel in layers (Leus P.A., Galchenko V.M.). When studying the enamel ultrastructure during tooth erosion, it was noted that enamel in the area of erosion and in adjacent areas is characterized by a reduced degree of mineralization and the presence of destructive changes: in some areas, enamel prisms are clearly visible, interprismatic spaces are expressed, and in others they are indistinguishable due to demineralization. Hydroxyapatite crystals of various shapes. In areas adjacent to erosion, they do not have clear boundaries or have the correct shape, but large, and sometimes smaller and short. Enamel crystals with different densities are visible, which indicates the unevenness of mineralization. There are also distinct changes in dentin during tooth erosion: areas with a dense arrangement of hydroxyapatite crystals are observed, alternating with a loose arrangement of crystals. The dentinal tubules are found obliterated and non-obliterated. The structure of the substance that obliterates the dentinal tubules is specific and close to that with abrasion. Close results were obtained when studying the ultrastructure of enamel and dentin. However, along with the indicated areas of demineralization, an accumulation of bacteria masking the contours of enamel prisms was found. SEM of the central zone of erosion also showed the presence of significant structural changes in both the surface and deeper layers of damaged tooth tissue. Comparative electron microscopic analysis revealed

differences in the structural organization of enamel during erosion, depending on the clinical phase of the manifestation of the disease. The active stage of the process of erosion development is characterized by the loss of both enamel substance and dentin in large areas that have undergone destructive changes. Areas of complete decay are visible in the form of an amorphous substance with large depressions. The enamel erosion clinic is not simple, and they need to be differentiated from wedge-shaped defects, cervical caries and tooth necrosis. Only then should a treatment plan be adopted. In this case, it is necessary not only to organize treatment, but also to conduct a thorough examination of the patient using general diagnostic methods, clinical and paraclinical methods, including consultations with related specialists. In this case, clarification of the background pathology is very important for the successful treatment of erosion. The therapeutic measures of the dentist and internists should be combined.

The remineralization process was especially pronounced in the areas bordering with the focus of active enamel loss, where spaces stretching in an even layer are visible, into which single, still preserved areas are interspersed

destruction. Enamel surface alignment appears to be the result of

filling interprismatic spaces with mineral components and

strengthening the crystal structure of enamel prisms.

Cervical area of teeth with erosion after remineralization looked more

flat compared with erosion to remineralizing

processing, and was clearly distinguishable enough. Noteworthy was the smoothness of the surfaces of both enamel and dentin. Moreover, their structure in some areas resembled that of the intact tooth surface. Drug and toxic disorders of the development of hard tooth tissues. This nosological form of non-carious lesions of the teeth has been recently identified, it is a necessary measure, since such patients make up at least 5% of all non-carious lesions of the teeth and 9.3%

of non-carious lesions of the 2nd group of teeth. Previously, these patients “lost”, falling into groups of patients
with erosion or necrosis of the teeth, or in groups of patients with abrasion, or were diagnosed with the so-called "focal demineralization of the teeth." Meanwhile, it is known that some medications, for example, hormonal contraceptives, salicylates, used regularly and for a long time, can cause disturbances in mineral metabolism and, as a result, not carious lesions of the teeth. It is clear that it is salicylates that accompany patients with rheumatism and osteochondrosis throughout life,
contribute to an increase in the frequency of non-carious lesions of the teeth.
Along with this, population surveys indicate that salicylates, hormonal drugs, including contraceptives, as well as some other medicinal formulations used for a long time, adversely affect the condition of the teeth. On the other hand, there is the influence of certain toxic factors of the working environment, as well as frequent individual contact with toxic substances. It is known that in recent years in the world, including in our country, the use of drugs, toxic and medicinal substances has increased in order to achieve a narcotic effect. In particular, a purely Russian phenomenon appeared - substance abuse, that is, the use of toxic substances through
inhalation of their vapors by youth, adolescents and even children. As a rule, narcologists, psychiatrists and other general specialists are involved in this contingent. This is understandable, since it has always been believed that toxic, narcotic, and similar substances act primarily on the central nervous system, psyche, and internal organs of a person. The treatment of toxic and medical disorders of the development of hard tooth tissues is different and differs to a certain extent from the treatment of other forms of dental diseases.
So, in case of medical lesions of enamel and dentin at the first stage, therapeutic measures should consist of complex remineralizing therapy, which, by the way, largely compensates for the negative effect of drugs (Smolyar N.I., 1976, 1980; Fedorov Yu.A., 1979) . It consists of the following appointments:
a) calcium glycerophosphate 0.5 g 3 times a day for a month;
b) multivitamins “Kvadevit” or “Komplevit” and others. 4-5 tablets. per day for a month;
c) “Klamin” A-2 tablets) or “Fitolon” C0 drops) 2-3 times a day for 15 minutes. before meals for a month;
d) teaching toothbrushing and application of phosphate-containing pastes such as "Pearls", "Bambi", etc. for 15 minutes. constantly, daily during the entire treatment period;
d) electrophoresis of a 2.5% solution of calcium glycerophosphate - 10 sessions every other day between the courses of general treatment;
f) rinsing the mouth with Elam Elixir daily, after brushing your teeth and eating, delaying the solution for 10-15 seconds. the oral cavity.
The course of general remineralizing therapy is repeated 2-3 times within six months.
A decrease in IR to 1.5-1.0 points indicates the possibility of the transition to the next stage of treatment - tooth filling. The best option should be considered as filling with glass ionomer cements or their combination with composite materials.
General and local dental treatment in patients with toxic lesions of enamel and dentin significantly differs primarily in the additional appointment of active antioxidants (vitamins A, C, E), the terms of general therapy, and the details of tooth restoration.

5- Practical lesson

Topic: Mistakes and complications of pain relief in childhood

1.1 T echnology cal model of the formation

Time employment 6 hour s	Number of students 8-12
Type of activity	Practical lesson on deepening, expanding and practical implem entation of knowledge.
Plan	1. Inflammation of the pulp of teeth in children 2. Etiology of pulp of teeth 3. Pathogenesis of tooth pulp
The purpose of the training sessions	To study the etiology and pathogenesis of dental pulp in children
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting cla sses	Metodi Cesky equipped audience
Monitoring and evaluation crite ria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (10 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening
1. Introduction to the preparation stages (1 0 minutes)	1. Declares the topic, purpose of the lesson, the plan of educational results, justifies their signifi cance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2. Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K.Georgieva- "Emergency assistance in dentistry" 1983 g	Record a subject and listen
2 main step (9 0 minutes)	1. The division of students into 2 small subgroups , asks q uestions on the topic ;	Divided into small groups , watching , participating , listeni ng. Student expresses his opinion c

	2. Use of slides and multimedia; 3. conducts therapeutic work; 4. Combines all the information on a given topic, actively participate ni their stu dents pooschiryaet and general estimates.	omplements and asks questions
The final stage (10 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Interactive method on the topic: "Apples"

Text

With anesthesia, a variety of complications can be found that are general or local in nature. Of the common complications, the following are most real in outpatient dental practice: fainting, the onset of an attack of bronchial asthma, allergic reactions or poisoning associated with the administration of an anesthetic, the occurrence of an epileptic seizure, and some others. General complications after the introduction of MA (fainting, collapse, allergic reactions) are observed in 0.0017%. (Ushakov). In this regard, the dental office must have a set of medicines for emergency care for the child and instructions that regulate the actions of the doctor in a particular situation.

Fainting is a short-term loss of consciousness due to acute cerebral hypoxia. Fainting is more common in children during puberty, with increased emotional lability. The causes of fainting are fright, pain, type of blood, anesthetic entering the bloodstream quickly if an injection needle accidentally enters the lumen of the vessel during anesthesia. Symptoms of fainting: weakness, dizziness, nausea, vomiting, darkening in the eyes, tinnitus. The child turns pale, the face becomes covered with cold sweat, a blue under the eyes appears, the pupils dilate, the pulse quickens, it becomes threadlike, breathing is shallow, frequent, blood pressure decreases.

The child gradually faints. Urgent care. The child must be given a horizontal position, raise his legs, free his neck and chest from tight clothing, unfasten the belt. The face is wiped with cold water, a tampon with ammonia is brought to the nose. In the absence of effect, they inject subcutaneously with an injection of one of the drugs: caffeine, ephedrine or cordiamine in an age-related dosage. The duration of fainting is from a few seconds to 3-5 minutes, after which consciousness is restored. An attack of bronchial asthma. It can be caused by emotional stress, the smell of medicines, the introduction of an anesthetic. Clinic of an attack of bronchial asthma - expiratory dyspnea, often accompanied by persistent coughing, the pulse increases, blood pressure rises, sweat, lip cyanosis and acrocyanosis appear. The child is anxious, convulsive twitching may occur. Treatment. In case of an attack of bronchial asthma, it is necessary to call an ambulance, and before it arrives, take the following measures: 0 reassure the child, remove him from the chair, distract his attention; 2) ventilate the room; 3) apply hot hand baths at a water temperature of 37 to 42 ° C for a duration of 10-15 minutes; 4) subcutaneously inject 0.1% solution of adrenaline into

the following dosage: children under 5 years old - 0.2-0.3 ml, children aged 6-12 years - 0.3-0.5 ml.

In the presence of an inhaler, it can be used to inhal any sympathomimetic: 0.5-1% solution of isadrine, 1% solution of novodrin or euspiran 0.5-1 ml per I inhalation; 2% solution of Alupent E-10 inhalation). Inside, antihistamines give other drugs: diphenhydramine, suprastin, diazolin, tavegil in age dosages. Allergic reactions. Occur in a sensitized body to drugs used in the process of pain relief. Allergic conditions and reactions can have the most diverse clinical manifestations: a severe attack of bronchial asthma, erythema multiforme, Quincke type laryngeal edema, anaphylactic shock, hyperthermia, etc.

The greatest danger to the child's life is laryngeal edema and anaphylactic shock. The leading clinical symptom in acute laryngeal edema is rapidly progressive respiratory failure. The child is anxious, pale. Breathing quickened, noisy (labored), hoarse voice. Cyanosis of lips and nails is expressed.

Emergency treatment before the arrival of the ambulance team is as follows:

1) stop the administration of the drug, which is an allergen for the child; 2) inject subcutaneously with a 0.1% solution of adrenaline or 5% solution of ephedrine in an appropriate age-related dosage; 3) intramuscularly or intravenously inject a 2% solution of diphenhydramine or 2.5% solution of pipolfen; 4) intravenously slowly introduce a 2.4% solution of aminophylline C mg per 1 kg of body weight in 5% glucose solution); 5) intramuscularly introduce prednisone - • 15-30 mg and other glucocorticoids in an equivalent dose; 6) inhalation of sympathomimetics (solutan, euspiran, isadrin, etc.), as well as ephedrine, aminophylline.

Anaphylactic shock is the most severe allergic reaction. The leading components of its initial period are spasm of smooth muscle of the bronchi, increased vascular permeability, and progressive adrenal, cardiovascular, and renal failure.

Clinic. Immediately after the introduction of an anesthetic, which is an allergen, into the body, the child becomes restless, he has itching of the mucous membranes and skin, shortness of breath. He complains of a headache, a feeling of heat. Within minutes, loss of consciousness may occur, acute
respiratory, cardiovascular and adrenal insufficiency. On the skin
polymorphic allergic rash, edema appear.

Emergency care should be provided immediately: 1) stop the introduction
anesthetic 2) the child is laid to one side, surrounded by heating pads, produced
evacuation of the contents of the stomach, allow breathing oxygen; 3) at the injection site
anesthetic allergen (if conditions permit) inject 0.5 ml of a 0.1% solution of adrenaline;
4) every 10-15 minutes. before taking the child out of shock, subcutaneously administered
0.3-0.5 ml of 0.1% adrenaline solution. When the condition worsens intravenously
(slowly!) the following mixture of drugs is administered: 0.1% adrenaline solution 0.3-0.5 ml;
0.2% solution of platifillin 0.5-1 ml; 5% glucose solution - 20 ml; 5) prednisone is administered slowly intravenously at the rate of 1-2 mg per 1 kg of body weight in a 10-20% glucose solution; 10% solution of calcium chloride C-5 ml); 2.4% aminophylline solution (slowly!) At the rate of 3 mg per 1 kg of body weight in 5% glucose solution; (cardiac glycosides - 0.5% strophanthin solution in 0.1-0.4 ml in 5% glucose solution. The dentist needs to start emergency treatment in a timely manner, and its further implementation is carried out by an ambulance doctor.

Poisoning with an overdose of anesthetic. In toxic doses, novocaine, trimecaine and other anesthetics, after short-term excitation of the central nervous system, depress the cerebral cortex and subcortical centers up to the development of collapse, acute respiratory and heart failure. With a mild degree of poisoning, the child complains of nausea, dizziness, muscle cramps of the extremities. Pallor of integument, increased heart rate, lowering of blood pressure are noted. With severe intoxication, tonic and clonic convulsions, signs of pulmonary and cardiovascular failure appear. In time, the development of the most severe signs of poisoning varies from several minutes to many hours. With a mild form of intoxication, the child is given a horizontal position, they are allowed to inhale several times a pair of ammonia, moistened oxygen. A 5% solution of ephedrine is administered intramuscularly, a 10-20% solution of caffeine at an age-specific dosage subcutaneously. With increasing signs of poisoning, urgent hospitalization of the child is indicated.

Epileptic seizure. A major seizure of epilepsy is characterized by loss of consciousness, tonic and clonic seizures that occur after an aura. Emergency care is to prevent injury. To do this, when the first signs of epilepsy appear, tampons are removed from the child's mouth, a spatula wrapped with gauze is inserted into the mouth to prevent a bite of the tongue. During a seizure, it is not necessary to bring the child to life and, moreover, pour any medicine into the mouth. It should be

laid on its side to prevent aspiration of saliva and vomit. Usually the seizure goes away on its own. With a prolonged seizure, it is possible to administer intramuscularly magnesium sulfate 25% in 0.2 ml per 1 kg
body weight.
Continuing dental treatment after a seizure is impractical (with the exception of acute inflammatory diseases).
Complications of local anesthesia. These complications are associated with errors in the technique of anesthesia, poor-quality instruments and less often with unpredictable individual anatomical and topographic features of the maxillofacial region.
Blood vessel injury is the most common complication during injection anesthesia. With an injury to small vessels, the injection channel bleeds; when it enters large vessels, interstitial hematomas are formed, which, developing gradually, may not be noticed by a doctor. A careful selection of the injection site, the correct technique of anesthesia with hydraulic preparation of tissues while advancing the needle, can reduce the frequency of this complication. If a complication is detected, capillary bleeding is stopped by pressing the tissues at the injection site for several minutes. If a growing hematoma is detected (in the area of the tubercle of the upper jaw, in the pterygo-maxillary space), finger pressing is performed in the hematoma zone for 3-5 minutes. Outside, an ice bladder is applied to the reflex spasm of blood vessels. Taking into account modern requirements, antibiotics are prescribed for the prevention of infectious and inflammatory complications, and then physiotherapy (UHF, UHF).
Rare complications include needle breakage. To prevent this complication is quite simple: you can not use faulty needles rotating in the cannula; it is impossible to advance the needle into the tissue to the cannula, which, unfortunately, is often done by doctors when performing intraoral anesthesia at the mandibular opening with short needles; You can not sharply change the position of the needle, deeply immersed in tissue.
To prevent infectious and inflammatory complications (abscesses, phlegmon, contractures), it is necessary to observe the rules of asepsis and antiseptics, treat the injection zone with bacteriostatic solutions, and do not touch the tip of the needle to the teeth.
In the literature (V.P. Vashkevich), attention is drawn to a rare, difficult to diagnose complication of local anesthesia - the development of infiltrate due to infection of tissues with mold fungi (mycotic granuloma). The clinical manifestations are as follows: the general condition is satisfactory, the body temperature is normal, in clinical blood tests and general urine tests there are no deviations from age norms. With an external examination, asymmetry of the face due to swelling in the buccal region. Examination of the mouth reveals a smooth transitional fold. Palpation determined
tuberous, painless or slightly painful infiltrate with dense
inclusions, distributed mainly in the tissue of the cheek. Unchanged
in the color of the mucous membrane, respectively, to the denser areas of the infiltrate, yellowish inclusions with a diameter of 0.1 to 0.3 cm were determined, as if translucent through the mucous membrane.
Clinical data and morphological studies of postoperative material make it possible to diagnose limited inflammatory infiltrates caused by infection of the cheek tissue with the fungal bodies of Mucor and Nacardia. Such fungal associations support a prolonged phase of a productive tissue reaction leading to the development of mycotic granuloma. Both fungi are classified as mold. These are very widespread in nature saprophytes, which under certain conditions can cause diseases of the mucous membranes. Mold lesions can occur endogenously when fungi are converted from saprophytes to pathogenic or
penetrate the human body from the outside. The appearance of patients with mold mycoses is explained by a number of authors with the very wide and erratic use of antibiotics, which contributes to the development of dysbacteriosis in the child's body and creates conditions for reproduction and increased virulence of mold fungi.

In the treatment of mold lesions, iodine preparations are effective (potassium or sodium iodide, tincture of iodine with milk inside, iontophoresis of potassium iodide to the area of infiltrate). The appointment of nystatin and levorin in age dosages, immunostimulants, vitamins A, C, group B is also recommended. The development of a pathological focus at the site of the needle injection allows us to conclude that the infection of patients occurred at the time of injection of the anesthetic.

In case of damage to the peripheral branches of the trigeminal nerve (most often the mandibular nerve) in children, paresthesia occurs (numbness, burning sensation, etc.). It should be clarified that this complication is temporary. The child is prescribed warm rinses, physiotherapy (UHF, microwave), sedatives (valerian), multivitamins, dibazole.

When anesthetic is injected in the region of the mandibular foramen, trauma to the pterygoid muscles is possible, which is clinically manifested by difficult opening of the mouth. In these cases, physiotherapy (warm rinses, UHF, ultrasound), rational mechanotherapy, and antibiotics are prescribed.

The erroneous introduction of solutions is unacceptable, but, unfortunately, still encountered complication. The reasons for its occurrence are the negligence of medical personnel and the poor organization of labor. If a "foreign" solution is introduced into the tissues (alcohol, hydrogen peroxide, formalin, hypertonic solution) and this is detected by a doctor, several milliliters of a 0.25% novocaine solution should be immediately injected into the anesthesia zone with the addition of a few drops of adrenaline solution to reduce the resorptive effect of the erroneously administered solution. After this, you can dissect the mucous membrane, stupidly stratify the underlying soft tissues, rinse the wound with neutral solutions. The child should be hospitalized. Each case of erroneous introduction of unforeseen funds should be dealt with by the medical control commission. Timely measures are needed to eliminate such complications, for example, the use of special dark bottles, clear labeling, and verification
taste anesthetic, proper organization of the workplace of the doctor and nurse.

6- Practical lesson

Topic: Errors and complications in the diagnosis of pulpitis .

1.1. T echnology cal model of the formation

Time employment 4 hours	Number of students 8-1 0
Type of activity	Practical lesson on deepening, expanding and practical implem entation of knowledge.
Plan	1. Anatomy and physiological functions of the pulp of teeth in children. 2. Classification of pulpitis.
The purpose of the training sessions	To study the anatomy and physiological functions of dental pulp in children. Train the classification of pulpitis.
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting cla sses	Metodi Cesky equipped audience

Monitoring and evaluation crite ria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (10 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening
1. Introduction to the preparation stages (1 0 minutes)	1. Declares the topic, purpose of the lesson, the plan of educational results, justifies their signifi cance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2. Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K.Georgieva- "Emergency assistance in dentistry" 1983 g	Record a subject and listen
2 main step (9 0 minutes)	1. The division of students into 2 small subgroups , asks q uestions on the topic ; 2. Use of slides and multimedia; 3. conducts therapeutic work; 4. Combines all the information on a given topic, actively participate ni their stu dents pooschiryaet and general estimates.	Divided into small groups , watching , participating , listeni ng. Student expresses his opinion c omplements and asks questions
The final stage (10 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Interactive method on the topic: “Apples”

Text

What is pulpitis? The root cause of the pain is hidden behind a recurring inflammatory process or a banal trauma of the dental element. The dentist can remove the neurovascular bundle near the apex of the tooth root, and at the same time damage the near-root tissue. During the action of anesthesia and after some time upon the completion of the procedure, pain is absent. But, after a few hours, the patient may feel discomfort in the causative tooth. Not only tissue damage can cause pain, but also the effects of medications. This means that during dental operations, the dental canal is washed with antiseptic agents, which subsequently cause pain due to irritation. Additional causes There can be many reasons for the development of pathology. The most common are: Trauma to the teeth (breaking off a fragment, as a result of which the pulp is exposed). A large number of pathogenic bacteria (as a result of caries and poor oral hygiene). Chemical effect on enamel. Poor and improper nutrition (in this case, the teeth do not receive the necessary amount of "building material"). Caries. Incorrectly selected dentifrices. Inflammatory processes in the gastrointestinal tract and oral cavity. Infectious diseases in the body. Incorrect caries treatment. However, these reasons are not unique. Pathology can develop due to improper physiological structure of teeth, demineralization of enamel, problems with the absorption of calcium and other factors. Pulpitis is an inflammatory disease of the tooth pulp, which is a neurovascular bundle of a tooth (or a nerve, as it is also called), as well as connective tissue cells. The pulp is located under the dentin, which in turn is covered with tooth enamel. Pulp is responsible for the nutrition of the teeth from the inside. Pulpitis is often a complication of another dental disease - caries, and therefore, the main cause of pulpitis, like caries, is an infection, for example, streptococcus. Thus, the prevention of pulpitis implies the protection of teeth from infection - proper care for your teeth and oral cavity. According to statistics, up to 20% of patients complaining of toothache are owners of pulpitis. Especially frequent guests of the dentist are children, who usually show pulpitis of the milk tooth. The development of pulpitis As you can see, dear readers, at the beginning of a tooth lesion, a plaque appears on it, representing food debris (which eventually begins to rot) and various microflora, most often pathogenic. If you do not brush your teeth, infectious microorganisms, in the course of their life, produce acid, which, together with decaying particles of food, begin to eat tooth enamel, which is the surface or protective layer of the tooth. Damage to tooth enamel is called - caries. The more time passes without proper oral care, the faster the pathological processes of tooth decay go. The third stage of pulpitis is infection under the tooth enamel, and infection with dentin. Dentin is the hard and main part of the tooth; in fact, it is bone. This is the last step of the infection before it reaches the pulp - the soft tissues of the tooth that are directly under the dentin. Blood vessels and nerve endings pass through the pulp. It is with this that the appearance of severe pain with pulpitis is associated. The fourth stage is actually pulpitis, in which the infection reaches the pulp, causing inflammation. The onset of pulpitis is accompanied by toothache, often of a pulsating nature, an increased sensitivity of the tooth to temperature changes, as well as a painful reaction of the tooth to cold or hot food / drink. Toothache with pulpitis can extend to several adjacent teeth, as well as to the entire jaw, and eventually even turn into a headache. It is also worth noting that the course of pulpitis may be asymptomatic. But still, one can independently determine the presence of pulpitis by the presence of gray-colored enamel of frequent bleeding, dark holes or overgrown tissue in a hole from a caries of a particular tooth, as well as increased tooth sensitivity when chewing. The result of pulpitis in many cases is tooth loss, however, if this inflammatory process is not given proper attention, it can also go to the jaw tissue, and then to sepsis, which is a rather dangerous complication. Pulpitis is a painful inflammation of the pulp - a bundle of vessels and nerves that feeds a tooth. It is located in the pulp chamber of the crown of the tooth or in its canals. Nerve endings with branched blood vessels pierce the dental tissue, passing into the pulp. There are a lot of nerve cells inside the tissue, so their irritation as a result of inflammation and squeezing of the tissues causes very severe pain.

Depending on the degree of destruction, chronic and acute forms of the disease are distinguished. For details on what pulpitis is, see the video below. The pain of the teeth with pulp damage is very strong, as the pulp tissue is pierced by nerves and blood vessels. Inflammatory reaction is accompanied by: Edema and proliferation of pulp as a result of which nerve fibers begin to compress. In advanced forms, the dental nerve is closed by a layer of carious deposits. Often in chronic forms of the development of the disease, when the pain syndrome may not be sufficiently expressed, the carious chamber is combined with the pulp chamber. In this case, the patient encounters unbearable tooth pain only after tartar gets into the pulp chamber or when it is clogged with food. Due to compression and an increase in the size of the edema, necrosis begins. In the chronic form of the disease, part of the coronal tissue located in the canals remains alive. Inflammation of the pulp requires special attention from the patient. Remember that the sooner you consult a dentist, the easier, cheaper and more painless your dental treatment will be. Causes of pulpitis. Inclination of teeth - the doctor does not take into account the position of the pulp chamber when changing the position of the tooth. The doctor’s ignorance of the anatomy of the location of the root canal mouths. Curved, narrow and obliterated canals - when more force is applied to pass them, you can perforate the root wall. The cause of tooth pulp inflammation is always an infection, mainly of a bacterial nature - staphylococcus, streptococcus, lactobacillus. As we have already said, infection, in the process of its life, produces acid, which, together with food debris, destroys the integrity of tooth enamel, after which dentin, and then begins to affect the pulp itself. However, this infection gets into the tooth through the crown, i.e. the visible part of the tooth, but there is also another way of infection - through the apical opening of the tooth, which is the anastomosis of the tooth root, through which blood vessels and nerve endings are brought to the tooth. Consider how the violation of the integrity of the dental "chamber" and the infection getting into it: Caries; Violation of the integrity of the tooth due to improper actions by the doctor (poor-quality filling, tooth turning, surgical intervention in the jaw); Sinusitis, in which the upper teeth can be affected; Fracture of the crown or root of the tooth, children often break their front teeth; Increased tooth abrasion, which is often facilitated by the presence of diseases such as diabetes mellitus or osteoporosis; Incorrectly selected and installed braces; Among other causes of pulpitis can also be identified: Non-observance of personal hygiene rules for caring for the oral cavity; Pulp overheating during tooth treatment; Incorrect dental treatment, including tooth decay; Toxic effect on the tooth filling material; Use in the treatment of teeth of low-quality materials; The presence of infection in the blood. Acute pulpitis is provoked by a variety of irritants. Pulpitis classification. There is a certain classification of pulpitis. For example, according to the localization of the inflammatory process, one can distinguish the following types of disease: coronal; root total. In addition, pathology can also be classified according to the nature of the course: chronic; acute; gangrenous. This classification of pulpitis is the most common and most accurate. Acute pulpitis. It is characterized by an acute course of inflammation with severe radiating pain, worse at night or when the tooth comes in contact with hot or cold. The acute form of pulpitis is divided into the following subspecies: Serous - is the initial stage of pulp inflammation, without the formation of purulent exudate; Focal purulent - is the second stage of pulp inflammation, in which purulent exudate forms in the tooth cavity, and the pain sometimes disappears when the tooth comes in contact with a cold substance; Diffuse purulent. Chronic pulpitis. It is usually a continuation of the development of acute pulpitis. It is characterized by weakened pain with frequent exacerbations. Sometimes it proceeds with minimal symptoms, but pathological processes continue to destroy the tooth. The chronic form of pulpitis is divided into the following subspecies: Fibrous - is the initial stage of chronic pulpitis, which is characterized by proliferation of connective tissue of the pulp, while the inflammation is almost asymptomatic; Hypertrophic (proliferative) - is a continuation of fibrous pulpitis, in which the pulp tissue grows through the carious cavity of the tooth, a fibrous polyp is formed; Gangrenous - characterized by the breakdown of pulp tissue. There is also retrograde pulpitis, which is characterized by infection by pulp tissue through the apical opening of the tooth. Acute Chronic Focal - the initial stage. Fibrous - the result of an acute form. Diffuse is a

complicated form. Hypertrophic - characterized by the appearance of a polyp on the pulp. Purulent - accompanied by the presence of a focus of pus in the tissues of the tooth. Gangrenous is the most dangerous stage. For all forms of the acute category of pulpitis, characteristic attacks of pain will be aggravated by about 9 p.m. Forms and stages In today's medicine, the following acute forms of pulpitis are distinguished: infectious / aseptic pulpitis - by etiology; reversible / irreversible pulpitis - at the end; root / total / coronal pulpitis - by location; diffuse / focal - according to morphological and clinical signs. Focal form Focal acute partial pulpitis is the initial period of inflammation in the tooth pulp. In duration, it takes about two days. In this case, the focus is usually located in that zone of the pulp, which is closest to the cavity of the caries. Pulpitis development process Pulp inflammation is associated with complex changes in the biochemical, structural, and functional nature. The intensity of the disease is primarily determined by the state of reactivity of the body. In addition, the nature of the irritant, the effects of toxins and decay products of microorganisms with biochemical activity, have a sufficient effect on the course of the inflammatory process. A variety of clinical signs and the outcome of the disease depend on these factors. The peculiarity of pulpitis is that the pathological process proceeds in a confined space - the pulp chamber - bounded on all sides by the hard tissues of the tooth. It is for this reason that this disease quickly leads to compression of the pulp, impaired trophism, venous congestion and necrosis. But, regardless of the reasons that caused the inflammatory process, pulpitis develops according to three points: Alteration - the primary change and damage to the tissues of the dental nerve. Exudation is a violation of blood flow in the microvasculature. Proliferation - the reproduction of cellular elements. The root (part of the pulp located in the root part of the tooth) and crown (part of the pulp located in the crown of the tooth) sections of the pulp, due to structural features, respond to inflammation in different ways: in the crown part, exudative phenomena are more pronounced, and in the root - processes proliferation. At the very beginning of the development of the disease, stagnation of fluid in the pulp is compensated by increased outflow of venous blood, but gradually the vascular permeability becomes too pronounced, plasma and blood cells leak into the tooth cavity. Against the background of the appearance of an inflammatory reaction of the pulp, acidity decreases, which further accelerates the development of the pathological process. As a result, the cells of the dental nerve are damaged, irreversible denaturation (decay) of proteins occurs. Exudate, at the onset of the disease having a serous character, quickly turns into a purulent discharge. Swollen tissues, purulent contents and severe hypoxia lead to severe pain and gradual pulp death. The outcome of the acute stage of pulpitis can be different, depending on whether the process is resolved by purulent fusion of the neurovascular bundle, necrosis, or transition to the chronic stage. But, chronic pulpitis has the opportunity to develop independently, bypassing the acute stage. The patient may not even suspect its presence, and the disease is detected when you contact the dentist in order to cure tooth decay. Signs of the disease If you have pulpitis, you do not immediately feel the symptoms. Only a regular dental check-up will help identify and fix the problem at an early stage of development. The disease can manifest itself with different symptoms: Pain (they can have different intensity and type). The inability to eat hot dishes, cold water. Discomfort in the oral cavity. The ability to detect holes in the tooth with the tongue. If you have acute pulpitis, symptoms are felt almost immediately. Therefore, you will have to make an appointment with the doctor very quickly, and in some cases home tooth anesthesia may not be successful. In addition, pathology can develop under a seal, and in this case, you yourself can not do anything. If you have chronic pulpitis, the symptoms may vary slightly. Naturally, pain occurs here, however, the patient does not always consult a doctor, and they can pass over time. In this case, the signs of pathology may disappear, however, tooth damage remains. Most often, the patient complains of a slight discomfort during eating, as well as a short pain while eating hot or cold dishes. If you have fibrous pulpitis, symptoms also include gingival masses, which can have different sizes. In addition, pathology may be accompanied by bleeding, an unpleasant putrefactive odor, and the destruction of enamel. Symptoms The feeling of "failing" the tool. Sore tenderness (if the patient is treated without local anesthesia). Bleeding from the site of

perforation. Prevention consists in the analysis of radiographs before endodontic tooth treatment in order to identify the features of the location and direction of the channels. Excretion of the material at the apex of the root is a frequent complication, but the presence of a large amount of filling material, as well as its excretion into the maxillary sinus (in the treatment of superior premolar and molars) can be dangerous. Such situations can lead to inflammation of the sinus mucosa (sinusitis), and tooth extraction with sinus cleaning from infection may be required. If the patient has no complaints, in most cases such teeth are dynamically observed. Post-filling pains A frequent complication, which can be caused by the removal of material beyond the apical opening, poor-quality filling, and the reaction of periodontal tissues to intervention. The latter option is most common. With an adequately sealed canal, the patient's tooth can be disturbed by pain when biting him. Within two weeks after endodontic treatment (canal filling), pains of various intensities may be present, mainly when a tooth is pressed. Typically, such sensations themselves go away within a few days, but in some cases, pain medications (for example, nimesulide) and physiotherapy are prescribed. We advise you to study: Granulating periodontitis - the clinical picture, diagnosis, treatment stom4you.ru Toothache with pulpitis is the main sign of this disease. By nature, the pain with pulpitis is usually pulsating, often the tooth hurts so much that it seems to the patient as if half of the head hurts. The intensification of pain usually occurs at night, as well as when exposed to cold or hot air or food, temperature changes, chewing food. When tapping, the tooth is insensitive or insensitive. Among other signs of pulpitis can be distinguished: The graying enamel of the affected tooth; Open cavity of the tooth; Bleeding from a tooth; Insomnia; Increased irritability. Pulpitis Complications If pulpitis is not treated, it can lead to the following complications; It is not difficult to recognize pulpitis, but it is difficult enough to determine which form of the disease is present in the patient. Symptoms of inflammation of the pulp, periodontal and periodontal have a certain similarity, which makes the diagnosis more confusing. Objective research methods are also used: Inspection; Percussion; Palpation; Sounding; Thermometry; Electroodontodiagnosis; Roentgenography. During the first visit, the doctor, during the survey, finds out the nature of the pain, anamnesis (course) of life and disease, as well as the general well-being of the patient. An anamnesis of life is necessary to identify factors that may contribute to the development of pulpitis. The survey allows you to imagine an approximate course of development of a pathological condition in a particular person. Objective research methods confirm and clarify the diagnosis made by the doctor, and treatment is prescribed depending on the form of pulpitis and the nature of its course. Diagnosis of pulpitis Diagnosis of pulpitis includes the following examination methods: History taking; Visual inspection of teeth; Survey of the patient about the nature of pain, which is necessary for the differential diagnosis of pulpitis; X-ray of teeth. Only a dentist can diagnose the disease , having studied the anamnesis, after an examination of the oral cavity with tools, electroodontodiagnosis of a disturbing tooth, and x-ray.

7- Practical lesson

Topic: Errors and complications during the treatment of pulpitis in children

1.1. T echnology cal model of the formation

Time employment 4 hours	Number of students 8-1 0
Type of activity	Practical lesson on deepening, expanding and practical implem entation of knowledge.
Plan	1.Mechanical expansion of the root canals in acute pulpitis. 2. Chemical expansion of root canals 3. Drug treatment of root canals. 4. Stop bleeding from the root canals. Drying, root canal filling .
The purpose of the training sessions	To teach students the mechanical and chemical expansion of root canals in acute pulpitis. To train medical treatment of root canals. Teach students how to stop the bleeding from the root kanalov.Obuchit vysushivaniyui sealing root canals.
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting cla sses	Metodi Cesky equipped audience
Monitoring and evaluation crite ria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (10 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening
1. Introduction to the preparation stages (1 0 minutes)	1. Declares the topic, purpose of the lesson, the plan of educational results, justifies their signifi cance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2. Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K.Georgieva- "Emergency assistance in dentistry" 1983 g	Record a subject and listen

2 main step (9 0 minutes)	1. The division of students into 2 small subgroups , asks q uestions on the topic ; 2. Use of slides and multimedia; 3. conducts therapeutic work; 4. Combines all the information on a given topic, actively participate ni their stu dents pooschiryaet and general estimates.	Divided into small groups , watching , participating , listeni ng. Student expresses his opinion c omplements and asks questions
The final stage (10 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Interactive method on the topic: " Bee hive "

Text

Pulpitis is an inflammatory process of soft tissues in the tooth cavity. The acute and chronic course of the disease is distinguished. If left untreated, the inflammatory process progresses, and complications of pulpitis such as periodontitis, periostitis, abscesses and phlegmon, osteomyelitis and amyloidosis occur. The causes of the appearance of the pathology are most often untreated deep caries, spalling of the tooth crown or closed pulp injury.

Acute forms are characterized by periodic pain attacks, which most often occur at night. They intensify under the influence of various irritants. The time of a pain attack is from 20-30 minutes to several hours.

For chronic forms, aching pains are characteristic. They can also intensify when exposed to cold, hot, salty or sweet foods. If untreated, further treatment will require a more complex therapeutic intervention, and in some cases, the removal of a diseased tooth. The inflammatory focus can go to neighboring areas and cause severe pathologies with serious consequences.

The most common pulpitis complications

The inflammatory process initially affects only the coronal pulp. In the future, he moves along the root canals and goes beyond the apex. Inflammation beyond the apical foramen is called periodontitis. This is the main complication of the course of acute and chronic pulpitis.

If periodontitis progresses, and a person does not seek dental care, more serious problems arise:

- Flux . Pathological damage to the periosteum of the alveolar process. It is characterized by the appearance of gingival deformity or the formation of a fistulous course.
- *Osteomyelitis* . This disease is always preceded by periostitis. With osteomyelitis, purulent-necrotic lesion of the bone tissue of the jaw occurs.
- *Phlegmon* . Severe complication in the maxillofacial region. It occurs as a result of the penetration of purulent exudate into the soft tissues of the face. In severe phlegmon, it can cause death.
- *Abscess* . It is a limited inflammatory process of soft tissues. It can precede phlegmon. Symptoms of an abscess are not as severe as with diffuse inflammation.
- *Septic shock or blood poisoning* .

- *Amyloidosis* . The disease develops due to chronic poisoning of the body by the decay products of the inflammatory focus. The clinical picture is a sharp disruption of various organs and systems.

Mistakes and complications in the treatment of pulpitis

A tooth is a complex anatomical formation. Due to the limited access to the pathological focus, it is difficult to conduct quality treatment. Requires very fine tools. Most often, errors and complications in the treatment of pulpitis occur just during endodontic intervention.

Root canals of teeth are difficult to access for mechanical and medical treatment. Of course, modern dental equipment allows you to view the structural features of the root canals under x-rays or ultrasound. But this does not exclude the occurrence of some complications.

Breaking tool

This is a common situation in endodontics. The cause of the breakdown is mainly because the channels are narrow or curved. A doctor's mistake is often associated with improperly selected endodontic instruments.

For example, during machining files or drills are not selected in size and are not used in stages. The breaking of tools occurs in the working part. Either the top of the file or 1/3 of the file remains in the root canal . It is these areas that undergo the greatest wear and have less strength.

For machining to succeed, a good approach to the root canal must be ensured. During the manipulation, the doctor must observe the entire frequency of the technique, especially when it comes to treating a tooth with curved roots.

If a tool breakdown occurs, there are several ways to solve the problem:

- First of all, you should try to extract everything from the root canal. In most cases, this can be done even if the roots are slightly curved and previously they were filled.
- When a part of the instrument remains in the apical foramen, but closes it well, the root canal undergoes further filling. The passable part is filled with a material with an antiseptic effect, and then a permanent seal is placed. The patient must explain the situation to the patient and recommend a physiotherapeutic effect for the preventive purpose.
- When a tool breakdown is combined with perforation, it is recommended to remove it by all possible means. Despite the high-quality antiseptic treatment and special filling material, this complication increases the risk of soft tissue infection.

Perforation of the tooth cavity

In fact, such a complication after the treatment of pulpitis refers to the doctor's mistakes. Perforation of the bottom or wall in the cavity is due to excessive removal of the hard tissues of the tooth. The dentist tries, if possible, to remove the affected enamel and dentin by preparation with boron. Treatment recommendations require removal of hard tissue to apparently healthy areas. Therefore, the doctor struggles to do his job efficiently.

The consequence of the treatment of pulpitis in the form of perforation of the cavity wall is not such a serious complication. The hole is sealed with solid materials, and treatment continues. However, the crown can be perforated even during the examination, for example, with a dental probe due to the fact that the enamel is greatly thinned from the carious process. In this case, the perforation is eliminated after removal of the coronal pulp.

It is more dangerous to create holes in the area of bifurcation or trifurcation of the root system. In this case, the risk increases that the tooth simply bursts in half during further operation. In addition, soft tissues located under the bottom of the tooth cavity can be injured. If this happens, then an inflammatory process develops due to infection of the periodontal tissues by the pathogenic microflora.

This complication is possible for several reasons:

- *Medical error.* The doctor did not take into account the anatomical features of the location of the mouths of the root canals.
- *The inclination of the teeth.* During treatment, the position of the pulp chamber must be taken into account, especially if the placement of the teeth has changed due to anomalies in the structure of the maxillofacial region.
- *Root canal obliteration.* In certain cases, they can grow on their own. The doctor during the preparation tries to find the mouth of the canal. As a result, with prolonged drilling, perforation outside the cavity occurs.
- *Strong root curvature.* Such a pathology leads to a change in the shape of the coronal part. That is why an X-ray examination before treatment is so important.

Removal of filling material beyond the apical opening

Filling a treated tooth with pulpitis is no less an important event than preparation. The outcome of treatment directly depends on its quality. Withdrawal of material for apex, unfortunately, is a frequent complication. In this case, after treatment of pulpitis, physiotherapeutic procedures and antibacterial drugs are prescribed. If they do not help, then the tooth has to be removed.

It is especially dangerous when filling some groups of teeth on the upper jaw. This applies mainly to premolars. Their roots can be located very close to the maxillary sinus. With excessive injection of filling material, it can get into it and cause inflammation - sinusitis. It is extremely difficult to treat the disease, often it is necessary to carry out additional surgical intervention.

Periodontal tissue burn with chemicals

Many dental products, if used improperly or for a long time on soft tissues of the oral cavity, can cause severe damage. The most dangerous substance is arsenic acid. It is used in the treatment of pulpitis by the devital method. After applying arsenic paste, the doctor must tightly close the tooth cavity with artificial dentin. For the best effect, a cotton ball moistened with an anesthesin solution should be applied over the material, and then a temporary filling should be placed.

It is recommended that the patient try not to chew on the side of the treated tooth, at least while the arsenic paste is in it. It is necessary to carefully brush your teeth in this area and not use toothpicks.

In the event of a temporary filling, it is necessary to remove its residues from the tooth and consult a doctor. To prevent burns with arsenic acid, treat the affected area with hydrogen peroxide and sprinkle with burnt magnesia. Lubrication of the mucous membrane with diluted tincture of iodine is allowed.

A more serious complication is arsenic periodontitis. Usually, paste for devitalization of pulp is usually applied for no more than 48 hours, after which it should be removed. If left for a longer period, aggressive acid will penetrate beyond the apex of the root and cause inflammation of the apical tissues. Against arsenic anhydrite there is an excellent antidote - this is a 5% solution of Unithiol. It helps not only neutralize acid, but also partially anesthetize, and also have an antiseptic effect.

Complications after pulpitis treatment

Even after the tooth is filled with quality, certain problems are not excluded. Their occurrence is associated not only with the mistakes of the doctor, but, for example, with the duration of the course of the disease.

Following pulpitis treatment, the following complications may occur:

- loss of seal;
- fracture of the tooth crown due to a significant thinning of its carious process;
- development of periodontitis;

- the formation of localized gingivitis and periodontitis due to the pressure of an overhanging seal on the soft periodontal tissues;
- discoloration of the enamel of the treated tooth.

Most often, pain after filling is observed, especially in the early days. Such complaints are made up to 90% of patients.

Pain after filling

Unpleasant sensations may be associated with the removal of the filling material beyond the apical hole. Today, these are quite rare consequences of pulpitis, since filling is carried out mainly under visual observation, using special equipment.

It is worth considering that endodontic intervention is a certain micro-operation. A pulp of a tooth is a living tissue rich in vessels and nerves. During its removal, trauma to these formations occurs. Post-filling pains are nothing more than a soft tissue reaction to surgery.

Another reason for the pain reaction after filling may be precisely poor-quality filling of the root canal with material and the multiplication of pathogenic microflora. The development of the inflammatory focus may also be associated with poor antistatic treatment of the canal.

Most often it is the reaction of the body to remove the pulp. In this case, complaints of minor pain appear when biting on the tooth, during meals, drinking cold or hot drinks.

Painful reaction for many occurs with a sharp change in ambient temperature. If a person has been in the cold for a long time, and then went into a warm room, discomfort begins to appear in the tooth. Typically, these phenomena persist for 14-20 days, then slowly decline. However, further unpleasant sensations, for example, after hypothermia, are not excluded.

Dental tissue is a good thermal conductor. While there is pulp in it, the thermal conductivity of enamel and dentin is reduced due to the protective functions of this soft tissue. In its absence, protection is impaired, hard tissues are quickly cooled and transfer this effect to the ligamentous apparatus surrounding the root. As a result, an attack of aching spilled pain appears.

If such problems are very worrying, you should consult a dentist. The doctor will help you choose the right and effective medication, and if necessary, prescribe a course of physiotherapy procedures. When slight discomfort is observed, it is recommended to take simple painkillers (Analgin, Nimesulide).

Complications after the treatment of pulpitis, unfortunately, are not rare. This is due not only to errors in the work of the doctor, as is usually considered. A lot depends on the duration of the disease and the structural features of the maxillofacial region. Of great importance in the success of treatment is the timely appeal of the patient to the clinic for help.

With prolonged treatment of pulpitis, serious complications are possible, leading to tooth loss. This must be taken into account for those who are fond of non-traditional methods of getting rid of the problem. Effective treatment of pulpitis can only be done by a qualified specialist.

8- Practical lesson

Topic: Errors and complications in the diagnosis and treatment of diseases periodontitis in children

1.1.T echnology cal model of education

Time employment 4 hours	Number of students 8-1 0
Type of activity	Practical lesson on deepening, expanding and practical implem entation of knowledge.
Plan	1. Features of the clinical course of chronic pulpitis in children. 2. Filling of root canals with canal fillers.
The purpose of the training sessions	To study the features of the clinical course of chronic pulpitis in children. Train students in root canal filling with canal fillers.
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for conducting cla sses	Metodi Cesky equipped audience
Monitoring and evaluation crite ria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (10 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening
1. Introduction to the preparation stages (1 0 minutes)	1. Declares the topic, purpose of the lesson, the plan of educational results, justifies their signifi cance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2. Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K.Georgieva- "Emergency assistance in dentistry" 1983 g	Record a subject and listen
2 main step (9 0 minutes)	1. The division	Divided into small groups , watching , participating , listeni

	of students into 2 small subgroups , asks q uestions on the topic ; 2. Use of slides and multimedia; 3. conducts therapeutic work; 4. Combines all the information on a given topic, actively participate ni their stu dents pooschiryaet and general estimates.	ng. Student expresses his opinion c omplements and asks questions
The final stage (10 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Interactive method on the topic: “Bee hive”

T No lyrics

The desire to preserve the tooth in acute and chronic inflammation of the periodontium from ancient times has prompted many researchers to search for the perfect diagnostic methods and therapeutic effects on the focus of inflammation.

Classification of periodontitis. Three groups of periodontitis are distinguished with the course - acute, chronic and exacerbated chronic. Acute periodontitis by the nature of the exudate is divided into serous and purulent, and by localization - into apical, marginal and diffuse; chronic - on fibrous, granulomatous and granulating. This classification fully reflects the essence of the course of pathology in the periodontium.

Despite the fact that the diagnosis of periodontitis is well developed, nevertheless errors are made during the diagnosis. They occur when they do not differentiate diseases of the marginal (marginal) and apical (apical) periodontium; errors are usually associated with an incorrect assessment of the symptoms of inflammation of the marginal periodontium. Checking one symptom (pain with lateral percussion of the tooth), which is not clearly expressed, the doctor does not attach any importance to it. At the same time, a thorough x-ray examination, examination of the periodontal pockets show in these cases the presence of a process at the edge of the periodontium.

With an X-ray examination, it is sometimes difficult to differentiate periodontitis from periodontitis. Identification of the etiology and pathogenesis of the disease, determination of tooth resistance, dynamic observation allow you to correctly establish the diagnosis.

It is clinically difficult to distinguish primary acute periodontitis from exacerbated chronic. In this regard, there may be errors in the diagnosis of apical periodontitis. It is necessary to decide which periodontitis is acute or an exacerbation of a chronic one, as their treatment is different. To establish a final diagnosis, X-ray examination is crucial: if there are no pronounced changes in the bone, then the process is acute and developed for the first time; if there are abnormalities in bone pattern, rarefaction areas, and expansion of the periodontal gap, then a chronic process is diagnosed in the acute stage. Sometimes the clinical and radiological data are inconsistent - with a sharply expressed clinical picture of exacerbated chronic periodontitis in the radiograph, the apical focus is weakly expressed and vice versa.

It is not easy to establish a diagnosis of periodontitis of multi-rooted teeth. It is known that in chronic periodontitis in some roots, the pulp remains alive and even slightly changed. In such cases, combined treatment methods are used.

In order to prevent errors in determining the condition of the pulp in chronic periodontitis of multi-rooted teeth, it is necessary to study the pulp in each channel by electrometric and thermal methods, as well as analyze radiological data. Very carefully you need to conduct a study of the teeth of the upper jaw. In inflammatory processes in the maxillary sinus, the same symptoms in the palate can be as with periodontitis. Only a thorough examination and the exclusion of signs characteristic of sinusitis and processes in the sky helps to avoid errors in the diagnosis of periodontitis.

Complications of acute or exacerbated chronic periodontitis are periostitis and acute odontogenic osteomyelitis. In a number of patients, differential diagnosis between periodontitis and its complications presents significant difficulties, however, it is necessary for the correct choice of therapy.

The inflammatory process with periodontitis has clear boundaries; it captures the periodontium of the affected tooth and the surrounding bone tissue of the alveoli, edema is limited to the gum. And jaw periostitis is an acute abscessing inflammation of the periosteum of the alveolar ridge. A characteristic feature of periostitis is pronounced collateral soft tissue edema, causing facial asymmetry and spreading far beyond the focus of inflammation. If periostitis has developed on the vestibular surface of the upper jaw, then there is swelling of the lower eyelid, sometimes the upper, cheek, and upper lip. With the localization of periostitis in the lower jaw, edema of the lower lip, cheek, soft tissues in the submental and submandibular region is determined. In cases of acute purulent or exacerbated chronic periodontitis, only the smoothness of the contours of bone tissue due to reactive inflammatory changes in the periosteum is determined.

Acute osteomyelitis of the jaw is determined primarily by the features of the clinical course and the characteristic x-ray picture - the presence of gross bone lesions leading to necrosis and sequestration of individual sites. The clinical picture is characterized by acute, boring, shooting pain in the jaw, insomnia, lack of appetite, difficulty swallowing, high temperature, often reaching 39-40 ° C, with significant fluctuations and accompanied by chills, delirium. The face is asymmetric due to collateral edema, the tongue is overlaid, sharp pain in several teeth, their mobility, enlarged and painful regional lymph nodes. In the blood: ESR 40-70 mm / h, leukocytosis, a shift of the leukocyte formula to the left, the disappearance of eosinophils, a decrease in lymphocytes to 10-15%, the content of albumin decreases and alkaline and ag globulins increase. The test for C-reactive protein is positive. In 7-10

days, the bone rarefaction zone is determined according to the size of the focus of osteomyelitis. With knowledge of this symptomatology and an individual approach to each patient, the doctor will not make mistakes in the differential diagnosis of acute and exacerbated chronic periodontitis and their complications - periostitis and osteomyelitis.

Apical periodontitis. The apical periodontium is closely connected with surrounding tissues, neighboring teeth, has a branched network of nerve fibers and blood vessels, and therefore, periodontal lesion symptoms can also occur in a number of diseases of the alveolar ridge (interdental septum), adjacent teeth, soft tissues, neuralgia, etc. in difficult cases after 2-3 days it is necessary to conduct a second examination.

In order to avoid errors in diagnosis and treatment, it is first necessary to understand the causes of pathological changes in tissues around the apex of the root. All attention should be paid to the condition of the pulp. It is necessary to find out where the disease originated — from the apex of the root due to pulp damage or the process spread from the marginal periodontium over the course. It is important not to miss the hidden carious cavity. signs, such as a reaction to cold and heat, chemical irritations, soreness during probing, sensitivity during exertion.The absence of such phenomena in the area of other teeth is valuable for differential diagnosis.

A dentist is faced with great difficulties when it is necessary to establish to what extent apical periodontitis is a hotbed of latent infection and to what extent it is not currently showing clinical symptoms, but has an effect on the body. The focus of infection should be understood as localized chronic inflammation, possibly subjected to drug exposure, but capable of causing or causing a pathological reaction of the body or damage to individual organs and systems. The focus of infection is not only the accumulation of microbes, their metabolic products and the breakdown of tissue elements that are antigens, but also a constantly reflex focus of irritation of nerve receptors.

In order to avoid mistakes in resolving the danger of latent infection with periodontitis, it is necessary first of all to proceed from the possibility of eliminating the lesion by conservative methods and preserving the tooth.

Experience shows that with all types of periodontitis, the use of modern methods of instrumental and drug treatment of root canals and filling them at the root apex eliminates the infectious focus. However, if after treatment there are phenomena of periodontitis, as well as leukocytosis, low-grade fever, elevated ESR, positive tests, then the tooth should be removed.

Conservative treatment of chronic apical periodontitis is considered full-fledged in cases when the cured tooth functions normally, the root canal is filled throughout and the signs of restoration of the bone structure are determined on repeated radiographs. Re-examination of the patient is very important to establish the desensitizing effect of the treatment, its beneficial effect on the state of nonspecific resistance of the body and the permeability of capillaries.

Diagnostic tools at the doctor's disposal make it possible to correctly and timely diagnose apical periodontitis and evaluate its value as a hidden infectious focus in the oral cavity.

Despite the well-developed methods for the treatment of periodontitis, during instrumental and drug treatment of root canals, their filling, errors are made that entail various complications or the need to remove a periodontitis tooth. All errors and related complications that arise during the treatment of periodontitis can be divided into the following groups: 1) perforation of the tooth cavity; 2) perforation of the walls of the root canal; 3) the formation of a step in the root canal; 4)

aspiration or ingestion of the instrument; 5) the development of emphysema; 6) breaking off the tool in the channel; 7) periodontal irritation with potent drugs; 8) exacerbation of the removal of filling material; 9) incomplete filling of the channel; 10) deep removal of the pin; 11) formulation of an incorrect diagnosis by x-ray.

When preparing a tooth cavity that is inclined towards the dentition defect or is displaced in the lingual or buccal direction, perforation of the side wall of the cavity can occur. As a rule, this occurs when the position of the boron is incorrect (the axis of the tooth is not taken into account). Perforation is not a big danger. It is eliminated simultaneously with the seal. If the bottom of the tooth cavity is perforated during the search for the mouth of the root canal, then after the canals are sealed, the bleeding from the perforation hole is stopped (cauterized with phenol, resorcinol or a hot plug), cover it with a piece of amalgam and fill. It is much more difficult to eliminate a large perforation hole formed at the bottom of the cavity in the area of root bifurcation with improper preparation of the tooth cavity or removal of an unorganized, tightly welded denticle. In this case, two treatment options are used: 1) the perforation hole is closed in the same way as when the perforation was closed in the area of the canal orifice, 2) separation (separation of the roots), hemisection of one of the roots in the upper premolar or lower molar molars, or coronoradicular amputation in molars of the upper jaw.

Perforation of the walls of the root canal can occur if it is improperly machined (the axis of the tool does not coincide with the axis of the root canal), which is more often observed when using a machine drill or a large-caliber tool that does not correspond to the shape of the canal. In addition, perforation of the channel wall can occur near the mouth of the channel when trying to expand it

with a bur or a reamer to a depth of more than 3 mm. In this case, at the site of perforation, the damaged periodontium usually bleeds, so the defect is clearly visible.

During perforation of the wall of the root canal, bleeding can be observed, which is stopped in the same way as during perforation of the tooth cavity, after which the perforation hole is tightly plugged with a small cotton ball, and the channel below the perforation is filled with cement or hardening paste. Then the cotton ball is removed, the mouth of the channel with the perforation hole is filled with an amalgam. When a false path is formed in the middle and lower third of the canal, they try to find, go through, and instrumentally and medically process the true root canal. At the moment of filling the true root canal, the filling material during condensation falls into a false path and fills it throughout.

Closing the perforation hole with a silver amalgam is considered ideal, but if there is no amalgam, then the perforation hole can be closed with any hardening paste (for example, resorcinol-formalin), which is used to seal the channels.

The formation of a ledge in the root canal during its instrumental processing is a medical error. This can happen for two reasons: 1) access to the root canal was made incorrectly and the instrument was not going to the apex in a straight line, 2) straight or too thick instruments were used in the curved canals. The possibility of unexpected anatomical deviations of the channel is also possible. When the step is formed, the doctor loses the feeling of the passage of the root canal and feels that the tip of the instrument has come up against an obstacle and does not budge. In this case, the tool is not jammed, it rotates freely in the channel. To determine the location of the ledge, you need to take an x-ray.

Removing such an obstacle is quite difficult. To this end, they take a thin drill or drill No. 2, the working end of the tool is bent at an angle and inserted into the channel so that its tip is pressed against the wall opposite the ledge. With careful rocking and rotation, they try to move the tool further. If the tool extends over the entire working length, then take the next tool in diameter and bring it to the apex. After that, to determine the position of the tool, a contact x-ray is taken, and then the channel is ground with vertical movements, pressing the tool blade against the ledge. When working in the channel, it is necessary to constantly monitor the working end of the tool so that it is not straight and does not rest against the ledge.

Aspiration or ingestion of the instrument. If the instrument is poorly fixed or the instrumental processing of the canal was careless, with an involuntary movement of the patient’s tongue, the instrument may fall out of the doctor’s fingers and fall into the bronchi or esophagus during inspiration or swallowing. Most often this happens when working in the canals of the lower premolars and molars, and also when the patient is referred for radiography with a needle poorly fixed in the root canal. These complications must be constantly remembered and simple precautions must be taken - never a single tool can be left in the tooth without fixation.

A. I. Rybakov (1976) draws the attention of doctors to the seriousness of this complication and the measures for its prevention. Several cases of aspiration and ingestion of instruments are described by D. Svrakov and B. Dachev (1978). These complications are fraught with serious consequences that go beyond the competence of dentists. In such cases, the dentist must immediately seek the help of other specialists - an otolaryngologist or surgeon. Based on the X-ray examination, the localization of the swallowed or aspirated instrument is established, after which the necessary treatment method is selected, up to surgery.

When swallowing a tool, a special diet is prescribed, which includes potatoes, peas, jelly, liquid cereals. These types of food increase the possibility of separating the instrument from the fixation sites and moving it along the digestive tract. For several days, X-ray control is necessary. If the instrument is in one place on X-ray photographs for 3-8 days, then a decision is made on the surgical intervention to remove it. Of course, with such a complication, in addition to

physical damage, the patient is subjected to severe mental trauma. In this regard, it should be recalled once again that the dentist should be extremely focused on the instrumental processing of root canals, not be distracted by conversations with the patient and colleagues, and not for a moment not let the tool out of his hands.

After instrumental treatment of the root canals *, air guns are used to dry them. Compressed air passes with great force into the root canals, penetrates through the apical opening and causes subcutaneous emphysema of the face and neck (a wide apical opening contributes to this). At the same time, microbes from the tooth get into the hypodermic base with air flow, it becomes infected, which can lead to serious consequences, up to mediastinitis, therefore only impassable or previously sealed canals can be dried with air.

During manipulations in the root canals with improper load on the tool, discrepancy between the axis of the tooth and its direction, breakage of the drill, pulp extractor or root needle may occur. Damage to the instrument during processing of the canal is not a serious complication, but aspiration or ingestion of a fragment of the instrument is a serious complication. Therefore, measures should be taken to remove the fragment or (in some cases) preserve it in the canal. A free-lying fragment protruding into the cavity of the tooth is captured with beak-shaped forceps, tweezers, a clamp or other instrument and is usually easily removed. But if the end of the fragment is below the mouth of the root canal, then it cannot be captured in this way. To remove fragments of core tools from the root canal, a domestic set is used, consisting of tongs with narrow lips, collet tongs and trepone burs. The fragment stuck in the root canal is removed using a collet tool, which allows to overcome a certain resistance during extraction. If it is not possible to capture the fragment using boron-trepan, hard tissues are drilled around the fragment, and then the end of the fragment is captured with collet forceps. Instead of collet forceps, the doctor N.F. Baking tray (1970) proposed the use of an injection needle with a drill screw screwed into it. A cut-off injection needle is put on the end of the fragment and screwed into it drilllbor. With a little effort, the drill drill presses the end of the fragment to the wall of the needle, firmly wedges it, and then the doctor freely removes the fragment. Fragments of the instrument remaining in the middle and apical part of the root canal, as a rule, cannot be removed.

If a tool fragment cannot be removed using the described methods, then you can try to get near it with a drill or a drill and pulling yourself, pulling the tool firmly against the fragment, try to remove it. If it is not possible to remove the fragment, electrophoresis of the potassium iodide channel (in single-rooted teeth) or 5% alcohol solution of iodine (in multi-rooted teeth) is recommended and the passable part of the canal is filled with zinc-oxyevgenol or resorcinol-formalin paste. Sometimes it is possible to go through the top of the root with a drill, next to the fragment, to expand and seal the root canal well.

In the presence of clinical indications, when the end of the fragment protrudes beyond the apex into the periapical tissue, an incision is made on the gum, trepanation of the jaw over the fragment of the instrument and try to remove the fragment through this opening. If you cannot remove it, then you need to resect the apex of the root (in single-root teeth of the upper jaw). In the presence of a fragment of the instrument in one of the roots of multi-rooted teeth and rarefaction in the apex of this root, hemisection or coronoradicular amputation can be performed. If there is a fragment of the instrument in the root canals, the prognosis is favorable in cases of extirpation of the root pulp and if the tooth is depulped and there is no rarefaction at the root apex, but if there was a rarefaction area before treatment, the prognosis is favorable in less than 50% of patients.

To prevent breaking of the instruments in the canal, the doctor must observe the following rules: 1) use high-quality instruments made of stainless or carbon steel;

2) use only sharp tools;

3) carefully inspect the tool blades before, during and after work to identify deformations;

4) use pulp extractors 1-2 times, root drills and drills - 2-5 times, root rasps and reamers - 5 times or more;

5) comply with rotation angles for pulp extractors, drills, drills and rasps when working in corridor channels;

6) apply drills and drills in a strict sequence of calibers, without “jumping” over size;

7) do not use a tool with a bend at an acute angle;

8) do not use tools covered with rust or * burnt on fire;

9) operate the tool only in a "wet environment".

A common mistake in the treatment of periodontitis is insufficient opening of the apical foramen. This is especially important in the treatment of acute periodontitis, when serous exudate or pus accumulates in the periapical tissues. Instrumental cleansing of the canal without sufficient opening of the apical (apical) opening not only does not bring relief, but also contributes to the spread of the process to adjacent tissues. The appearance of pus or exudate from the canal indicates that the apical opening is open. A clear mistake when opening the apical foramen of the tooth is the deep and sharp advancement of the needle into the periapical tissues. In this case, pushing the infected contents beyond the apex of the root, periodontal injury and opening of the maxillary cavity (in the treatment of lateral teeth of the upper jaw) are possible.

Some doctors, relying on the omnipotent effect of medicines, neglect thorough instrumental processing of the canal, which is a mistake. However, they also make mistakes during drug treatment of root canals, using powerful agents for their treatment that cause periodontal irritation (high concentrations of formalin, formaldehyde formalin, silver nitrate, etc.). Clinically, this complication is manifested by mild pain, which appears mainly when biting on a diseased tooth. In these cases, a substance should be left in the canals that does not irritate the periodontium (eugenol, antibiotics with enzymes), as a result, the pain usually subsides and the tooth can be sealed in the second or third visit. Currently, instead of potent drugs, it is recommended to use antibiotics with enzymes that dissolve the contents of the channels well and have a beneficial effect on periodontal tissues. When using enzymes, the following errors are possible: 1) the use of enzymes with increased sensitivity to them; 2) the use of enzymes with an expired shelf life; 3) the use of enzymes when they are no longer effective; 4) the simultaneous use of enzymes and potent substances.

Enzymes are very sensitive to various substances. The worst mistake is the use of enzymes along with potent substances that inactivate them.

Particular attention in the treatment of periodontitis must be paid to teeth that do not withstand hermetic closure. Often a similar condition occurs with * insufficiently complete passage of the root canal. After the expansion of the root canal and its drug treatment, pain does not occur after the application of an airtight dressing. However, sometimes an exacerbation of the inflammatory process can occur with a well-traveled canal, as soon as a hermetic dressing is applied to the tooth. In this case, it is necessary to appoint an electrophoresis or apply a drainage bandage. After its antiseptic treatment on the root needle, a turunda with a medicinal substance is introduced into the root canal, and then, without removing the needles, a bandage of artificial dentin is applied. After hardening of the dentin, the root needle is removed, and the bandage is held with a cotton swab. Drainage in the bandage can be done after its application, making a hole in it with a probe. After 1-2 days, the turunda is replaced and an airtight dressing is applied.

In single-rooted teeth that cannot withstand hermetic closure, it is also advisable to immediately fill the root canal with phosphate cement with the preliminary introduction of an antibiotic through the root canal or into the transition fold (100 LLC — 200 LLC ED of penicillin diluted in novocaine).

The treatment of periodontitis is often accompanied by post-filling pain associated with the direct effect of the filling material on periapical tissues or its excessive excretion. As a rule, the pain is aching or pulsating in nature, the reaction of the tooth to percussion is sharply painful. It is noted that pain after filling the canal with phosphate cement is less intense and lasting (for several days) than pain after filling with zinc-hydroxyevgenol or resorcinol-formalin pastes, sometimes lasting up to 7-10 days. In this case, pain is noted with vertical percussion and palpation, swelling of the gums, the appearance of the fistulous course. Some doctors make a gross mistake while trying to unseal the root canal, however, remove the filling

mass is impossible. Cold rinses with decoctions of herbs (chamomile, sage, St. John's wort), physiotherapeutic treatment (UHF-therapy, darsonvalization, fluctuation), novocaine blockade, injection of hydrocortisone into the transitional fold in the area of the treated tooth are recommended to eliminate post-lump pain. In cases where it is not possible to stop the inflammatory process by these means and an abscess occurs on the gum, it should be opened and an iodine-shaped turunda or rubber graduate (drainage) should be left for 1-2 days. Incisions in all cases lead to the rapid elimination of exacerbation of the inflammatory process.

Significantly less often (in cases of using a large amount of phosphate cement or other filling material with insignificant destruction of the periapical tissues), patients experience long-term pain during palpation of the gums and sometimes pain when biting on a tooth that is filled. Often on the gum in the area of such a tooth, a fistulous passage opens.

A serious, although rare complication is the ingress of filling material (paste or phosphate cement) into the mandibular canal when filling premolar and distal canals of the roots of molars of the lower jaw. This complication leads to irritation and compression of the nerve trunk, which is accompanied by numbness of the skin of the chin and maxillary soft tissues on the corresponding side. The prognosis in this case is unfavorable, since physiotherapy and other anti-inflammatory treatment, as a rule, do not give the desired effect. The only appropriate treatment in this case is electrophoresis of lidase of the gingival mucosa according to the projection of the apex of the root of the treated tooth; in the absence of effect - the removal of a foreign body.

When treating periodontitis, one more mistake should be remembered - about not bringing the filling material to the apical hole, i.e., about incomplete filling of the root canal. To resolve the issue

the feasibility of treating such a tooth requires an x-ray, which determines the degree of filling of the canal and the nature of the filling material. The question is most simply resolved if there are non-hardening pastes in the channel (iodoform, zinc-glycerin, etc.), their removal is not difficult. It is much more difficult to remove hardened resorcinol-formalin paste from the tooth canal, and even more so - phosphate cement.

If the channel is sealed only on XU-7s or less, then it can often be sealed. The roots of single-rooted teeth, cemented with cement at 2/3 or 3JI length of the canal, it is desirable to resect. In order for the canal to be completely sealed, it is necessary to seal it not with the root needle, but with the canal filling under the control of radiographs.

In the treatment of periodontitis of the upper jaw, a deep pushing of the filling material into the maxillary sinus is possible, which is a gross mistake. This can occur due to an abnormality in the relationship of teeth with the maxillary sinus, with inflammatory purulent processes in the periodontium, when the lower sinus wall is thinning. The pushing of the filling material can also occur during rough advancement of the material along the channel. After pushing the filling material under the periosteum of the jaw, a subperiostal abscess develops. Measurement of the channel with a needle (depth gauge), x-ray control, gentle work can avoid such errors.

Complications in the treatment of periodontitis can occur if the diagnosis is incorrect as a result of an incorrect assessment of radiographs, when normal anatomical formations, as a result of an

unsuccessful 'projection, are superimposed on the apex of the tooth root and are taken as a pathological focus. For example, applying a chin hole to the apex of the root of the first or second premolar of the lower jaw or when the incisive hole is projected onto the root of the central incisor of the upper jaw.

Often, the low located maxillary sinus is mistaken for a periapical cyst. In order to avoid this and not mistakenly injure the crown of a healthy tooth, it is necessary to carefully study the clinical condition of the tooth itself, and in the x-ray - periodontal gap throughout the tooth root. The diagnosis of chronic periodontitis or root cyst is excluded if, against the background of the maxillary sinus, a periodontal gap is clearly visible around the entire root of the tooth. In cases where there is a pathological lesion in the periodontium, against the background of darkening of the maxillary sinus, an additional lesion is visible associated with an unchanged periodontal gap.

An even more serious mistake is made by those who, for a pathological formation (granuloma), take the sprout zone in the incompletely formed apex of the tooth root.

When filling root canals with a pin, the pin must not be moved too deep beyond the tip of the tooth, since it constantly injures the teeth.

It is unacceptable to fill the root canal with one pin without phosphate cement, since when the root canal and the apex of the root are not completely closed, the canal and paradental tissues are reinfected, which inevitably leads to an increase in the pathological focus. At the final stage of treatment, improper application of a filling on the contact surface of the tooth leads to papillitis or even marginal periodontitis with resorption of the top of the alveolar septum ..

In the treatment of periodontitis, errors can be made in determining the indications of the limit of conservative treatment. However, after the introduction of modern methods of treatment of periodontitis (antibiotics with enzymes, glucocorticoids, protein anabolizers, diathermocoagulation, UHF, etc.), the limits of conservative therapy have expanded significantly. However, in certain situations, conservative methods are contraindicated and their use can only compromise the method. This is especially often observed during single-session treatment methods, which have their own strict indications.

The main criterion for evaluating periodontitis treatment methods is long-term results (from 3 to 6 years), obtained on the basis of a clinical x-ray check. It was established that already 3 months after a quality root canal filling, partial restoration of bone tissue in the periapical region is observed, after 6 months a significant restoration of bone tissue is observed , and after 12 months its restoration is almost complete. Long-term results of treatment at a later date (3 years - 7 years) indicate a significant percentage (80 - 90t) i favorable outcomes. With inferior root canal filling at the same time, there is a significantly larger number of cases of progression and stabilization of the pathological process and much less cases of bone restoration.

The observations of many researchers on the study of the long-term results of treatment of periodontitis convincing * • io showed the advantages of therapeutic methods over surgical ones, so all existing therapeutic methods should be used and only in case of failure go to surgical ones. Surgical treatments for periodontitis should only be used when it is not possible to go through the canals and seal them.

In addition to the listed errors that are allowed in the treatment of periodontitis, the most significant is the duration, multi-session treatment - instead of protecting the periodontium from irritation and the influence of harmful factors as soon as possible, the doctor infects the canal and periodontal tissues more and more with each visit. As a result, existing products are ineffective, and the tooth must be removed soon after such a “treatment”.

In the literature, there are various data on the long-term results of treatment of periapical inflammation depending on the duration of treatment (number of visits). Most authors believe that

the timing of endodontic treatment does not matter for the restoration of the destructive focus in the periodontium. Varying the duration of treatment is mainly associated with the bacteriological status of the root canals, reflecting the effectiveness of the use of one or another antibacterial drug. The terms of treatment are determined by the volume of endodontic intervention per visit (per visit), the presence or absence of complications. That is why the timing of treatment does not have a significant impact on the regeneration processes, but are only indirect in nature.

I would like to end the section with the words of A. I. Rybakov (1976): "The treatment of periodontitis is a great art, it should be widely introduced into the practice of dental institutions. The introduction of specialized periodontitis treatment rooms> A & й will only improve the state of affairs of specialized care, but also prevent mistakes in the treatment of periodontal diseases. "

9- Practical lesson

Topic: Errors and complications in endodontic treatment root canals in children

1.1. T echnology cal model of the formation

Time employment 4 h our and	Number of students 8-1 0
Type of activity	Practical lesson on deepening, expanding and practical implementation of knowledge.
Plan	1. Changes in the structure of tissues periodontal in the children's age and their role in the clinical course of periodontitis. 2. Features of the clinical course, differential diagnosis in acute periodontitis .
The purpose of the training sessions	Explore and exert them, I have the structure of tissues periodontal in the children's age and their role in the clinical course of periodontitis .Obuchit students about Sobienie pits clinical course, diff erential oh diagnostics ie acute periodontitis .
Teaching methods	Conversation, visual aids for lectures
Type of activity	general - collective
Visual aids on the topic	Educational allowance , lecture material , a projector, a computer
Environment for cond ucting classes	Metodi Cesky equipped audience
Monitoring and evalu ation criteria	Oral survey

1.2. Technological chart of a practical lesson

Work stages	Teacher	Student
Preparation stages (5 minutes)	1. Observe the cleanliness of the cabinet 2. Check students' readiness 3. Check the performance of students	Are listening

1. Introduction to the preparation stages (5 minutes)	1. Declares the topic, purpose of the lesson, the plan of educational results, justifies their signifi cance and relevance. It brings to the attention, that the classes will be conducted with the use of collaborative technologies 2. Literature on the subject N.V. Kuryakina - “Therapeutic dentistry children's age " N. Novgorod 2001 • T.F. Vinogradova - “Dentistry for children” 1987 • N.G. Pakhomov- "Primary prevention in dentistry" • E.V. Borovsky - "Therapeutic dentistry" 1997. • Yu.I. Vorobyov-X-ray of teeth and jaws 1990 g. • K.Georgieva- "Emergency assistance in dentistry" 1983 g	Record a subject and listen
2 main step (25 minutes)	1. The division of students into 2 small subgroups , asks q uestions on the topic ; 2. Use of slides and multimedia; 3. conducts therapeutic work; 4. Combines all the information on a given topic, actively participate ni their stu dents pooschiryaet and general estimates.	Divided into small groups , watching , participating , listeni ng. Student expresses his opinion c omplements and asks questions
The final stage (5 min utes)	1. Conclusion . 2. Independent work . 3. Home task .	Listen to Record Conclusion

Inta raktivny method on the topic: "bee hive"

Questions on the topic:

Text

Errors and complications in endodontic treatment
Classification of errors and complications in endodontic treatment

II. Errors in the diagnostic phase:
- In the presence of facial pain radiating to a particular tooth.
- Incorrect interpretation of radiographs.

II . Errors at the treatment stage:
1. At the preparatory stage:
d) Root canal infection

e) Lack of adequate access to the mouth of the root canal
f) Perforation of the bottom and walls of the tooth

2. In the process of machining the root canal:
- Incomplete root pulp removal
- Obstruction of the lumen of the root canal with dental filings
- The formation of an apical ledge with channel curvature
- Excessive lateral expansion of the middle third of the channel along the internal curvature of the root
- Perforation of the walls of the root
- Destruction of anatomical narrowing

Channel fracture

3. In the process of root canal filling
- Inhomogeneous, insufficient filling of the lumen of the channel
- Removing filling material beyond the apical foramen

Longitudinal root fracture.

Facial pain radiating to the teeth

Many doctors find in their practice neuralgia II , III branches of the trigeminal nerve, glossalgia. Often, the patient indicates a "causal" tooth, requiring treatment or removal. In such cases, the criterion for the need for treatment or removal is a thorough clinical examination using odontometry. If neuritis, neuralgia is suspected, a neurologist consultation is necessary.

X-ray errors

Incorrect interpretation of radiographs may be associated with the imposition of the contours of the maxillary sinus, incisal and mental openings. The continued continuity of the periodontal gap at the apex of the root indicates that this tooth is not the cause of destructive changes. The most important thing is to determine the state of the tooth - electrodiagnostics.

Root canal infection

The penetration of microorganisms into the root canal can occur due to sparing preparation under pressure on the coronal pulp, with careless amputation and removal of tissues from the wellhead. The development and reproduction of microbes is possible due to the reuse of tools, including hogs, excavators. In the prevention of this complication, great importance is attached to the thorough isolation of the surgical field. Before instrumental treatment, it is advisable to completely excise carious dentin from the walls of the carious cavity in order to prevent infection from entering the root canal.

Errors in creating root canal access

The reasons for this situation are insufficient preparation of the cavity, incomplete excision of the roof of the pulp chamber, lack of control of the introduction of an ecodontic instrument. A preventive measure for such an error is the formation of proper access, which is characterized by the absence of overhanging edges and the straightness of the cavity walls, which should be smooth, without roughness and nicks.

Perforation of the bottom or walls of the tooth cavity

poor knowledge of the topography of the tooth cavity,
* insufficient disclosure of the tooth cavity,
* wrong choice of tool and violation of the methodology of its use,
* excessive expansion of the mouths,
* Decreased crown height due to abrasion
* Conducting treatment through an artificial crown
* Perforation of the wall of the tooth cavity at the level of the neck of the incisor or canine as a result of the preparation, without regard to the position of the tooth
* Perforation of the bottom of the molar cavity in the bifurcation area due to excessive preparation with boron
* Perforation of the tooth wall in the cervical region when attempting endodontic treatment through

* Perforation of the bottom of the tooth cavity during the search for the mouth of the obliterated root canal

Incomplete root pulp removal

It is allowed in cases where adequate access to the mouths of the canals is not provided or the latter are unavailable due to the location of denticles in them. The reason may be insufficient expansion of the mouths of the channels or incorrect determination of the working length = length. The anatomical features of the root structure will also blink to become a factor in poor passability of the channel for tools. Violation of the working technique, for example, the removal of tissues by a pulp extractor with a rupture of the neurovascular bundle, incomplete removal of the root pulp leads to bleeding from the canal, which prevents further endodontic interventions.

Obturation of the lumen of the canal with dentin filings

The reason is the accumulation of dentin filings in the lumen of the canal and their compaction. An attempt to re-pass the canal may entail pushing the products of the mechanical processing of the root canal (endolubrikants, dentinal filings, pulp residues, etc.) beyond the apical opening, which can cause pain after endodontic treatment. A similar complication is prevented by cautionous passage of the canal to apical narrowing with small instruments after every second step, as well as washing the canal lumen with solutions.

The formation of an apical ledge

Most often takes place in curved channels. During the processing of the channel, slipping of the tip of the tool during rotation leads to the so-called “funnel-tooth” effect. The reason is the use of inflexible large files that cannot follow the shape of the channel. It is possible to block the lumen of the channel with dentin filings. Significantly increases the risk of creating an apical extension when working with files that have an aggressive tip.

Perforation of the walls of the root canal

- Careless use of tools for preparing root canals for various pin-based, inadequate actions with hand tools
- Instructions Brute force applied by a doctor when filling the root canal with mechanical instruments.
- machining curved impassable root canals using a rotating machine tool
- Idiopathic root resorption.

Channel fracture

Very high in case of file deformation, most often occurs when cooling and expanding narrow and curved, previously sealed channels. The main reasons may be the lack of adequate access to the mouth of the root canal, a violation of the sequence of the use of endodontic instruments, the use of instruments without indications, non-compliance with the operating mode and rotation speed, the application of considerable force during manual or machine processing, metal fatigue due to repeated use of the instrument.

Inadequate antiseptic root canal treatment

* hydrogen peroxide has a very weak antibacterial effect, does not dissolve organic substances, can disrupt the adhesion of constant
* sodium hypochlorite is extremely toxic in high concentrations
* There are studies on the appearance of a hypersensitivity reaction to sodium hypochlorite.

INADQUATE OBSTRUCTION OF ROOT CHANNELS

- Removal of filling material beyond the apical opening
- non-filling the root canal gives a significantly worse result than a slight removal of material beyond the apical opening
- phosphate cement does not provide an airtight closure of the apical hole and dentinal tubules, has an irritating effect on periodontal tissue
- resorcinol-formalin method also does not provide guaranteed obstruction of the apical foramen
- Incorrect determination of working length
- Incomplete passage of channels

- Methods of using a gutta-perforated or silver pin in channels having an oval, slit-like, dumbbell-shaped

Pushing the filling material into the mandibular canal

Pain after endodontic intervention

One of the most common complications. It may be due to the irritating effect of the products of machining of the root canal, which are pushed beyond the apex during the instrumental processing of the canal. The cause of pain can be a root sealer, excreted in periodontal tissue. In this case, the pains are short-term in nature and can pass independently without any effect.

A particular problem is the pain that wears for a long time. One of the reasons is the use of the vital treatment method in one visit, which is associated with the impossibility of influencing the deltoid and additional tubules. Poor mechanical and drug treatment leads to the movement of microorganisms in periodontium. An individual reaction can develop with intolerance to the components of the root filler or excessive filling.

GLOSSARY

Enamel hypocalcification is a soft, not fully calcined enamel. Externally, it is manifested by the opacity of the enamel, brown or yellowish spots on it. Treatment consists in the use of methods of aesthetic dentistry, the use of composite fillings and veneers. Often it occurs when taking tetracyclines, especially the mother during the time of pregnancy, which is reflected in the teeth of a child (tetracycline teeth).

Enamel hypoplasia is a poor formation of tooth enamel, which leads to incomplete enamel coating of the tooth crown . In this affected tooth typically has a yellow color, and the surface of the tooth is not a smooth and readily undergoes erosion of enamel. Reasons hypoplasia enamel: violation of power shortage of vitamins (A, C and D), systemic diseases, pathological CNS, nephrotic syndrome, allergy, poison ing by lead, spot infection trauma of a tooth.

Hypoplasia of enamel neonatal - two -thirds of the processes hypoplastic enamel developed in the period from birth to the first year of life. In the development of neonatal, infantile hypoplasia of enamel , the deficiency of vitamins A, C and D , as well as calcium and phosphorus, is most often to blame . The presence of systemic diseases plays a significant role , which leads to a decrease in the activity of ameloblasts and a violation of the development of enamel.

Dentist - dentist , dentist. He is engaged in the diagnosis, prevention and treatment of diseases of the teeth and oral cavity. Separate specializations are dentist-therapist, dentist-surgeon, pediatric dentist.

Devital pulp amputation is a surgical method of pulp amputation , in which, before its removal , killing of the pulp with special medicines is carried out . This facilitates its removal. This technique is used in the case of acute pulpitis, to reduce pain sensation during removal of the pulp, and also at the individual insensitivity to anesthesia.

Dental demineralization - depletion of tooth enamel with mineral ions . The main minerals in enamel are calcium and fluorine. With the loss of these minerals, enamel weakens, teeth become sensitive, especially to hot and cold. If the demi neralization process is not treated, this will lead to the formation of cavities. They cause demineralization of the enamel acid contained in food (especially in citrus and fruit juices). The presence of bacterial plaque on the teeth also affects .

Dentin is one of the four main components of teeth that makes up the main part of a tooth. On the surface of the dentin is tooth enamel. The formation of dentin (dentinogenesis) begins before the formation of enamel and is initiated by pulmonary odontoblasts . In contrast, from the enamel, dentin continues to form on throughout the whole of life. Dentin is a yellowish-colored porous bone tissue that is 760% composed of inorganic materials, 20% organic matter, 10 % protein compounds and 10% water.

Dentin aplasia - a disease combining in himself the signs of how imperfect dentinogenesis, so and imperfect Amelogenesis. Observed for milk teeth, which at this practically devoid of enamel and dentin of teeth is colored in reddish color. If this observed defects and in the pulp of the tooth, it degenerated, the

pulp chamber is abnormally large size. Aplasia of dentin of permanent teeth is manifested in the fact that their enamel after eruption is very thin and gray in color.

Dentin hypoplasia - delayed development or underdevelopment of dentin. At an early age of reason can serve all the children's diseases, as a sharp, well and chronic: imperfect osteogenesis (fragility of bones), congenital syphilis, rubella, vitamin deficiencies. Greater role played by the disease mother during the time of pregnancy, as well as the impact on her body adverse factors the external environment (infection, radiation, poisoning and so on).

Dentin dysplasia - a rare genetic disorder affecting both milk, so and permanent teeth. In this case , a change in the shape of the tooth cavity occurs , and the roots of the teeth are abnormally short. It has two forms - root and crown.

Dentinitis is an inflammation of the dentinal tubules.

Dentinogenesis is the process of dentin formation . It carried out with the help of odontoblast - a special type of biological cells. The formation of dentin continues on throughout the entire life of a person. Formation dentin passes several stages: first formed mantle dentin, then primary dentin, th en - secondary and finally tertiary.

Dentinogenesis imperfecta - a hereditary disease, which manifests itself in the wrong development of the dentin of the teeth (like milk, so and permanent). It strikes in mostly people of white race of the English or French origin. The severity of the damage depends on the age and location of the teeth. In the first turn affected the incisors and the first permanent molars. Second molars and wisdom teeth are less likely to be affected . Dentin is very quickly exhausted, teeth much darker.

Dentoma (odontoma) is a benign periodontal tumor . Most often found in children and adolescents in the period of development of the permanent teeth. It grows slowly, is detected on the x-ray. Danger dentomy lies in the fact that it can lead to thinning of the bones with the formation of fistula progress and to the development of periodontitis.

Dentoskop - dental mirror, used by the dentist during various manipulations for the treatment of teeth. Allows you to expand the field of view of the treated area.

Depulpation is the removal of a tooth nerve during the development of an inflammatory process in a tooth . Sometimes depulpation is performed in such a way that a healthy nerve is removed if the tooth is prepared for prosthetics. After depulpation, the tooth ceases to feed, which leads to the fact that it becomes brittle. After removal of the nerve, the root canal of the tooth is filled.

Tooth thread - addition to the tooth- brush for maintaining hygiene oral cavity. It allows you to remove the remains of food from between the teeth gaps, where the tooth brush is not effective. When this reduced risk of occurrence of gingivitis, dental caries, periodontitis. Manufactured tooth thread of plastics (nylon, Teflon or polyethylene) or fro m silk.

Tooth plate - orthodontic device for correcting minor violations of bite. They are removable and non-removable.

Tooth brush - a device for daily cleaning of teeth in order to comply with proper hygiene oral cavity. It is advisable to use a tooth brush as a minimum of two times in a day: in the morning after breakfast and in the evening before bedtime.

Dental plaque, dental plaque, dental stone - the stages of development of dental plaque. First , the propagation of pathogenic bacteria from the substrate of saliva proteins begins with the formation of micro-colonies. Then other types of bacteria begin to become active . All these bacteria begin to form an organic matrix, which will protect them from the effects of the external environment. If not remove the formed nodules with the help of cleaning teeth, they will continue to evolve gradually mineralized and form dental stone. At this stage, have no preservatives, no cleani

ng of tooth pastes are ineffective. In this way, dental plaque can be removed with the help of a tooth brush and tooth stone - only in a chair in a dentist with the help of special techniques.

Periodontal pocket - a space created between the tooth and gum at the time the disease periodontal. The depth of the pocket is measured from the top of the gingival margin and the site of epithelial attachment (the site of attachment of the gum to the tooth). In the absence of pathology , a small gap is observed between the upper part of the gums and the site of epithelial attachment (1-3 mm). With gingivitis, this space will increase either as a result of swelling of the gums, or as a result of a violation of attachment. With periodontitis, the depth of the pocket increases even more . For the formation of pockets, plaque bacteria are responsible . Without special treatment, the problem cannot be solved, since the bacteria in the pockets become anaerobic, that is, more pathogenic. Pockets are cleaned (dentist), treated with a laser.

Immobilization of the tooth - the tooth can become mobile as a result of inflammation of the periodontal ligament (for example, with an injury). In this case, it is necessary to immobilize the tooth by attaching it to adjacent teeth. One of the ways of carrying out this procedure is splinting or joining with the help of the wire.

Invagination is one of the malformations of teeth ("tooth in tooth"). In this case, the tooth enamel or its dentin grows as if inside
the tooth. This anomaly requires immediate treatment because invaginated tooth in strong degree i s subject to decay.

Ingallyatsionnaya anesthesia - method of anesthesia, at which the anesthetic agent (in the form of a mixture of gases) is injected directly into the breathing path of the patient with the help of special tools, which is securely fastened to the mouth and nose of the patient. Use as inturbatory, when a tube through which the received anesthetic is administered directly into the trachea.

An intact tooth is a whole, unharmed, healthy tooth.

Milk tooth intrusion - the movement of a milk tooth into the socket, which often happens with an alveolar fissure. Clinical signs: the visible part of the tooth becomes shorter and it generally is not visible, there is spontaneous pain and a metallic sound when biting. The situation is complicated by the fact that at this applied trauma rudiments of the permanent teeth.

Infections of the pulp of the tooth (pulpitis), - inflammation of the nerve and blood vessels of the tooth, the cells of connective tissue. Signs of pulpitis: severe pain (especially on hot and cold), pain at
night, headache , severe pain when chewing, bleeding from the gums. Pulpitis is not necessarily accompanied by infection, so the use of antibiotics is not always required . Causes
of pulpitis: deep tooth restoration , deep caries, tooth injuries , bite problems . It should be immediately treated in order to avoid loss of a tooth or even the development of sepsis.

Infiltrate is a kind of compaction that occurs when blood, lymph, pus, and cellular elements accumulate in the tissue . Infiltrates are always painful. Infiltrates are divided into inflammatory (trauma, infection) and tumor (cancer, myoma, sarcoma). With sup puration
of inflammatory infiltrate , phlegmon occurs , which requires immediate surgical intervention.

Infiltration anesthesia is a method of pain relief by administering an anesthetic with an injection to a specific area. The method most often used in dentistry. In this case, the anesthetic acts directly on the nerve endings. It applies the method of infiltration anesthesia both in surgery, so and in the therapeutic dentistry. The introduction of anesthetic can be carried out under the gum, periapically (near the root of the tooth).

Caries is a pathological process in the tooth (in hard tissues), leading to the appearance of a cavity in the tooth, which gradually develops under the influence of bacteria that destroy the hard tissues of the teeth (enamel, dentin and cement). They have the effect of acid, sugar in

the remnants of food on the surface of the teeth. Caries tooth - one of the main problems of health oral cavity in most industrially developed countries (affects 60-90% of schoolchildren and the vast majority of adults). Starting carious process - this is a small portion of demineralized enamel on the surface of a tooth or in the spacing between the teeth. Then the process extends to the dentin located under the enamel. A cavity arises and the tooth is gradually destroyed. Caries can also reach the roots of the teeth during a gum recession (more often in old age).

Caries bottle - a form of tooth decay, which arises from the babies are on artificial feeding from a bottle. Extremely dangerous form of caries, as it arises and develops rapidly on milk teeth immediately after their eruption. Especially contributi ng to this is falling asleep a child with a bottle in which there is a milk mixture, fruit juices or sweet water. Bottle caries occurs , as a rule, first on the upper incisors, and then (in the absence of treatment) canines and molars can be affected .

Decay of deciduous teeth - develops very often, since enamel of deciduous teeth is very thin, much thinner than that of permanent teeth. Caries in the first years of life can greatly affect the health of the child, can cause pain, disturb sleep, disrupt speech and the process of chewing food. Caries of milk teeth necessarily need to be treated, as by infected milk teeth are arranged rudiments of permanent teeth, on which can easily spread the infection, and permanent teeth will be amazed with caries already at eruption.

Caries cervical (cervical) - caries, localized in the region of the neck of the tooth in result clusters in this field of dental plaque and hard dental deposits, in which in large quantities are present pathogenic microorganisms. Cervical caries is most often localized on the front teeth. Occurrence of this type of caries contributes also the factor that in this portion of the tooth enamel most thin, easily abraded, which leads to expose the cervix of the tooth, on which and developing caries.

Caries early child - severe form of dental caries in children of preschool age. This is a real problem of pediatric dentistry due to the rapid development of this form of caries and the impact on the general condition of the child. The rapid development of the caries associated with immaturity and porosity of enamel, which is extremely susceptible to the action of acids are in the diet. The onset of the disease with such caries is sudden and rapidly progressing, often leading to almost complete destruction of milk teeth. In addition, early caries leads to serious complications: pulpitis, pulp necrosis .

Pocket periodontal - pocket periodontal space created between the tooth and the gum with diseases periodontal. The depth of the pocket is measured from the top of the gingival margin to the place of attachment of the gums to the tooth. In the absence of pathology, the depth of the pocket is 1-3 mm. With the development of gingivitis, the depth of the pocket increases either as a result of swelling of the gums, or, more often, as a result of loss of attachment.

Composites -

materials made from two or more composite materials with significantly different physical and ch emical properties. In dentistry, composite materials are used for filling and cosmetic restoration of teeth. As a rule, the composition of composites - it's the minerals in the organic matrix. The advantage of composites is their high strength and the ability to select a wide range of colors during tooth restoration .

Molar teeth (molars) - posterior teeth on the dental arch. In person 12 molars, at six on each of the jaws. The teeth of wisdom are the third molars. Molars play a major role in chewing and nibbling food. Most susceptible to caries, as they have many pits and indentations.

A tooth root is an invisible part of a tooth located in the alveolar process. Root have the shape of the cone and ends with the tip (apex). Root - this is the foundation of the tooth, is attached to the alveolar bone with the help of the periodontal ligament. A tooth may have one or more roots.

Milk teeth -First rudiments of milk teeth appear still in the period of embryonic development. The first baby teeth erupt at the age of about 6 months. The loss of the first milk tooth occurs approximately in 6 years. Health milk teeth require very careful attention, b ecause under them are the rudiments of permanent teeth, on which can spread infection if it is present in the milk teeth.

Necrosis of the total tissue of the tooth - the process of necrosis of tissues of the tooth under the influence of any external factors. With necrosis , the complete destruction of the cell structure occurs . Chemical trauma can cause tooth tissue necrosis (for example, composite materials used for very deep caries). Another reason may be a physical injury to the tooth (for example, when falling or with a strong impact), as well as during deep drilling. Often, dental necrosis does not manifest itself externally , but there is a change in the color of the tooth, which becomes opaque and can respond to hotter. Severe form of necrosis may be caused by the hit of infection in the root canal.

Necrosis of pulp - while necrosis pulp disappear signs of the vitality of the tooth: he does not respond or to hot, nor in the cold, either on acid or on contact. The tooth acquires a gray color of a more or less dark shade. With necrotic pulp , apexification is performed, which stimulates the process of closing the apex of the root, which was disturbed by pulp necrosis . In this procedure, the remains of necrotic pulp are removed, the canal is dried, the medicine is put into it , and after a while they are filled.

Obturation - filling the root canals of the teeth, closing the cavity in the tooth. In addition to filling the canals with filling materials, tabs and pins are also used that are inserted into the root canals to give special strength. Before obturation, the canal is thoroughly prepared, removing the affected tissue, antiseptic treatment and drying are carried out .

Odontitis is an inflammation of the pulp (pulp) of a tooth, the main cause of which is an infection.

Odontoblasts are the cells responsible for dentin formation . Odontoblasts develop from the mesenchyme of the dental papilla. Odontoblasts are located on the edge of the pulp, on the border with dentin.

Odontogenesis is the process of tooth development from the formation of the rudiments of milk teeth (at the 6th week of embryonic development) to the eruption of the last permanent teeth (after 20 years). Odontogenesis includes in itself creating a dental plate, the formation of the enamel forming the crown of the tooth, teething milk teeth, forming the root of the tooth, the development of periodontal loss milk tooth eruption permanent teeth.

Odontogenesis imperfect - violation forming fabrics teeth. It can take a variety of forms: from the absence of milk teeth to violations of the structure of enamel.

Odontogenic cysts are benign tumors that make up from 3 to 7% of all odontogenic tumors. It comes either from the remnants of the tooth plate or from the epithelium of the enamel organ. Affect in the main young patients from 10 to 20 years. Found in mainly in the area of the lower jaw. More common in female patients . Usually it occurs without symptoms and is detected by chance in time radiography. In 75% of cases, such cysts are found on retined (uncut) teeth.

Teeth whitening is a set of methods for restoring the white color of tooth enamel, which loses its color with age and becomes grayish-yellow. For teeth whitening , special abrasive substances are used to remove stains from the surface of the teeth. Abrasive materials should be used with care so as not to cause severe damage to the tooth enamel. Another method is chemical bleaching with the use of products containing peroxide hydrogen. Vital whitening is carried

out on "live" teeth stained with food or tobacco. Devital whitening is carried out on "dead teeth" from the inside out. You can wear a mouth guard, containing bleach every day in over several hours. You can brush your teeth with special pastes containing a whitening substance.

Edema (flux, odontogenic periostitis) - active hyperemia, an inflammatory purulent process that developed as a result of an untreated carious process in the tooth. Sometimes the cause of the flux can be a tooth injury or the development of an inflammatory process in the gingival pocket. The purulent process, starting at the apex of the root of the tooth, passes through the bone tissue into the periosteum. Treatment of periostitis is exclusively surgical, when accumulated pus is released through the incision , and then drainage is performed. Next , antibiotic therapy is needed .

Open bite - incomplete closure of the teeth of the upper and lower jaws.

Delayed eruption of teeth - a process at which the teething milk teeth occurs somewhat later accepted norms. In most cases, do not worry . Often this delay eruption of milk teeth is transferred by inheritance. In some cases, this may be the result of poor nutrition, a lack of vitamins A, C and D and calcium. On delay eruption milk teeth has also influence hypothyroidi sm. It is necessary to turn to the doctor if you have a child for 13 months does not cut a more or one tooth to the doctor determined the nature of this phenomenon.

Periodontium is the connective tissue between the root of the tooth and the alveolar plate. This connective tissue consists in mainly of collagen fibers (proteins and polysa ccharides) and located in the slot-like space (periodontal slit) width in average 0.2-0.25 mm.

Periodontitis is an inflammation of the periodontium. The reason is the penetration of infection from the root canal, as well as with caries. Periodontitis is characterized by severe throbbing pain, inability to touch the tooth. Gum may swell , tooth mobility may occur . Periodontitis is an extremely dangerous disease , because it is fraught with a number of complications: jaw osteomyelitis , sepsis, purulent inflammation of the soft tissues.

Pigmentation of teeth - quite often occurring phenomenon like in children, so and in adults. Pigmentation - this staining of the teeth in one or another shade of color. The point in fact that the enamel of the tooth is translucent, so after it visible and colored underlying layers. In addition, the porosity of the enamel contributes to the fact that it easily absorbs various coloring substances. Causes staining of the teeth may be: smoking, drinking strong tea and coffee, the presence of persistent dental plaque, use of certain medications, lack of or, on the other hand, the excess of the content of fluoride in the body , and much more. White opaque color of the teeth indicates a violation of the formation of enamel, yellow - often occurs after depulpation of the canal, gray - with pulp necrosis , red - appears almost instantly after tooth dislocation .

Eruption of teeth - the appearance of the teeth through the gum and establishing them in the dental row. First, there is the eruption of milk teeth (age from 6 months to 6 years). Then, between the ages of 6 and 13 years (with the exception of wisdom teeth , which may appear between the ages of 16 and 25 years) , permanent teeth erupt .

A tooth pulp is a connective tissue that fills a tooth cavity . As it passes a plurality of nerve endings, blood vessels and lymph vessels. The pulp also contains odontoblasts, cells involv ed in the formation of dentin. Pulp is divided into two parts: coronal pulp and root pulp. The nerves are in slurry, transmit pain signals at diseases of teeth (e.g., at caries). Blood vessels provide vascularization with odontoblasts that synthesize dent in. A tooth pulp is easily damaged as a result of a tooth injury or with bruxism, which can lead to necrosis (devitalization) of the tooth.

The pulp chamber - a cavity in which is the crown of the pulp of the tooth.

Pulpitis is an inflammation of the pulp of a tooth. Reasons pulpitis: bacterial infection (as typically occurs in a result of

advanced caries), trauma tooth, poor hygiene of the oral cavity, sometimes the presence of systemic diseases (diabetes mellitus). Pulp is an extremely vulnerable part of the tooth because it is located in a closed cavity. Pulpitis can be acute and chronic. Acute pulpitis causes micro-abscesses, that, in the final analysis, lead to necrosis of the pulp. In chronic pulpitis, the pain is less pronounced, pulp tissue fibrosis is observed . To prevent the development of pulpitis, it is necessary to treat caries even in the initial stages. In the case of irreversible pulpitis , tooth devitalization and pulp removal are performed .

Pulpotomy (amputation of the pulp) - removal of part of the pulp, its affected tissues. It is mainly used on teeth with incomplete root apex formation .

Pulp hyperemia - the initial form of pulpitis. Such inflammation is reversible. It occurs during the development of caries, when decay products enter the pulp along the dentinal tubules . There are painful sensations, especially when taking hot or cold food, which disappear when the irritant is eliminated .

Pulp devital extirpation - is used in that case, when in the patient observed allergic reactions to local anesthetics or when the use of such anesthetics do not lead to full anesthesia. In this case, the navel is first killed with a devitalizing substance (for example, arsenic paste). This method is not suitable for purulent forms of pulpitis, for pulp necrosis .

Pulpectomy (pulp extirpation) is a vital pulp removal with a pulp extractor, performed in one visit under local anesthesia. It is used for all types of pulp inflammation .

Early teething of permanent teeth - can be observed in the case when milk teeth were artificially removed early (for example, with a strong defeat of their caries).

Early development of anterior primary teeth - it happens that a child is already born with anterior primary teeth (the so -called neonatal teeth). More often just have this phenomenon of genetic nature. Sometimes playing the role of some of the factors of external environment.

Incisors - front teeth in the dentition of a person. There are 8 incisors in the jaw of a person : 2 upper central, 2 lower central, 2 upper lateral and 2 lower lateral. Cutters play an important aesthetic role, as well as the main role in the process of biting and chewing food. Incisors always have one root.

Restoration of the tooth - restoration of the anatomical shape of the destroyed tooth, its chewing function and external appearance. There are various materials (amalgam, composite resins, porcelain, ceramic, an oxide of zirconium and others.) And techniques for carrying out the restoration of teeth.

Restoration with crowns of milk teeth - if milk incisors and fangs are badly damaged by caries, they can be restored with stainless steel crowns . This violates the aesthetics, but allows you to save baby teeth. To improve aesthetics, such crowns can be coated with veneers on the vestibular surface. Another way to restore milk teeth with crowns is to use celluloid caps.

Remediation of the cavity of the mouth - a procedure helps achieve maximum hygienic purity oral cavity. This will help keep teeth and gums healthy . Professional rehabilitation is carried out in the dentist's office . The first and foremost is the deep cleaning of the periodontal pockets, the removal of dental deposits.

Supernumerary teeth (giperdontiya) - the most frequently occurring anomaly of the dental series often in the period of development of the permanent teeth. However, there are also supernumerary milk teeth. In the latter case, they interfere with the eruption of permanent teeth. In mainly supernumerary teeth appear in the field of cutting tools the upper jaw. A supernumerary tooth is not always completely out of the gum, it can often be found under the gum on a radiograph. There are several theories that explain the cause of this anomaly, but the most recognized is hyperactivity of

the dental plate, division of the dental organ, and enhanced cell proliferation . A certain role is played also genetics. At the same time, supernumerary teeth more often appear in men than in women.

Light-cured composites - a one-component paste or a fluid material is the primary form of such composites. Under the action of the curing photoinitiator , which absorbs blue light with a wavelength of 400-500 nm, the curing process of the composite material occurs . Prior to the photopolymerization process, the composite material is soft, which makes it easy to obtain the desired shape of the seal. After the photopolymerization process under the action of an ultraviolet lamp, the seal becomes strong.

Fistula (fistula) is one of the main complications of a strong infectious process in the tissues of the tooth. Fistula - is a kind of channel for which there is an outflow of pus from the place of defeat. A small hole appears on the face, chin or gum , through which pus will exit . A fistula is formed with untreated caries, with inflammation of the cyst, with a poorly filled tooth, and with perforation of the tooth root . The onset of the disease is characterized by pulling pain in the causative tooth. The lack of treatment can lead to the appearance of other symptoms: swelling, shortness of breath, difficulty with swallowing. These signs may indicate the onset of flux formation . The basis for treating the fistula is antibiotic therapy (antibiotics), analgesic agents (e.g., paracetamol). Next, you need surgical treatment to help sail pus.

Tetracycline teeth - darkening of teeth caused by the use of an antibiotic tetracycline compound, which exerts influence on the enamel of the teeth, causing the appearance of gray or brown bands. The use of tetracyclines by pregnant women can cause darkening of the already first milk teeth in children, because of their development begins already in the womb of the mother. It is also desirable to use antibiotics tetracycline number of children of younger age. The only solution to resolve this problem is to apply aesthetic dentistry techniques (for example, installing veneers).

Injury of the rudiments of permanent teeth - occurs in a child who is injured by milk incisors due to the close location of the tops of the roots of milk teeth and the rudiments of the corresponding permanent teeth. This can manifest itself in the form of hypocalcification and hypoplasia, the development of reparative dentin, the bifurcation of a permanent tooth when driving or displacing frontal deciduous teeth.

Trauma tooth - most likely occur in children and adolescents. In young children , coordination of movements is impaired , which contributes to the fact that they often hit their teeth on various objects. Children older than subjected to the danger of teeth riding on a bicycle, skateboards, roller skates, playing in football. Dental injuries are of the following types. A bruise in which a tooth fracture does not occur, but the pulp may become inflamed . Cracks on the enamel without losing a part of the tooth. In this case, the tooth can gain sensitivity. Fracture, which can hurt the crown of the tooth, as well as its root. Tooth dislocation . Displacement when a tooth moves to a bone. Exit tooth from the hole completely. Injection of a tooth. When a tooth reacts to an injury , the following unpleasant phenomena can occur : pain, internal hemorrhage, internal resorption, ex ternal root resorption , pulp necrosis , ankylosis (damage to the ligamentous apparatus of the periodontium).

Tongue trauma - damage to the tongue leading to the appearance of a wound or hematoma in the tongue . When severe injury, when a patient without consciousness can occur accumulation of blood in the throat.

Transplantation tooth - change (movement) of the tooth, taken from another human, a hole previously remote tooth.

Trema - a cosmetic defect, the gap between the teeth (not front). In the case of a gap between the front incisors, they talk about diastema. It occurs due to improper development of the jaw (its size is too large), or due to too small teeth

Teeth cracks - occur on hard tooth tissues (on enamel or dentin) in the presence of bad habits, for example, when chewing hard objects. Cracks in the teeth can be small, located on the surface of the enamel. At the same time, endodontic treatment is not required; esthetic restoration can be dispensed with . Deep vertical fissures can damage tooth roots and pulp. In this case, the use of endodontic treatment could help save a tooth or its part.

Floss, tooth thread - cord of fine filaments used to remove remnants of food and dental plaque from the interdental spaces in those places where the use of a tooth brush not lead to the desired results.

Fluocal - a special gel for the prevention of caries. Contains sodium fluoride , phosphoric acid. It is applied topically to coat tooth enamel.

Fluorosis is an extremely common disease that is characterized by demineralization of tooth enamel caused by ingestion of food or water with a high content of fluoride. With this change the color of teeth, and in some cases occurs and damage to tooth enamel. The severity of the lesion depends on the dose, the duration of the intake of such food, as well as on the person's age . Teeth affected by fluorosis may have a speckled surface . When severe , the teeth turn brown. It is interesting that people with fluorosis relatively resistant to caries of teeth, having a bacterial nature.

Flux is a purulent-inflammatory disease of the maxillofacial region. It occurs most often as a complication of poorly cured caries. At the present time the term flux is always associated with the occurrence of periodontitis. The nature of the flux is always contagious when pus from a diseased tooth passes into the bone tissue. Externally, the flux is characterized by severe swelling of the cheek, pain, temperature.

Tooth fluoridation - is carried out by applying a special varnish on the surface of the teeth in order to prevent caries. The application of fluoride varnish allows you to protect your teeth for up to six months.

Enamel erosion is a non-carious lesion of tooth enamel . With erosion , enamel demineralization occurs , which manifests itself in the form of dull spots of various shapes . Most often affected frontal (front) teeth. At first, the spot that appears has limited dimensions, but then it can gradually grow, affecting the entire tooth enamel . Erosive lesions of enamel, as a rule, are symmetrical (that is, they affect the same teeth on both sides). Often the disease is accompanied by destruction and more deep layers of the tissues of the tooth, in particular, dentin. The cutting edge of the teeth is also erased . Causes of occurrence of erosion of enamel multiple: mechanical damage tooth brush, abrasive pastes and powders influence of acidic products (citrus fruits), endocrine disease.

Extirpation is the complete surgical removal of an organ.

Enamel aplasia - the complete absence of tooth enamel in some areas of the teeth, a severe form of enamel hypoplasia .

Enamels hyperplasia - non-carious damage to the teeth, excessive formation of tooth tissue , in particular, enamel. On the surface of the tooth (usually - in the region of the neck of the tooth) formed specific formation, similar to the drops or pearls. In the center of each drop are cavities. Often this leads to hyperemia and bleeding of the gums. It is most often possible to detect such formations only with the help of X-rays. The treatment consists in grinding enamel drops with subsequent therapy to remineralize the teeth.

Enamels hypoplasia - underdevelopment of tooth enamel, a violation of the mineralization and structure of enamel. The process can begin even at the stage of the tooth germ and continue after teething . Experts until now been arguing about the causes of

this phenomenon. It is believed that the main factors system hypoplasia enamel are various disorders operation CNS disorders work thyroid and parathyroid glands, hemolytic jaundice, congenital allergy to violations of the composition of water, rickets, congenital syphilis, gastrointestinal diseases, the use of some medicinal preparations (vitamin D 2 or tetracycline), metabolic disorders of mineral metabolism in the body of the fetus in utero mother disease mother during the time of pregnancy (e.g., rubella). Systemic hypoplasia affects all teeth at once. Sometimes hypoplasia is local in nature, that is , one or more teeth are affected . Impact on local hypoplasia also infecting germ permanent tooth trauma tooth.

Enamel and dentin dysplasia - a violation of fabrics like milk, so and permanent teeth, having a genetic origin. It manifests itself in the form of imperfect amelogenesis, imperfect dentinogenesis. Forms manifestations dysplasia different: change the color of enamel, transparent enamel, transparent dentin with radiographic dental cavity, strong abrasion teeth dysplasia roots to complete their occlusion, exposure of dentine, chalky enamel, easily traumatized pulp and others. In the present time the most effective methods of removing dysplasia are methods of aesthetic dentistry (restoration of teeth). Vitamin complex therapy is also needed . But getting rid of dysplasia as a disease is almost impossible.

Endodontics - a section of dentistry aimed at the study and treatment of endodontics (pulp and dentin). Endodontic treatment includes in itself the treatment cavity of the tooth and the root canals. When this is eliminated infection deleted infected tissue pulp used medicinal agents in root canals removed nerves made preparation of root canals for sealing.

MINISTRY OF HIGHER AND SECONDARY SPECIAL EDUCATION

MINISTRY OF HEALTH OF THE REPUBLIC OF UZBEKISTAN

BUKHARA STATE MEDICAL INSTITUTE

NAMED AFTER ABU ALI IBN SINO

CHAIR OF CHILDREN'S DENTISTRY

Registered No. _____
Training department
"_____" _____2019

"I affirm"

Vice-rector for educational and educational work

_____ G.Zh. Zharilkasinova
"_____" _____2019

WORKING PROGRAMM

Errors and complications in pediatric therapeutic dentistry

Field of expertise - 500000 "Health and social welfare"
Field of education - 51 0000 "Health"
Direction of education - 5510400 "Dentistry"

The complexity in hours - 72
Including:
Lectures - 12
Practical classes - 16
Clinical Classes-26
Independent work - 18

Bukhara - 2019

The working curriculum of the subject is compiled on the basis of the curriculum and working curriculum.

Compiled by:

Yariyev O.O.- c.m.s. Department of Pediatric Dentistry

Reviewer :

Khabibova N.N. Ph.D. Department of t erapevticheskoy dentistry

The work program was compiled on the basis of the curriculum and curriculum in the direction 5510400 - Dentistry, discussed and approved at the cathedral meeting.

Protocol No. _____ "____" _____ 2019

Head of Cafe Droy, Ph.D. Kamalova F.R. _____
(signature)

FMC Chairman, Dean of the Faculty of Dentistry ,
to .m.n. Khabibova N.N.
_____
(signature)

The work program was compiled on the basis of the curriculum and curriculum in the direction 5510400 - Dentistry, discussed and approved by the Scientific Methodological Council of the Bukhara State Medical Institute .

Protocol No. _____ "____" _____ 2019

Methodist : Zhumaeva Sh.B. _____ _
(signature)

3. The volume of the training load

Semester	Total hours	Classroom clock	Lecture	Practical lessons	Clinical practice	Self Job	Type of control		
							Rating point		
							current	intermediate	Concluding s th
Cycle	72	-	12	sixteen	26	eighteen			

4. Lecture course

4.1. Thematic plans for lectures

No.		clock
1	Errors and complications in the formation and preparation of the carious cavity in childhood.	2h
2	Errors and complications at sealing, properly chosen th and placed oh n Lomb in childhood	2h
3	Errors and complications in the diagnosis of pulpitis.	2h
4	Errors and complications during the treatment of pulps itov children	2h
5	Errors and complications in the diagnosis and treatment of periodontitis diseases in children	2h
6	Errors and complications in endodontic treatment of root canals in children	2h

Total 1

2

5 . P raktícheskie / seminars

5 .1. Thematic plans for workshops / seminars

t / r	Practical Topics	Pract. lessons	Wedge classes	Total
1.	Errors and complications in the formation and preparation of the carious cavity in childhood.	2	2	4
2.	Errors and complications at sealing, properly kinder n th and placed second paragraph scrap to childhood	2	2	4
3.	Errors and complications in the diagnosis of non-carious lesions of hard tissue before eruption	2	4	6
4 .	Errors and complications in the diagnosis of non-carious lesions of hard tissues of teeth after eruption	2	4	6
5	Mistakes and complications of pain relief in childhood	2	4	6
6 .	Errors and complications in the diagnosis of pulpitis.	2	2	4
7 .	Errors and complications during the treatment of pulps itov children	2	2	4
8 .	Errors and complications in the diagnosis and treatment of periodontitis diseases in children	1	3	4
9.	Errors and complications in endodontic treatment of root canals in children	1	3	4

6 **. Students' independent work**

6 .1. Thematic plans for independent work of students

No.	Theme of independent studies	Clock
1.	Methods of carious cavity formation in children	2
2	The use of filling methods in pediatric dentistry	2
3	Methods of treatment of local and systemic hopoplasia	2
4	Stages of fluorosis treatment	2
5	Methods of treating pulpitis in children	2

6	Methods of treatment of periodontitis in children	2
7	The importance and role of endodontics in pediatric dentistry	2
8	First aid in pediatric dentistry	2
9	Physiological treatments in pediatric dentistry	2

Tests

1

2 - open

1. For any pathology resulting short frenulum language?

+ incorrect pronunciation of sounds *
+ atrophic gingivitis *
- diastema
- Progenia

2. What changes are observed with difficulty in nasal breathing?
+ narrow nasal clefts *
+ deep vault of the sky *
- diastema
- three

3. At what age ends with the eruption of milk teeth?

+ 2.5 years *
+ 20-30 months *.
- 3 years
- 4 years

4. From a tissue develop milk teeth?
+ mesenchyme *
+ epithelial tissue *
- connective tissue
- the muscle tissue

5. What indexes are used to determine changes in periodontal tissues ?
+ PMA *
+ Schiller-Pisarev test *
- index according to Federov-Volodkina
- CPU + CP

6. How to determine the presence of dental plaque?
+ visually *
+ staining method *
- thermometry
- radiograph

7. In any conditions, the bacteria the oral cavity acquire cariogenic properties?
+ Low level pH *
+ high sucrose content *
- high level of pH
- low content of sucrose

8. About what speaks higher performance buffer capacity of saliva?
+ predisposition to caries *
+ blooming caries *
- on the wrong diet
- to tooth hypoplasia

9. Pellicle function :
+ protection against external factors *
+ participation in enamel permeability *
- participates in the eruption of teeth
- stimulates the growth of enamel

10. By mineralized dental deposits are as follows:
+ Supragingival dental stone *
+ Subgingival dental stone *
- tooth plaque
- dental plaque

11. Pellicle function :
+ protection against external factors *
+ participation in enamel diffusion processes *
- contributes to the dissolution of the dental plaque
- cleans tooth enamel

12. Phase formation of dental stone:
+ organic matrix creation *
+ crystallization *
- inorganic matrix formation
- demineralization

13. Hygiene indices for determining plaque :
+ Fedorov- Volodkina *
+ Green - Vermilion *
- RMA
- CPITN

14. What factors are considered when determining plaque ?
+ The value of the area of dental plaque *
+ plaque thickness *
- the height of the dental plaque
- the color of the dental plaque

15. Known program of prevention of caries
+ "Karlstad model" *
+ " Nexo " *
- "Xident"
- " Parodontax "

16. What fluorides are found in abrasive polishing pastes?
+ NaF *
+ Na2PO3F *
- CaF2
- KF

17. According to the degree of rigidity of children's tooth brush are:
+ soft *
+ very soft *
- medium hardness
- hard

18. Toothpicks are made from:
+ wood *
+ plastics *
- synthetic fiber
- natural bristles

19. What movement does brush with cleansing teeth method of Leonard :
+ on the upper jaw - on top *
+ on the lower jaw - from the bottom up *
- on the upper jaw - from left to right
- on the lower jaw - from right to left

20. How to set a toothbrush when brushing your teeth using the Stillmann method :
+ in the field of chewing teeth at an angle of 45 about *
+ in the frontal area - vertically *
- in the field of chewing teeth - horizontally
- in the frontal area - perpendicular

21. With a view to a part of a tooth paste administered polyhydric alcohols:
+ to obtain a homogeneous mass *
+ contribute to the preservation of moisture *
- increases tooth resistance
- to improve the taste

22. Select the correct response gel tooth pastes:
+ high foaming ability *
+ good taste *
- high cleansing ability
- contain chalk base

23. Easily fermentable carbohydrates:
+ sugar *
+ starch *
- sorbitol
- mannitol

24. Carbohydrates consumed in food:
+ sugar, starch *
+ sugar substitutes *
- amylase
- proteins

25. Composition of Lukomsky paste :
+ Na fluoride *
+ glycerin *
- tin fluoride
- alcohol solution

26. Fluoride gels for the prevention of caries are used:
+ 1 time in 2 months *
+ 1 time in half a year *
- 1-2 times a month
- 1 time in 3 months

27. Phosphorus rich foods :
+ fish *
+ meat *
- cottage cheese
- halva

28. Forms of phytin release :
+ powder *
+ tablets *
- dragee
- alcohol solution

29. Methods of using fluorine compounds :
+ system *
+ local *
- general
- population

30. Forms of release of fluorinated milk:
+ liquid *
+ powder *
- condensed
- hard

31. Sealing of fissures is recommended to carry out:
+ immediately after teething *
+ within a year after teething *
- in the course of 2 years after the eruption
- in the period of eruption

32. Types of fissure sealing :
+ invasive *

+ non-invasive *
- open
- closed

33. For patients with high blood pressure , the following are administered in the composition of premedication :

+ tranquilizers *
+ antispasmodics *
- sulfonamides
- desensitizers

34. Premedication is carried out under the control of:

+ doctor *
+ nurses *
- parents
- the most sick

35. Features inherent in a child with negative behavior:

+ sitting in a chair tensely *
+ teeth tightly closed *
- opens his mouth but with a cry
- answers to questions

36. The main differences between the surface layer of enamel from the deep layers:

+ microhardness *
+ Resistance to tooth decay *
- lower fluoride concentration
- less mineralization

37. Types of dental plaque

+ Brown *
+ Soft white *
- blue
- green

38 . Fluoride-containing solutions used to prevent caries:

+ 3% Remodent solution *
+ 2% Na * fluoride solution
- 2% sodium monofluorophosphate solution
- 10% Remodent solution

38. Fluorinated varnishes:

+ Duraphat varnish *
+ Fluor Protector *
- Bevosita
- Invaziv

39. The action of which fluorine-containing drugs is based on the diffusion of fluorine through saliva and from it to the teeth:

+ Fluocaril gel *
+ 1-2% NaF gel *
- Lukomsky paste
- fluorocort

40. Choose the stage of a routine inspection?

+ external inspection *
+ oral examination *
- tomography
- R - graph

41. Choose additional research methods .

+ EDI *
+ R - graph *
- palpation
- percussion

42. Select tooth decay intensity levels :

+ very low *
+ low *
- very average
- normal

43. Choose hygiene levels when determining the Fedorov-Volodkina index :

+ good *
+ satisfactory *
- very good
- medium

44. Select oral fluid function ?

+ bactericidal *
+ oral cleansing *
- stimulating
- homeopathic

45. What factors influence the composition of saliva?

+ general condition of the body *
+ saliva secretion rate *
- tooth powders
- one - time affiliation

46. Composition of soft plaque :

+ white blood cells *
+ epithelium *
- alkalis
- ions

47. Factors contributing to plaque formation :

+ tooth position *
+ hyposalivation *
- readjustment cavity mouth
- pH = 7.0

48. Factors contributing to the formation of dental plaque

+ Violation of the exchange substances *
+ wrong bite *
- compliance with hygiene oral cavity
- the normal exchange of substances

49. The composition of the soft dental plaque include :

+ epithelium *
+ leftover food *
- agranulocytes
- cement blocks

50. To determine the foci of demineralization using:

+ P-p nitrate of silver *
+ R- fuchsin *
- 2% p-p chloramine
- 5% rr $CaCl_2$

51. The main methods of treatment of demineralization of tooth enamel :

+ Remterapy *
+ Vanicia 0.2 % NaF *

- UHF
- Applications metrogil - Dent

52. That includes in itself a professional hygiene?

+ Education cleaning teeth *
+ Topical use of fluorides *
- Definition of CPU + CP
- Definition of PMA

53. From what factors it depends on the interval of the professional cleaning of teeth?

+ Interests of parents *
+ Interests of children *
- saliva pH
- estimates of the RMA index

54. For an additional means of hygiene include:

+ toothpicks *
+ dental floss *
- polyes
- fluoride varnish

55. The degree of hardness of tooth brushes:

+ hard *
+ very tough *
- slightly hard
- weakly soft

56. Teeth brushing methods :

+ Fones method *
+ Pakhomov's method *
- Fedorov method
- Courland method

57. What dyes determine the quality of brushing :

+ fuchsin *
+ erythrosine *
- ascorbic acid
- metrogyl

58. The main components of toothpastes:

+ abrasive filler *
+ binder component *
- hydrates
- alcohol solution

59. Anti-caries additives in the composition of toothpastes:

+ sodium fluoride *
+ tin fluoride *
- Al hydroxide
- chalk

60. Features of nutrition that contribute to caries:

+ high carbohydrate content in food *
+ increase in frequency of food intake *
- increased intake of solid foods
- high content of vitamins in food

61. Trace elements that help reduce the incidence of caries in children:

+ F fluorine *
+ Ca *
- Ni
- Cu

61. Element F value :
+ increases tooth resistance to caries *
+ good crystallization of hard tooth tissues *
- lowers enamel resistance
- contributes to the formation of dental stone

62. Fluorine preparations:
+ fluoride varnish *
+ Na fluoride solution *
- gluconate Ca
- pomarin

63. Choose mineral preparations that do not contain fluorine but have anti-carious effects:
+ glucanate Sa *
+ lactate Ca *
- vitamin K
- Ca chloride

64. Products rich in sa:
+ milk *
+ cottage cheese *
- tomatoes
- meat

65. Endogenous fluoride intake :
+ with water *
+ with salt *
- in solutions
- in a dragee

66. Factors contributing to the demineralization of tooth enamel :
+ streptococci *
+ Soft dental plaque *
- high F content in water
- eating solid foods

67. Light curing sealants:
+ Fissurlayt - LC *
+ Fissurlayt *
- Silar
- dentin

68. Contraindications to hermetization of fissures:
+ wide fissures *
+ The presence of carious cavities *
- full eruption of the tooth
- deep, narrow fissures

69. Tasks of premedication:
+ creation of mental and emotional peace *
+ Relief administration in anesthesia *
- normalization of CVS
- increases hyperkinesia

70. Obezb o Lebanon medications prescribed with regard to:
+ mass *
+ age *
- the frequency of heart contractions
- the frequency of breathing

71. Additional examination methods :
+ Microbiological studies *
+ Thermal diagnostics *
-Percussion
-Palpation

72. The main examination methods :
+ Inspection *
+ Inquiry *
- EDI
- Biochemical studies

73. Choose pairs o dont indexes:
+ PMA *
+ Schiller-Pisarev test *
- KPU + kp index
- index kp

74. What dyes are used to detect plaque :
+ Schiller-Pisarev solution *
+ iodine solution *
- chlorphilipt
- ascorbic acid

75. Normal oral microflora ?
+ Streptococcus *
+ Staphylacocci *
- Bacteroids
- fusphacterium

76. Saliva Proteins :
+ Systocin *
+ Mucin *
- Glycosamine glycan
- lysozyme

77. Teeth cleaning methods ?
+ Phones method *
+ Leonard's method *
- Nikolaev
- Tsepov

78. Enamel Features :
+ The hardest fabric *
+ Covers tooth crown *
- pigmented
- Cellular

79. What are the subjective methods of examination during a routine examination.
+ complaints *
+ survey *
- tomography
- CT

80. What are periodontal functions ?
+ reference *
+ holding *
- chemical
- lytic

81. Any tissue of the tooth image of th t Xia from mezadermy?

+ pulpitis *
+ dentin *
- periodontium
- gum

82. What are the differences between young and mature enamel .

+ Higher content of organic substances *
+ higher water content *
- lower water content
- higher alkali content

83. Select indices o dont

+ PMA *
+ Schiller-Pisarev test *
- KPU index
- KPU + kp index

84. Determine oral hygiene indices :

+ simplified hygiene index *
+ Index Green Vermileona *
- CPIN index
- CPU + CP

85. What is included in the protective factors of saliva?

+ antibodies *
+ gamma globulins *
- Na ions
- Mg ions

86. .From what is mixed saliva?

+ secretion of the salivary glands *
+ white blood cells *
- fluorapatitis
- hydroxyappatites

87. Pellicle tooth determined?

+ staining *
+ With the help of a probe *
- EDI
- Kulazhenko test

88. What dyes are used to detect plaque :

+ Schiller-Pisarev solution *
+ iodine solution *
- chloramine
- chlorphilipt

89. For the prevention of caries for the purpose of application are used:

1 - 2% p-p NaF *
+ 10% p-p gluconate Ca *
- glycerin
- methyluracil

90. Trace elements with anticariogenic effect?

+ Mo *
+ Cu *
- Mg
- cd

91. For the purpose of remterapia are used:

+ Fluoride Na *
+ Gluconate Ca *

- Sage
- Copper sulfate

92. The main differences between the surface layer of enamel from the deep :

+ Resistance to caries *
+ Great mineralization *
- low resistance to caries
- Lower fluoride concentration

93. The program of prevention "Carl w tadskaya model" includes:

+ Recommendations on nutrition *
+ topical application of fluorides *
- application of flosses
- use of chewing gum

94. Principles of professional hygiene

+ teeth stained with dye *
+ teeth brushing training *
- the appointment of drugs Ca
- use of elixirs

95. Types of flos with s:

+ waxed *
+ non-waxed *
- abrasive
- gear

96. Disadvantages of natural toothbrushes:

+ the presence of the middle channel *
+ difficulty in hygienic maintenance *
- ease of imparting stiffness
- the possibility of processing the ends of the bristles

97. In some methods of cleaning teeth tooth brush mounted under an angle of 45 about :

+ Pakhomov's method *
+ Stillmann method *
- Vinogradova method
- Reite method

98. The necessary movements of the toothbrushes when brushing your teeth:

+ sweeping *
+ circular *
- waved
- rubbing

99. Abrasive substances included in the composition of the tooth pastes:

+ chemically precipitated chalk *
+ dicalcium phosphate *
- calcium phosphate
- silicon oxide

100. The requirements imposed to dental pastes:

+ Good to remove dental plaque *
+ Be pleasant to taste *
- reduce enamel resistance
- increase salivation rate

101. For sugars include:

+ sucrose *
+ fructose *
- linase
- rose hips

102. In order to reduce the cariogenic potential of nutrition, it is necessary:

+ decrease in total sugar intake *
+ decrease in the frequency of sugar consumption *
- replacement of sugar substitutes with sugar
- reduced consumption of dairy products

103. Vitaftor contains:

+ sodium fluoride *
+ vitamin A *
- vitamin B
- glucanate

104. Fluorine-containing gels:

+ Fluodent *
+ Fluocaril *
- Fluorodent
- Vitaftor

105. The effect of Ca preparations :

+ regulates the central nervous system *
+ restorative *
- improves eyesight
- prevents deposition of F

106. Vitamin B1 is rich in products:

+ grits *
+ yeast *
- meat
- milk

107. Endogenous caries prevention is carried out:

+ glucanate Sa *
+ fitin *
- tooth paste
- fluoride varnish

108. Exogenous use of fluorides:

+ solutions *
+ gels *
- dragee
- with milk

109. In what time frame is carried out control over the formulation of sealant:

+ week *
+ month *
- 2 months
- 5 years

110. Composite materials are used in a sealant:

+ PrismaFil *
+ Silar *
- Fissurit - F
- Akvion

111. Conditional characteristics of pain:

+ sensory *
+ psycho-emotional *
- mental
- psychological

112. Amide Anesthetics:

+ trimecaine *
+ lidocaine *
- septonest
- analgin

113. When treating caries an important component part is:
+ Care of cavity mouth *
+ Decreased carbohydrate intake *
- Election prishlifovka teeth
- Carrying out open curettage

114. Mineral components for the general treatment of caries:
+ Gluconate calcium *
+ Calcium Lactate *
- Silver nitrate
- Silants

115. The risk of tooth decay reduces:
+ Effective cleaning of teeth *
+ Normal salivation *
- Frequent sugar intake
-The presence of common diseases

116. Sounding makes it possible to determine:
+ Deep carious cavity *
+ condition of hard tooth tissues *
- tooth mobility
- electroexcitation of tooth pulp

117. With the help of X-ray method survey define:
+ hidden carious cavity *
+ overhanging edges of the seal *
- tooth color
- tooth pulp inflammation

118. When the initial caries is the spot:
+ the presence of a chalky spot *
+ spot size - a few millimeters *
- the number of spots - four or more
- the presence of night pain

119. What are the non- subjective methods of examination during a routine examination.
+ tomography *
+ CT *
- complaints
- survey

120. The periodontal function does not include:
+ chemical *
+ lytic *
- supporting
- holding

121. What tooth tissues do not form from the mesaderm?
+ gums *
+ periodontium *
- dentin
- pulpitis

122. By the fluorine does not contain drugs include:
+ fitin *

+ calcium glucose *
- tooth paste
- fluoride varnish

123. What does not apply to the indices of pairs o dont:

+ CPU index *
+ CPU index + CP *
- RMA
- Schiller-Pisarev test

124. What relates to oral hygiene indices :

+ simplified hygiene index
+ Index Green Vermileona
- CPIN index
- CPU + CP

125. The composition of the protective factors slyunyne included?

+ antibodies
+ gamma globulins
- Na ions
- Mg ions

126. What is not included in the composition of the mixed saliva?

+ fluorapatitis *
+ hydroxyappatites *
- the secret of the salivary glands
white blood cells

127. What doesn’t apply to methods for determining tooth pellicles ?

+ EDI *
+ Kulazhenko test *
- probe
- coloring

128. For detection of dental plaque is not used :

+ chloramine *
+ chlorophyllipt
- Schiller-Pisarev solution
- iodine solution

129. For the prevention of caries for the purpose of application are not used:

+ glycerin *
+ methyluracil *
- 1 - 2% p-p NaF
- 10% p-p gluconate Ca

130. The main similarities between the surface layer of enamel and the deep:

+ Low resistance to caries *
+ Lower fluoride concentration *
- Resistance to caries
- Great mineralization

131. The Karlitad Model prevention program does not include:

+ application of floss *
+ use of chewing gum *
- recommendations on nutrition
- topical application of fluorides

132. The principles of professional hygiene include:

+ prescription of Ca * preparations
+ use of elixirs *

- teeth stained with dye
- teeth brushing training

133. By kinds flossovne includes:

+ waxed *
+ non-waxed *
- abrasive
- gear

134. Inherent elements to the artificial tooth brushes:

+ Ease of imparting rigidity *
+ ability to handle bristle ends *
- the presence of the middle channel
- difficulty in hygienic maintenance

135. In some methods of cleaning teeth tooth brush not set under the angle of 45 about :

+ Vinogradova method *
+ Reite method *
- Pakhomov's method
- Stillmann method

136. Optional motion tooth brushes during brushing of teeth:

+ wavy *
+ rubbing *
- sweeping
- circular

137. For an abrasive substances do not include:

+ calcium phosphate *
+ Oxide silicon *
- chemically precipitated chalk
- dicalcium phosphate

138. The composition Vitaftor not include:

+ vitamin B *
+ glucanate Sa *
- sodium fluoride
- vitamin A

139. Choose the stage of a routine inspection?

+ external inspection *
+ oral examination *
- tomography
- R - graph

140. Choose additional research methods .

+ EDI *
+ R - graph *
- palpation
- percussion

141. Select tooth decay intensity levels :

+ very low *
+ low *
- very average
- normal

142. Choose hygiene levels when determining the Fedorov-Volodkina index :

+ good *
+ satisfactory *
- very good
- medium

143. Select oral fluid function ?
+ bactericidal *
+ oral cleaning *
- stimulating
- homeopathic

144. What factors influence the composition of saliva?

+ general condition of the body *
+ saliva secretion rate *
- tooth powders
- one - time affiliation

145. Composition of soft plaque :
+ white blood cells *
+ epithelium *
- alkalis
- ions

146. Factors contributing to plaque formation :
+ tooth position *
+ hyposalivation *
- readjustment cavity mouth
- pH = 7.0

147. Factors contributing to the formation of dental plaque
+ Violation of the exchange substances *
+ wrong bite *
- compliance with hygiene oral cavity
- the normal exchange of substances

148. The composition of the soft dental plaque include :
+ epithelium *
+ leftover food *
- agranulocytes
- cement blocks

149. To determine the foci of demineralization using:
+ P-p nitrate of silver *
+ R- fuchsin *
- 2% p-p chloramine
- 5% rr $CaCl_2$

150. The main methods of treatment of demineralization of tooth enamel :
+ Remterapy *
+ Vanicia 0.2 % NaF *
- UHF
- Applications metrogil - Dent

151. That includes in itself a professional hygiene?
+ Education cleaning teeth *
+ Topical use of fluorides *
- Definition of CPU + CP
- Definition of PMA

152. From what factors it depends on the interval of the professional cleaning of teeth?
+ Interests of parents *
+ Interests of children *
- saliva pH
- estimates of the RMA index

153. For an additional means of hygiene include:
+ toothpicks *
+ dental floss *
- polyes
- fluoride varnish

154. The degree of hardness of tooth brushes:
+ hard *
+ very tough *
- slightly hard
- weakly soft

155. Teeth brushing methods :
+ Fones method *
+ Pakhomov's method *
- Fedorov method
- Courland method

156. What dyes determine the quality of brushing :
+ fuchsin *
+ erythrosine *
- ascorbic acid
- metrogyl

157. The main components of toothpastes:
+ abrasive filler *
+ binder component *
- hydrates
- alcohol solution

158. Anti-caries additives in the composition of toothpastes:
+ sodium fluoride *
+ tin fluoride *
- Al hydroxide
- chalk

159. Features of nutrition that contribute to caries:
+ high carbohydrate content in food *
+ increase in frequency of food intake *
- increased intake of solid foods
- high content of vitamins in food

160. Trace elements contribute to reduce the incidence of dental caries in children:
+ F fluorine *
+ Ca *
- Ni
- Cu

161. Element F value :
+ increases tooth resistance to caries *
+ good crystallization of hard tooth tissues *
- lowers enamel resistance
- contributes to the formation of dental stone

162. Fluorine preparations:
+ fluoride varnish *
+ Na fluoride solution *
- gluconate Ca
- pomarin

163. Choose mineral preparations that do not contain fluorine but have anti-carious effects:

+ glucanate Sa *
+ lactate Ca *
- vitamin K
- Ca chloride

164. Products rich in sa:

+ milk *
+ cottage cheese *
- apple
- meat

165. Endogenous fluoride intake :

+ with water *
+ with salt *
- in solutions
- in a dragee

166. Factors contributing to the demineralization of tooth enamel :

+ streptococci *
+ Soft dental plaque *
- high F content in water
- eating solid foods

167. Light curing sealants:

+ Fissurlayt - LC *
+ Fissurlayt *
- Silar
- dentin

168. Contraindications to hermetization of fissures:

+ wide fissures *
+ The presence of carious cavities *
- full eruption of the tooth
- deep, narrow fissures

169. Tasks of premedication:

+ creation of mental and emotional peace *
+ Relief administration in anesthesia *
- normalization of CVS
- increases hyperkinesia

170. Obezb o Lebanon medications prescribed with regard to:

+ mass *
+ age *
- the frequency of heart contractions
- the frequency of breathing

171. Additional examination methods :

+ Microbiological studies *
+ Thermal diagnostics *
-Percussion
-Palpation

172. The main examination methods :

+ Inspection *
+ Inquiry *
- EDI
- Biochemical studies

173. Choose pairs o dont indexes:

+ PMA *
+ Schiller-Pisarev test *

- KPU + kp index
- index kp

174. What dyes are used to detect plaque :

+ Schiller-Pisarev solution *
+ iodine solution *
- chlorphilipt
- ascorbic acid

175. Normal oral microflora ?

+ Streptococcus *
+ Staphylacocci *
- Bacteroids
- fusphacterium

176. Saliva Proteins :

+ Systocin *
+ Mucin *
- Glycosamine glycan
- lysozyme

177. Teeth cleaning methods ?

+ Phones method *
+ Leonard's method *
- Nikolaev
- Tsepov

178. Enamel Features :

+ The hardest fabric *
+ Covers tooth crown *
- pigmented
- Cellular

179. Select the necessary tools for carrying out preventive inspection of the oral cavity?

+ mirror *
+ probe *
- excavator
- ironer

180. The mucous membrane is normal:

+ pale pink *
+ wet *
- cyanotic
- raspberry

181. What papillae are there in the tongue?

+ mushroom-shaped *
+ filiform *
- finger-shaped
- needle - shaped

182. What are the features of primary teeth:

+ milky bluish color *
+ tooth roots are short and wide apart *
- dentinal tubules narrow
- long tooth roots

183. What are the additional examination methods ?

+ radiography *
+ electrodontodiagnosis *
- inspection
- survey

184. What are the types of percussion:

+ horizontal *
+ vertical *
- medial
- distal

185. In the oral cavity , a 7 year old child should have:

+ 12 molars *
+ cutter *
- 8 molars
- 6 incisors

186. In the oral cavity of a 10 year old child should be:

+ 8 molars *
+ 4 premolar *
- 12 molars
- 8 premolars

187. Which statement is correct?

+ a central milk incisor erupts at 6-8 months *
+ lateral milk incisor erupts at 8-10 months *
- at 9-10 months, the central milk incisor erupts
- at the 12-14 month lateral milk incisor erupts

188. In what time frame occurs eruption of milk teeth?

+ 6-20 months. *
+ 7-25 months. *
- 4-10 months.
- 10-20 months.

189. In a period of time there is the eruption of permanent teeth?

+ 6-15 years *
+ 5.5-16 years *
- 8-12 years old

- 6-10 years

190. What parts of the oral mucosa are painted over when determining the PMA index ?

+ papilla *
+ marginal edge of the tooth *
- cheek area
- lip area

191. To determine the hygienic condition of the oral cavity , dyes are used :

+ fuchsin solution *
+ erythrosine solution *
- solution of furacilin
- chlorhexidine

192. What indexes are used to determine the hygiene of the oral cavity?

+ Federov-Volodkina index *
+ Index Green Vermilion *
- RMA
- CPU + CP

193. Select indexes, which determine the intensity of caries:

+ CPU *
+ CPU + CP *
- KPI
- RMA

194. The Schiller-Pisarev test determines:

+ presence of inflammation in the gums *
+ increased glycogen content in the gums *
- the presence of dental plaque
- periodontal disease

195. What tooth surfaces are stained when determining the Green Vermilion index ?

+ vestibular surfaces of 11.31 teeth *
+ buccal surfaces of 16.26 teeth *
- lingual surfaces of 16.26 teeth
- buccal surfaces of 35.45 teeth

196. What methods of examination of saliva indicate a risk of caries?

+ saliva pH *
+ determination of saliva viscosity *
- determination of blood viscosity
- determination of the biochemical composition of saliva

197. What are saliva buffering systems :

+ bicarbonate *
+ phosphate *
- calcium
- alkaline

198. To what causes increased consumption of carbohydrates?

+ hyperglycemia *
+ hyposalivation *
- remineralization of enamel
- increased F in saliva

199. To what causes decrease in the secretion of saliva?

+ increase in caries intensity *
+ feeling of dryness *
- Decrease in intensity of caries
- growth of microorganisms

200. What are the organic compounds in the composition of saliva?

+ proteins *
+ carbohydrates *
- acids
- salt

201. Trace elements that maintain the balance between enamel and saliva:

+ Ca *
+ P *
- Mg
- Fe

202. What factor contributes to plaque formation ?

+ excessive consumption of soft foods *
+ orthodontic appliances *
- increased secretion of saliva
- eating solid foods

203. Favorite localization of plaque :

+ above the gum *
+ cervical region *
- crown neck
- cutting edge

204. Select non-mineralized dental deposits:

+ pellicle *
+ dental plaque *
- supragingival dental stone
- subgingival dental stone

205. Medicines that help dissolve dental plaque:

+ fluoride preparations *
+ enzymes *
- Ca preparations
- Mg preparations

206. Soft plaque removal methods :

+ rinse with water *
+ use of toothpicks *
- scaler
- polishing pastes

207. Favorite localization of tartar :

+ ducts of the parotid gland *
+ Vartonov ducts *
- necks of premolars
- in the area of tooth diastema

208. To increase the caries resistance of tooth enamel appoint:
+ fitin *
+ vitafluor *
- lactobacterin
- methylation

209. Formulations having a cleaning dental plaque properties:
+ F * drugs
+ enzymes *
- sulfonamides
- vitamins

210. According to some figures estimated cariogenic situation in the oral cavity?
+ saliva pH *
+ hygiene index *
- EDI - diagnostics
- R - graph

211. By what indicators of oral fluid can a cariogenic situation be determined ?
+ pH - saliva *
+ viscosity *
- trace element composition
- biochemical research

212. What trace elements contribute to tooth decay?
+ Se *
+ Mg *
- P
- F

213. What trace elements have anticariogenic effect?
+ F *
+ P *
- Se
- Mg

214. Diagnostic methods for focal demineralization
+ visual method *
+ enamel vital staining method *
- R - graph
- EDI

215. “ Risk areas ” of recently erupted teeth
+ fissures *
+ neck of teeth *
- teeth tubercles
- cutting edge
216. To identify carious spots by staining, apply:
+ Rr Schiller - Pisarev *
+ Erythrosine *
- R- potassium permanganate
- Furacilin
217. Methods of determining the dental plaque
+ Visual *
+ Instrumental *
- Physical
- Palpation
218. For the prevention of focal demineralization use:
+ Applicikacin 3% r- Remodent *
+ Caloscopy of 20 ml of solution
- Applications vit.A
- Rinse 20 ml r- solution of furatsilin
219. What vitamins are used to prevent enamel demineralization
+ Vit In_1 *
+ Vit C *
- Vit PP
- Vit B_{12}
220. How is controlled brushing evaluated ?
+ Hygiene Index *
+ Green - Vermilion Index *
- RMA
- CPU
221. Indications to carrying out professional care:
+ Soft dental plaque *
+ Supragingival dental stone *
- Gingivitis

- Enamel hypoplasia
222. Types of dental plaque
+ White *
+ Brown *
- blue
- red
223. Methods for the removal of dental plaque:
+ Mechanical *
+ Physical *
- Radiological
- With the help of antibiotics
224. Types of electric scaler:
+ sound *
+ ultrasound *
- tone
- acid
225. Tools for removal of dental deposits:

+ registry office set *
+ curett *
- ironer
- tweezers

226. In the form of toothpicks there are:

+ triangular *
+ flat *
- oval
- diamond

227. Dental elixirs have the effect of:

+ anti-cariosis *
+ anti-inflammatory *
- cleansing
- polishing

228. Indications for the use of tooth brushes from soft fibers:

+ periodontal disease *
+ mucosal diseases *
- artificial dentures
- metal crowns

229. The main components of dental elixirs:

+ infusions of herbs *
+ alcohol *
- abrasives
- antibiotics

230. To improve the quality of the flocs spend:

+ waxing *
+ fluoridation *
- impregnation of $CaCL_2$
- antibiotic impregnation

231. For people with a healthy periodontium , toothbrushes can be recommended :

+ average *
+ hard *
- soft
- very soft

232. At some segments divided tooth number when cleaning the teeth by a method Pahomova:

+ molars *
+ premolars *
fangs
- incisors

233. What movements carried cleansing teeth during brushing teeth by the method Pahomova:

+ horizontal *
+ circular *
- vibrating
- perpendicular

234. Choose pairs o dont indexes:

+ PMA *
+ Schiller-Pisarev test *
- KPU index
- KPU + kp index

235. What dyes are used to detect plaque :

+ Schiller-Pisarev solution *
+ iodine solution *
- chloramine
- chlorphilipt

236. Normal oral microflora ?

+ Streptococcus *
+ Staphylacocci *
- Peptostreptococcus
- Bacteroids

237. Saliva Proteins :

+ Systocin *
+ Mucin *
- Fructose
- Glycosamine glycan

238. Teeth brushing methods :

+ Fones method *
+ Pakhomov's method *
- Borisov method
- Fedorov method

239. Enamel Features :

+ The hardest fabric *
+ Covers tooth crown *
- porous
- pigmented

240. According to the topographic classification of caries, they distinguish:

+ Medium
+ In the spot stage
-Secondary
-Circular

241. With secondary caries, they differentiate:

+ Chronic fibrous periodontium
+ Deep caries
- Acute diffuse pulpitis
Tooth Fournier

242. When treating caries an important component part is:

+ Care for oral cavity
+ Decreased carbohydrate intake
-Izbiratelnaya prishlifovka teeth
Carrying out of open curettage

243. Mineral components for the general treatment of caries:

Gluconate + calcium
+ Calcium Lactate
-Amalgam
Silver Nitrate

244. The risk of tooth decay reduces:
+ Effective cleaning of teeth
+ Normal salivation
- Frequent sugar intake
-The presence of common diseases

245. To reduce the risk of tooth decay contributes to:
+ Use of fluoride supplements as indicated
+ Effective cleaning of teeth
-Neispolzovanie fluorine-containing tooth pastes
- Frequent sugar intake

246. Non-carious lesions occurring in the period of formation of the tooth is:
+ Hypoplasia
+ Hyperplasia
-Erosion
-Necrosis, injury

247. The following forms of hypoplasia are distinguished :
+ Spotted, wavy *
+ Cup-shaped *
-Flat
-Bar

248. The following forms of fluorosis are distinguished :
+ Dashed, spotted *
+ Cretaceous-mottled *
-Simple
-Deep

249. Marble disease:
+ bone growths in the bones of the skull *
+ occurs both in men, so and in women *
-enamel not changed
- there are no changes on the radiograph

250. For imperfect dentinogenesis is characterized by:
+ partial loss of tooth tissue *
+ applies to hereditary diseases *
-enamel not changed
- all answers are correct

251. Imperfect amelogenesis:
+ applies to hereditary diseases *
+ transmitted along the male and female lines *
-enamel not changed
intact teeth

252. By hereditary disorders of teeth include:
+ Imperfect dentinogenesis *
+ Dysplasia of capdepon *
Fluorosis
- Deep caries

253. For dysplasia Kapdepona characterized by:
+ watery gray color of teeth *
+ undetected pathogenesis *
enamel is not broken
dentin is not broken

254. The clinical picture with pathological abrasion:
+ Decrease the height of the lower card face *
+ Changes in the temporomandibular joint *
-Fracture of the root
-Zub pink color

255. Non-carious lesions of the teeth that occur after eruption:
+ Hyperesthesia of the teeth *
+ Tooth bruise *
Tooth Fournier
Hypoplasia

256. The clinical picture with pathological abrasion:
+ Pain from temperature irritants *
+ Pain from taking sweets *
Crowded teeth
-Wedge-shaped defect

257. The following factors lead to pathological abrasion :
+ Direct bite *
+ Incorrectly designed dentures *
-Open bite
-Timely dental treatment

258. The clinical manifestation of pathological tooth abrasion is:
+ Hypersensitivity to temperature irritants *
+ Hypersensitivity to chemical irritants *
- Reduced sensitivity to mechanical irritants
- Reduced sensitivity to all types of irritants

259. Non-carious lesions of the teeth that occur after eruption:
+ Enamel necrosis *
+ Pathological abrasion *
Marble disease
Hyperplasia

260. Types of tooth erosion :
+ Professional *

+ Conditioned by diet *
-SECONDARY
Bullous

261. When treating hyperesthesia hard tissues of teeth are widely used pastes in composition
+ which includes:
+ sodium bicarbonate *
+ sodium carbonate *
-formalin
-alcohol

262. General treatment for hypoplasia:
+ Prevention of infectious diseases *
+ Treatment of common diseases *
-Filling channels
-Application of arsenic paste

263. Sounding makes it possible to determine:
+ deep carious cavity *
+ condition of hard tooth tissues *
tooth mobility
-excitability of tooth pulp

264. With the help of X-ray method survey define:
+ hidden carious cavity *
+ overhanging edges of the seal *
tooth color
inflammation of the pulp of the tooth

265. When the initial caries is the spot:
+ the presence of a chalky spot *
+ spot size - a few millimeters *
-number of spots - four or more
the presence of night pain

266. For staging diagnosis of initial caries you need to know:
+ tooth tissues during sounding are dense *
+ percussion is painless *
palpation is painful
Thermal diagnosis is painful

267. For initial caries, it is characteristic:
+ typical localization for caries *
+ stain appears after teething *
- only milk teeth are affected
- all answers are correct

268. To make a diagnosis of superficial caries, you need to know:
+ defect appears after teething *
+ characteristic progressive course *

- no correct answers
- there are no changes on the radiograph

269. The clinical picture in acute inflammation of the pulp:
+ spontaneous pains *
+ night pains *
soft tissue edema
-zub painted in pink color

270. In acute diffuse pulpitis:
+ deep carious cavity *
+ carious cavity does not communicate with the tooth cavity *
-the presence of fistulous course
-electric pulp excitation over 100 μA

271. In chronic fibrous pulpitis:
+ carious cavity of large sizes *
+ increased sensitivity to cold *
pulp hypertrophy
-excitation of pulp 2-6 μA

272. In chronic fibrous pulpitis:
+ deep carious cavity communicating with the tooth cavity *
+ deep carious cavity filled with altered dentin *
the presence of an intact tooth
asymptomatic course

273. In the treatment of chronic hypertrophic pulpitis is carried out:
+ amputation *
+ anesthesia *
covering of fluoride varnish
- removal of filling material at the top of the root

274. Complaints of patients with chronic gangrenous pulpitis:
+ unpleasant smell iso mouth *
+ pain from hot *
- tooth color is not changed
carious cavity does not communicate with the cavity of the tooth

275. An objective examination of a patient with chronic gangrenous pulpitis:
+ soreness during deep sounding *
+ deep carious cavity *
- bleeding pulp is visible
carious cavity does not communicate with the cavity of the tooth

276. Infiltration anesthesia is performed in the treatment of teeth:
+ 18 *
+ 27 *
-48
-42

277. Infiltration anesthesia is performed in the treatment of teeth:
+ 22 *

+ 26 *
-48
-34

278. Infiltration anesthesia is performed in the treatment of teeth:
+28 *
+ 21 *
-48
-35

279. When conducting anesthesia, you need to know:
+ Duration of anesthesia with novocaine 30 minutes *
+ Dicain for surface anesthesia is used as a 3 % solution *
-Lidocaine for conduction anesthesia is used in the form of 25% solution
Be a proper response is not

280. Preparations for the devitalization of the pulp of the tooth of the company «Septodont»:
+ arsenic caustinerv *
+ kaustinerv -speed (Rapide) *
-Septonest
ubistesin

281. When conducting a biological method of treating pulpitis, you need to know:
+ potent drugs do not use *
+ the method is used for accidental exposure of the arch of the tooth cavity *
-method is more often used in old age
-method is used in the treatment of chronic gangrenous pulpitis

282. For successful treatment of pulpitis with a biological method, select a medical pad
+ Calcimol *
+ Calcesil *
- FiltekZ 250
-Compolux

283. For successful treatment of pulpitis biological method to select medical gasket:
+ Alcaliner *
+ Septocalcine *
-Devitalizing paste
-Dentin paste

284. For successful treatment of pulpitis, select an endodontic instrument :
+ Gutta- condenser *
+ System “ K 3 Endo” (Kerr) *
-Dental mirror
ironing machine

285. For successful treatment of pulpitis, select an endodontic instrument :
+ Shaping File 1 (S1) *
+ Finishing File 1 (F1) *
chisel

curette

286. For successful treatment of pulpitis, select an endodontic instrument :
+ ApicalReamer *
+ H - File *
-tweezers
dental mirror

287. For successful treatment of pulpitis, select an endodontic instrument :
+ Peeso Reamer *
+ GT Rotary Files *
- contour matrices
retraction thread

288. For successful treatment of pulpitis, select an endodontic instrument :
+ root drill *
+ root drilbor *
-cofferdam
-stopper with plugger

289. When treating pulpit to conduct the restoration of the tooth is necessary to have:
+ Lamp for polymerization *
+ composite material *
-Root drill
-Rimer

290. When treating pulpit to conduct the restoration of the tooth is necessary to have:
+ contour matrix *
+ retraction thread *
-resorcinol-formalin paste
zinc eugenol paste

291. When treating pulpit to conduct the restoration of the tooth is necessary to have:
+ VITA colors *
+ abrasive strips *
pulp extractor
channel filler

292. When conducting the vital amputation method, you need to know:
+ Indication to conduct vital amputation is acute focal pulpitis *
+ Vital amputation not performed in 12 tooth *
-Vital amputation performed in single-rooted teeth
-When vital amputation arsenic paste is applied on the mouth of the root canals

293. In the treatment of pulpitis for permanent fillings, select a composite of light curing:
+ With mposite *
+ Herculite *
-Silicin

-Beladont

294. In the treatment of pulpitis , anesthesia is performed on the teeth of the upper jaw :
+ infiltration *
+ palatinal *
mental
epidural

295. With the combined method of treating pulpitis , complications are possible :
+ tool breakage in the channel *
+ perforation of the root canal wall *
- no correct answers
-ponizhenie hearing

296. For the resorcinol-formalin method is used:
+ Resorcinol *
+ formalin *
Chloramine
-alcohol

297. When conducting local anesthesia , the following complications may occur :
+ broken injection needle *
+ hematoma formation *
- no correct answers
- all answers are correct

298. After the injection, pain and swelling appear in cases:
+ when using anesthetic with an expired term of validity *
+ with rough execution of manipulations *
- all answers are correct
- no correct answers

299. The causes of root canal bleeding after extirpation are:
+ stagnant phenomena in vessels periapical periodontal *
+ incomplete pulp removal *
narrow apical foramen
- root canal curvature

300. Preconditions leading to breakage of instruments in the root canal:
+ violation of the sequence of instruments *
+ work in a blocked channel *
-measurement of the working length of the root canal
- correct jammed tool removal

301. When filling a channel , the following errors can be made :
+ unsealed channel *
+ non-homogenously sealed channel *
-distributed into the thinnest film
obturation of the entire part of the canal

302. When filling a channel , the following errors can be made :
+ removal of material for apex *
+ poor-quality sealing of the wellhead *
-homogeneous canal filling

- preservation of tooth color after filling

303. Materials for permanent obturation of the root canal system should
+ possess the following properties:
+ biological compatibility *
+ insolubility in tissue fluids *
to dissolve
- hard to remove from the root canal

304. Materials for permanent obturation of the root canal system should
+ possess the following properties:
+ Ductility *
+ do not stain tooth tissue *
-Low ability to condensation
-reduce adhesion when fixing the pin

305. The requirements imposed by modern root cement:
+ easy to mix and have convenient packaging *
+ radiopacity *
-Low ability to condensation
-reduce adhesion when fixing the pin

306. The requirements imposed by modern root cement:
+ high ductility *
+ high-quality tightness *
-Low ability to condensation
-reduce adhesion when fixing the pin

307. The requirements imposed by modern root cement:
+ long working hours *
+ short curing time in the oral cavity, minimal shrinkage *
dissolve in tissue fluids
-Low ability to condensation

308. Gutta-percha benefits :
+ bioinertness and biocompatibility *
+ high ductility and ability to condensation *
- reduces adhesion when fixing a pin
- the difficulty of sterilization

309. Gutta-percha benefits :
+ easy unsealing if necessary *
+ biocompatibility *
-sharp shrinkage
-low plasticity

310. Methods of permanent obturation of canals:
+ filling the channel with paste *
+ one pin *

-silvering
-detopophoresis

311. Methods of permanent obturation of canals:
+ thermomechanical obstruction of gutta-percha *
+ vertical condensation *
-resorcinol-formalin method
electrophoresis

312. Criteria for obstruction of the canals:
+ obturation of the root canal to the working length *
+ homogeneity sealing on all over *

-fragmentation of the tool in the channel
vertical root fracture

313. Criteria for obstruction of the canals:
+ obturation of the root canal to the working length *
+ homogeneity sealing on all over *
-perforation
-fragmentation of the tool in the channel

314. The following concentrations of hypochlorite solution are common
+ (NaOCl):
+ 5.25% *
+ 3% *
-thirty%
-25%

315. The first-aid kit for providing emergency assistance at the contact of blood to the skin
+ and mucous membranes, injections and cuts include:
+ 5% iodine solution *
+ 70% ethyl alcohol *
-3% Perico hydrogen
brilliant green

316. Radiovisiography has several advantages:
+ minimum exposure time *
+ radiation dose reduced by 90% *
inaccurate indications in the presence of exudate
inaccurate indications for irrigation solutions

317. Radiovisiography has several advantages:
+ repeated removal and identification on the monitor *
+ does not require drying and film processing *
-high dose to the patient and staff
-requires additional room

318. Components of saliva affecting the accumulation of plaques
+ amylase *
+ lactoperoxidase *
-professim
-papain

319. At the systemic level, resistance to dental caries depends on the type of:
+ structures of the facial skeleton *
+ jaws *
antimicrobial factors
-psychological aspects

320. At an organizational level, resistance to caries depends on:
+ functioning of the salivary glands *
+ degree of washing and cleansing with the help of tooth saliva *
-tesnoty arrangement of teeth
-values interdental promezhyrkov

321. At the molecular level, tooth resistance to acid
+ exposure depends on the type:
+ hydroxyapatite enamel *
+ inclusions of microelements in the composition of hydroxyapatite *
enamel beams
- from mosaic of electric enamel charge

322. At the tissue level , resistance depends on:

+ regularity of enamel structure *
+ presence and number of defects in it *
antimicrobial factors
-psychological aspects

323. At the level of the tooth as an organ, resistance to caries is determined by:
+ enamel surface structure *
+ formation of pellicles on it *
degrees of mineralization of enamel
-interactions of protein and mineral structures

324. Preconditions leading to breakage of instruments in the root canal:
+ violation of the sequence of instruments *
+ work in a blocked channel *
-measurement of the working length of the root canal
- correct jammed tool removal

325. When filling a channel , the following errors can be made :
+ unsealed channel *
+ non-homogenously sealed channel *
-distributed into the thinnest film
obturation of the entire part of the canal

326. When filling a channel , the following errors can be made :
+ removal of material for apex *
+ poor-quality sealing of the wellhead *
-homogeneous canal filling
- preservation of tooth color after filling

327. Materials for permanent obturation of the root canal system should
+ possess the following properties:
+ biological compatibility *
+ insolubility in tissue fluids *
to dissolve
- hard to remove from the root canal

328. Materials for permanent obturation of the root canal system should
+ possess the following properties:
+ Ductility *
+ do not stain tooth tissue *
-Low ability to condensation
-reduce adhesion when fixing the pin

329. The requirements imposed by modern root cement:
+ easy to mix and have convenient packaging *
+ radiopacity *
is an allergen
-Low ability to condensation
-reduce adhesion when fixing the pin

330. The requirements imposed by modern root cement:
+ high ductility *
+ high-quality tightness *
-Low ability to condensation
-reduce adhesion when fixing the pin

331. The requirements imposed by modern root cement:
+ long working hours *
+ short curing time in the oral cavity, minimal shrinkage *
dissolve in tissue fluids
-Low ability to condensation

332. Gutta-percha benefits :
+ bioinertness and biocompatibility *
+ high ductility and ability to condensation *
- reduces adhesion when fixing a pin
- the difficulty of sterilization

333. Gutta-percha benefits :
+ easy unsealing if necessary *
+ biocompatibility *
-sharp shrinkage
-low plasticity

334. Methods of permanent obturation of canals:
+ filling the channel with paste *
+ one pin *

-silvering
-detopophoresis

335. Methods of permanent obturation of canals:
+ thermo
gutta - percha mechanical obstruction *
+ vertical condensation *
-resorcinol-formalin method
electrophoresis

336. Criteria for obstruction of the canals:
+ obturation of the root canal to the working length *
+ homogeneity sealing on all over *
-fragmentation of the tool in the channel
vertical root fracture

337. Criteria for obstruction of the canals:
+ obturation of the root canal to the working length *
+ homogeneity sealing on all over *
-perforation
-fragmentation of the tool in the channel

338. The following concentrations of hypochlorite solution are common
+ (NaOCl):
+ 5.25% *
-6%
-0%
-25%

339. The first-aid kit for providing emergency assistance at the contact of blood to the skin
and mucous membranes, injections and cuts include:
+ 5% iodine solution *
+ 70% ethyl alcohol *
-3% Perico hydrogen
brilliant green

340. The nature of pain in acute focal pulpitis of primary teeth ov ?
+ Short-term *
+ Appearing for no reason *
-Pulsating
-Constant

341. Areas of inflammation in acute focal diffuse pulpitis
+ Horn of the pulp *
+ The coronal portion of the pulp *
-Periodontium
-Bifurcation site

342. Causes of systemic hypoplasia
+ Toxicosis in the second half of pregnancy *
+ Diseases of the child in during the first year of life *
Injuries to deciduous teeth
-Lack of fluoride in water

343. Which of the following diseases are not genetic?
+ Fluorosis *
+ Tetracycline teeth *
-Complete amelogenesis
Marble disease

344. Complaints of a patient with local hypoplasia?
+ Cosmetic flaw *
+ Tooth color change *
- Pain at temperature
-More with bite

345. What tooth tissues do not change during amelogenesis?
+ Pulp *
+ Dentin *
-Enamel
- Enamel and dentin

346. Which of the following diseases are genetic?
+ Incomplete amelogenesis *
+ Stayton - Capdepon Syndrome *
Systemic hypoplasia
-Karies tissue tooth

347. Differential diagnosis of secondary decay of deciduous teeth is carried out with
+ Chronic gangrenous pulpitis *
+ Chronic periodontitis *
-Initial caries
-Fluorosis

348. Diseases of the soft tissues of the tooth
+ Chronic pulpitis *
+ Acute pulpitis *
periodontitis
Periodontitis

349. In acute focal pulpitis of primary teeth:
+ Night pain *
+ The causative tooth is precisely indicated *
Is the temperature of the body of lowers the
-Pallor

350. Differentiation of acute focal pulpitis:
+ With deep caries *
+ With acute apical periodontitis *
-On average caries
- With chronic gangrenous pulpitis

351. The nature of pain in acute diffuse pulpitis
+ Appears for no reason *
+ Spontaneous pains *
-From acidic foods
- From sweet

352. Clinical signs of acute diffuse pulpitis of primary teeth
+ Pain when probed on the entire bottom of carious cavity *
+ Pain during percussion *
-Changes in tooth color
- An increase in morning pain

353. Causes of changes in the condition of the child with acute diffuse pulpitis
+ Increase in body temperature *
+ General intoxication *
-Loss of appetite
-Chuvstvo fear

354. When can I see a red, bleeding pulp in a carious cavity?
+ In chronic proliferative pulpitis *
+ In chronic hypertrophic pulpitis *
- In acute diffuse pulpitis
In case of chronic gangrenous pulpitis

355. Due to which when chronic gangrenous pulpitis appears a sharp pain?
+ Deep m probe and *
+ High temperature *
- sweet action
- mechanical impact

356. How is devital amputation performed ?
+ With the help of paste "DeWitt" *
+ Using arsenic paste *
- Using infiltration anesthesia
C using general anesthesia

357. Differential diagnosis
of acute diffuse pulpitis from exacerbated chronic periodontitis:
+ Sharp soreness when sensing *
+ No change in x- ray *
-Boleznennost when chewing
Hyperemia, and swelling around the tooth

358. The cause of spontaneous pain in acute diffuse pulpitis
+ Microbes and their toxins affect the nerve ending *
+ Pressure increase due to exudation in the pulp *
- Mechanical irritants
- Temperature changes

359. Clinical signs of acute diffuse pulpitis
+ Irradiating pain *
+ Pain worse at night *
-Pain
- Just ukazқvaetsya reasons s first tooth

360. Differential diagnosis of acute diffuse pulpitis from acute focal pulpitis
+ Hyperemia, and swelling around the tooth *
+ Soreness with percussion *
Carious cavity
- Painless when probing the base of the cavity

361. Pain in chronic fibrous pulpitis of primary teeth
+ Causal *
+ Can and not be *
-When biting
-Irradiating

362. Clinical signs having differentially - diagnostic value for the diagnosis of a chronic fibrous pulpitis of secondary caries
+ Pain from temperature *
+ Soreness when probing the base of the cavity *
- hard th dentin at grounds cavity -Bezboleznennost when biting

363. Methods used for the differential diagnosis
of chronic hypertrophic pulpitis from chronic granulation periodontitis
+ X-ray *
+ EDI *
-Percussion
Thermal diagnostics

364. Complaints of a patient with chronic hypertrophic pulpitis
+ Pain from mechanical irritants *
+ Biting when biting *
-At spontaneous pain
- Pain with sweet and bitter

365. What types of pulpitis are more common in primary teeth?
+ Chronic gangrenous *
+ Chronic fibrous *
Chronic hypertrophic
-Sharp focal

366. An effective method of treatment of pulpitis cognate milk teeth with the formed tip:
+ Deep amputation *
+ Extirpation *
- Vital amputation
- Biological method

367. What is placed on the pulp stump after its vital amputation in primary teeth?
Pasta at Calcidont *
Calcine th pastes at *
Resorcinol - formalin swab
Camphor - phenol swab

368. What is left on the bottom about the cavity after devital amputation of the coronal pulp in milk teeth?
+ Formalin - thymol swab *
+ Resorcinol - formalin swab *
Eigenol tampon
-Calcin - Camellin paste

369. For tooth pulp devitalization, apply:
+ Paraform paste *
+ Arsenic paste *
Eugenol - thymol paste
-Serebryanaya paste Guinness

370. The most effective method of treating pulpitis of single-rooted deciduous teeth:
+ devital extirpation *
+ extirpation *
- biological
- vital amputation

371. Often Occur shaped pulpit milk teeth :
+ chronic fibrous pulpitis *
+ acute diffuse pulpitis *
- chronic hypertrophic pulpitis
- exacerbation of chronic pulpitis

372. What is left at the mouth of the canals after vital amputation?
+ kaltsovit paste *
+ calmecin paste *
-rez..formlin swab
- formalin thymol paste

373. What is used for mummification in the treatment of pulpitis of primary teeth :
+ cut - formalin liquid *
+ resorcinol - formalin paste *
-calcin paste
- calmecin paste

374. How is the carious cavity of the tooth sealed after devital amputation ?
+ cement laying *
+ permanent seal *
-solution resorcinol
peroxide solution

375. For any complication will overdose arsenious paste during the treatment of pulpitis ?
+ medical periodontitis *
+ the appearance of pain *
- chronic fibrous pulpitis
- traumatic periodontitis

376. According to the etiology of periodontitis are:
+ medication *
+ infectious *
acute, chronic
- gangrenous, granulomatous

377. Types of periodontitis, where the etiological factor is microorganisms :
+ infection, *
+ hematogen *
chemical, infectious
arsenic, hematogenous

378. What restoratives materials seal up channels of milk teeth after a hysterectomy?
+ resodent *
+ resorcinol - formalin paste *
- intraradont
unary

379. Which of the listed nosologies directly lead to periodontal inflammation ?
+ chronic fibrous pulpitis *
+ chronic gangrenous pulpitis *
acute focal pulpitis
- deep caries

380. The nature of pain in acute focal pulpitis of primary teeth?
+ Appearing for no reason *
+ Short-term *
- Pulsating
- Permanent

381. Areas of inflammation in acute focal diffuse pulpitis
+ Horn of the pulp *
+ The coronal portion of the pulp *
- Periodontium
- Place of bifurcation

382. Causes of systemic hypoplasia
+ Toxicosis in the second half of pregnancy *
+ Diseases of the child in during the first year of life *
- Injuries to deciduous teeth
- Lack of fluoride in water

383. Which of the following diseases is not a genetic?
+ Fluorosis *
+ Tetracycline teeth *
- Incomplete amelogenesis
- Marble disease

384. Complaints of a patient with local hypoplasia?
+ Cosmetic flaw *
+ Tooth color change *
- Pain at temperature
- Pain when biting

385. What tooth tissues do not change during amelogenesis?
+ Pulp *
+ Dentin *
- enamel
- Enamel and dentin

386. Which of the following diseases are genetic?
+ Stayton - Capdepon Syndrome *
+ Incomplete amelogenesis *
- Caries tissues of the tooth
- Systemic hypoplasia

387. Differential diagnosis of secondary decay of deciduous teeth is carried out with
+ Chronic gangrenous pulpitis *
+ Chronic periodontitis *
- Initial caries
- fluorosis

388. Diseases of the soft tissues of the tooth
+ Chronic pulpitis *
+ Acute pulpitis *
- Periodontitis
- Periodontitis

389. In acute focal pulpitis of primary teeth:
+ General condition does not change *
+ Salivation does not change *
- body temperature rises
- pallor

390. Differentiation of acute focal pulpitis:
+ With deep caries *
+ With acute apical periodontitis *
- With chronic gangrenous pulpitis
- With average caries

391. The nature of pain in acute diffuse pulpitis
+ Appears for no reason *
+ Spontaneous pains *
- When biting
- From acidic foods

392. Clinical signs of acute diffuse pulpitis of primary teeth
+ Pain when probed *
+ Pain during percussion *
- tooth color changes
- An increase in morning pain

393. Causes of changes in the condition of the child with acute diffuse pulpitis
+ Increase in body temperature *
+ General intoxication *
- Feeling of fear
- loss of appetite

394. When can I see a red, bleeding pulp in a carious cavity?
+ In chronic proliferative pulpitis *
+ In chronic hypertrophic pulpitis *
- In acute diffuse pulpitis
- In case of chronic gangrenous pulpitis

395. Due to which when chronic gangrenous pulpitis appears a sharp pain?
+ Deep sounding *
+ High temperature *
- mechanical impact
- sweet action

396. How is devital amputation performed ?
+ With the help of paste "DeWitt" * C
+ With the help of arsenic paste * C
- using infiltration anesthesia
- using general anesthesia

397. Differential diagnosis
of acute diffuse pulpitis from exacerbated chronic periodontitis:
+ Sharp soreness when sensing *
+ No change in x- ray *
- Hyperemia, and swelling around the tooth
- Soreness when chewing

398. The cause of spontaneous pain in acute diffuse pulpitis
+ Microbes and their toxins affect the nerve ending *
+ Pressure increase due to exudation in the pulp *
- Mechanical irritants
- Temperature changes

399. Clinical signs of acute diffuse pulpitis
+ Pain worse at night *
+ Irradiating pain *
- Continuous causeless pain
- pain

400. Differential diagnosis of acute diffuse pulpitis from acute focal pulpitis
+ Soreness with percussion *
+ Hyperemia, and swelling around the tooth *
- Painless when probing the base of the cavity
- Carious cavity

401. Pain in chronic fibrous pulpitis of primary teeth
+ Causal *

+ May and not be *
- Irradiating
- When biting

402. Clinical signs having differentially - diagnostic value for the diagnosis of a chronic fibrous pulpitis of secondary caries
+ Pain from temperature *
+ Soreness when probing the base of the cavity *
- Soft dentin at the base of the cavity
- Painless when biting

403. Methods used for the differential diagnosis of chronic hypertrophic pulpitis from chronic granulation periodontitis
+ EDI *
+ X-ray *
- percussion
- Thermal diagnostics

404. Complaints of a patient with chronic hypertrophic pulpitis
+ Pain from mechanical irritants *
+ Biting when biting *
- Pain with sweet and bitter
- For spontaneous pain

405. What types of pulpitis are more common in primary teeth?
+ Chronic gangrenous *
+ Chronic fibrous *
- Chronic hypertrophic
- Acute focal

406. An effective method of treatment of pulpitis cognate milk teeth with the formed tip:
+ Extirpation *
+ Deep amputation *
- Vital amputation
- Biological method

407. What is placed on the pulp stump after its vital amputation in primary teeth?
+ Pasta Calcidont *
+ Calcium paste *
- Camphor - phenol swab
- Resorcinol - formalin swab

408. What is left at the bottom of the cavity after devital amputation of the coronal pulp in primary teeth?
+ Formalin - thymol swab *
+ Resorcinol - formalin swab *
- Eigenol swab
- Calcine - Camellin paste

409. For tooth pulp devitalization, apply:

+ Paraform paste *
+ Arsenic paste *
- Eugenol - thymol paste
- Guinness Silver Paste

410. Caries in the spot stage is detected

+ detected by fluorescence *
+ occurrence of focal demineralization *
- the occurrence of hypermineralization
- the appearance of a dashed spot
- all answers are correct

411. What complaints are presented with superficial caries

+ pain from sweets *
+ pain from acid *
- Pain from hot
spontaneous pain
-More than when probing

412. Conditions for the occurrence of tooth decay is

+ cariogenic flora *

+ low enamel resistance *

- resident flora

- insoluble proteins

- easily digestible carbohydrates

413. An additional site is prepared :

+ For 3 class *
+ 4 class *
-on 1 class
- on the 8th grade
- on the 5th grade

414. Complaints requirements with deep caries

+ the presence of a deep carious cavity *
+ pains from cold and hot *
- Have not a deep carious cavity
- Pain with percussion
- the presence of a chalky spot

415. When the average caries

+ there is a carious cavity of medium depth *

+ pain from sweets *

- Spontaneous pains

- Night pain

- pain with percussion

416. clinical of the listed antiseptics is used in the treatment of caries

+ 3% Perico hydrogen *
+ alcohol *
- Chlorine Felipt

- Eludryl
chlorhexidine

417. The most common causes of pulpitis?

+ Germs in the carious cavity *
+ Microbial Toxins *
- Increased iodine content in food
- Anomoly of pulp development
- Dental stones

418. Complaints of a patient with local hypoplasia?

+ Tooth color change *
+ Cosmetic flaw *
- Pain at temperature
- Pain when biting

419. What tooth tissues do not change during amelogenesis?

+ Pulp *
+ Dentin *
-Enamel
- Enamel and dentin

420. Causes of pulpitis?

+ Pulp mechanical injury *
+ Excessive thermal and medicinal effects during caries foresting *
- In case of excessive enamel damage, tooth a
- Complications of gum stone
- Anomaly of pulp development .

421. Clinic pulpitis in children?

+ A thin layer of dentin, dentin is less mineralized *
+ Dentinal tubules more extensive *
- Camera pulp smaller size
- A thick layer of dentin gives a load on the pulp
- Dentinal tubules narrow

422. What is the reason for the rapid spread of the inflammatory process in children?

+ The presence in the pulp of a larger number of cell elements *
+ H Alice in the pulp greater amount of amorphous substance *
- The presence in the pulp of a smaller number of cellular elements
- H Alice in pulp smaller amount of amorphous material
-Larger number of fibers

423. The development of apical periodontitis is associated with ...?

+ The receipt of microbes and their toxins from inflamed pulp *
+ Receiving metabolic products of inflamed pulp *
- Lack of a carion cavity
- Launched tooth gum stone
- Complication of infectious diseases

424. Signs of acute pulpitis?

+ Acute abrupt pain *
+ Pain occurs without irritant *
- dull pain

- Pain occurs when chewing
- Pain occurs when the jaw moves and when it closes

425. In acute pulpitis in children , methods should not be used ?

+ Thermometry *
+ EDI *
- Palpation
- percussion
- sounding

426. Features of acute pulpitis?

+ It occurs with symptoms of periodontitis *
+ Develops from deep caries *
- With prolonged heat exposure
- When not observed hygiene oral cavity
- With natural loosening of the tooth

427. Symptoms of acute diffuse pulpitis?

+ Nester

pimye pain at the reception of food *
+ The whole side hurts , and gives pain to various parts along the trigeminal nerve *
- Lack of a carious cavity
- Bad smell iso mouth
- No fistula

428. Clinical Signs of Fibrous Pulpitis

+ Patients accurately indicate the causative tooth *
+ Pain at the reception of food *
- Radiating pains
- Percussion is positive
- Razrostanie Wild meat in the cavity of the tooth

429. What is fluorosis?

+ endemic disease occurring in regions with a high content of fluoride in drinking water *
+ developmental threshold that is formed as a result of a violation of the metabolic processes of developing teeth *
- Gingival papilla developmental disorders
- Changes in tooth color under the influence of tetracycline drugs

430. The optimal fluoride content in drinking water which gives an anti-carious effect

+ 0.7 *
+ 1 *
-0.3
- 0.5
-2.1

431. Forms of manifestation of fluorosis

+ spotted
*
+ dashed *
- hypokeratous
- balloon

- bubbly

432. Where you are the finishing touches with fluorosis:

+ on all teeth *
+ vestibular surface *
-inclusional
chewing teeth
-proximal surface

433. With what diseases differentiate fluorosis

+ caries *
+ hypoplasia *
periodontal disease
-pulpitis
- alveolitis

434. The manifestation of the erosive form

+ pronounced pigmentation of enamel *
+ areas of lack of enamel *
Cretaceous matte shade
- multiple shiny spots
stripes in the form of strokes

435. What is typical for fluorosis in the stage of spot

+ Spots are multiple, are arranged on the entire crown *
+ spots are not stained with methylene blue *
- this stage is detected radiologically
- methylene blue stains
- the spots are dark brown in color

437. What is characteristic for the destructive form

+ Enamel is markedly brittle *
+ dentin generation *
painless sounding
destruction of tooth cement
- not visible on radiograph

438.
Characteristics of the combined form

+ develops in children at the age of 4.5 months to 3 years *
+ hypersthesia from temperature irritants *
- The integrity of the columns
- tooth abrasion is not observed
- no cosmetic defect

439. What is noted with the chalk- crab shape?

+ Recesses in the form of specks of yellow or brown color of a
+ observed small chips enamel
- bleeding gums
- pain in the area of the neck of the tooth
- periodontal inflammation

440. What pathogenetic phenomenon is characteristic for acute periodontitis and distinguishes it from chronic:

+ infiltration *
+ exudation *
-proliferation
- proliferation of connective tissue

E) coagulation

441. Clinical symptom characteristic for acute pulpitis:
+ temperature increase *
+ hyperemia of tissues around the tooth *
gum bleeding
pallor of the mucous membrane
- dryness in the oral cavity

442. List the possible complications of acute periodontitis in children:
+ periostitis *
+ chronic periodontitis *
-stomatitis
cheilitis
- pulpitis

443. List the radiological manifestations of acute fibrous periodontitis:
+ thickening and densification of periodontal *
+ extended periodontal gap *
narrowing of the periodontal gap
-education fistula
- no changes on the radiograph

444. In what is the prevention of acute periodontitis:
+ timely treatment of pulpitis *
+ timely treatment of caries *
timely treatment of stomatitis
- timely treatment of glossitis
- timely treatment of mumps

445. If any forms vospaliny possible formation of a fistula:
+ chronic granulating periodontitis *
+ chronic gangrenous pulpitis *
chronic fibrous periodontitis
exacerbation of chronic fibrous periodontitis
- acute periodontitis

446. Causes of apical periodontitis:
+ microorganisms and their toxins *
+ removal of filling material in periodontium *
- low fluorine content in water
violation of water-salt metabolism
- high iodine content in food

447. Clinic d for acute periodontitis:
+ aching growing pain *
+ pain with percussion *
dull pain
- inability to determine a bad tooth
only night pain

448. A milk tooth with periodontitis should be removed if:
+ 2 years left before the physiological shift *

+ II - III degree of tooth mobility *
- 4 years left before the physiological change
- I degree of tooth mobility
- lack of root resorption

449. What medications are used to treat acute arsenic periodontitis:

+ 5% alcohol solution of iodine *
+ unithiol *
-perekis hydrogen
Chloramine
- carbolic acid

450. The clinical picture in acute inflammation of the pulp:

+ spontaneous pains *
+ night pains *
asymptomatic course
- tooth intact - tooth painted in pink color

451. In acute diffuse pulpitis:

+ deep carious cavity *
+ carious cavity does not communicate with the tooth cavity *
- asymptomatic course
- the availability of fistula stroke
D electrical excitation of the pulp over 100 μA

452. In chronic fibrous pulpitis:

+ carious cavity of large sizes *
+ increased sensitivity to cold and hot *
asymptomatic course
pulp gangrene
pulp hypertrophy

453. In chronic fibrous pulpitis:

+ deep carious cavity filled with altered dentin *
+ painful deep sounding *
-the presence of fistulous course
the presence of granulomas
the presence of an intact tooth

454. In the treatment of chronic hypertrophic pulpitis is carried out:

+ anesthesia , amputation *
+ Extirpation, canal filling *
-applications of 2% r-raremoment
-okrashivanie 2% p-rum Methylene blue
covering of fluoride varnish

455. Complaints of patients with chronic gangrenous pulpitis:

+ unpleasant odor from his mouth, the pain from the hot *
+ presence of deep carious cavity, tooth color changed *
- no complaints
- tooth color is not changed
carious cavity does not communicate with the cavity of the tooth

456. An objective examination of a patient with chronic gangrenous pulpitis:

+ deep carious cavity , pain with deep sounding *
+ tooth color is grayish-dark , carious cavity communicates with the tooth cavity *
intact tooth
- tooth color is not changed
- bleeding pulp is visible

457. Preparations for the devitalization of the pulp of the tooth of the company «Septodont»: + kaustinerv arsenic, kaustinerv -speed (Rapide) *

+ caustinerv for temporary teeth without arsenic , caustinerv protecting without arsenic (Fort) *
- cresopath
- krezofen
- septonest

458. When conducting a biological method of treating pulpitis, you need to know:

+ potent drugs do not use *
+ the method is used for accidental exposure of the arch of the tooth cavity *
- no correct answers
- all answers are correct
-method is used in the treatment of chronic gangrenous pulpitis

459. For successful treatment of pulpitis with a biological method, select a medical pad

+ Calcimo Calcesil l *
+ Kaltsovit , Life *
-Composite
-FinishingStrips
-FiltekZ250

460. For successful treatment of pulpitis biological method to select medical gasket :

+ Alcaliner, Septocalcine *
+ Calcipulpe * Dycal *
-Dentin powder
-Prismafill
-Devitalizing paste

461. For successful treatment of pulpitis, select an endodontic instrument :

+ Gutta- condenser, System “ K 3 Endo” (Kerr) *
+ Finishing File 3 (F 3) *
Prostomatological
- Scaler
-Dental mirror

462. For successful treatment of pulpitis, select an endodontic instrument :

+ Shaping File 1 (S1) * + Finishing File 1 (F1) *

-scalpel
-scissors
chisel

463. For successful treatment of pulpitis, select an endodontic instrument :

+ H - File *
+ K- File *
ironing machine
-putty knife
-tweezers

464. For successful treatment of pulpitis, select an endodontic instrument :

+ GT Rotary Files *
+ File *, manual spreader *
-excavator
-elevator
-contour matrices

465. For successful treatment of pulpitis, select an endodontic instrument :

+ root drill, root drill drill *
+ pulp extractor, Miller's needle *
-finish strips
dividing plates
-cofferdam

466. When treating pulpit to conduct the restoration of the tooth is necessary to have:

+ Lamp for polymerization, composite material *
+ set of tools for carrying out restoration *
-Files
-K-File
-Root drill

467. In the treatment of pulpitis, for the application of a devitalizing paste, a milk tooth must have:

+ Devitalizing paste *
+ dentin paste *
-resorcinol-formalin paste
- zinc-eugenol paste
zimion

468. In the treatment of pulpitis for tooth mummification, you must have:

+ resrcin-formalin liquid *
+ resorcinol-formalin paste *
-Root drill
pulp extractor
channel filler

469. When conducting the vital amputation method, you need to know:

+ Indication to conduct vital amputation is acute focal pulpitis *
+ Vital amputation is performed under pain relief *

- In case of vital amputation, arsenic paste is applied on the mouth of the root canals
- In case of vital amputation, a resorcinol-formalin liquid is applied to the mouth of the root canals
-Vital amputation is carried out by pulp extract

470. In the treatment of pulpitis for permanent fillings, select a composite of light curing:
+ With mposite *
+ Herculite *
-Unitsem
-Silicin
-Beladont

471. Clinical signs characteristic for is chronic of hypertrophic of pulpitis and :

+ there is bleeding soft tissue in the carious cavity *
+ blood and pain while chewing rough food *
- Gingival hyperemia
- percussion is sharply painful
- tooth mobility

472. Stages of treatment of pulpitis non-vital amputation of her during the second visit:

+ temporary filling is removed , the tooth cavity opens *
+ amputation of coronal pulp *
- removal of root pulp
- the answers are incorrect
- after amputation, a medical pad is applied

473. Stages of treatment for vital amputation:

+ anesthesia, opens the tooth cavity *
+ amputation of coronal pulp *
- closure of the carious cavity
- imposing pasta devit
- application of anesthetic swab

474. Methods for determining the initial stage of caries:

+ luminescence *
+ phosphorescence *
- closure of the carious cavity
- percussion
- palpation

475. In the treatment of superficial caries (grade 5), for permanent fillings use:
+ Uni-Fill
+ Composite
- Cresopath
- Foredent

476. In the treatment of superficial caries (3-4 grade), for permanent fillings use:
+ Fuji II
+ Charisma
-Unifas
-Dentin paste

477. In the treatment of secondary caries (1 class), for permanent fillings use:
+ Amalgam

+ Uni-Fill
Vinoxolum
-Adgesor

478. In the treatment of secondary caries (grade 2), for permanent fillings use:
+ Silidont
+ Composite
Endometasone
-Ident

479. In the treatment of secondary caries (Grade 3), for permanent fillings use:
+ Valux plus
+ Fuji II
- Dentin - pasta
-Abscess remedy

480. In the treatment of secondary caries (grade 4), for permanent fillings use:
+ Fuji I
+ Admira
-Ident
-Creatopath

481. In the treatment of secondary caries (grade 5), for permanent fillings use:
+ Crystalline
+ Lux
Vinoxolum
-Dentin paste

482. In the treatment of secondary caries (grade 5), for permanent fillings use:
+ Admira
+ Prodigi
-Crosodent
-Ident

483. In the treatment of secondary caries (grade 5), for permanent fillings use:
+ Composite
+ Crystalline
-Calcin
-Abscessremedy

484. In the treatment of secondary caries (Grade 3), for permanent fillings use:
+ Revolution
+ Tetric-Ceram
-Ident
-Resorcinol-formalin paste

485. In the treatment of secondary caries (grade 4), for permanent fillings use:
+ Prodigi
+ Composite
-Eodent
-Artificial dentin

486. In the treatment of secondary caries for an insulating pad use:
+ Adhesor
+ Unitsem
-Composite
-Revolution

487. In the treatment of secondary caries for an insulating pad use:
+ Unifas
+ Baseline
-Lux
-Spectrum TPH

In the treatment of secondary caries for an insulating pad use:
+ Calcimol LC
+ KetacCem
-Creatopath
-Dentin paste

488. In the treatment of secondary caries for an insulating pad use:
+ Argyle
+ Adhesor
-Filtek Supreme
-Filtek P 60

489. In the treatment of deep caries (1 class), for permanent fillings use:
+ Crystalline
+ Uni-Fill
Vinoxolum
-Tenet

490. In the treatment of deep caries (grade 2), for permanent fillings use:
+ Silidont
+ Composite
Endometasone
-Eodent

491. In the treatment of deep caries (Grade 3), for permanent fillings use:
+ Valux plus
+ Composite
- Zinc - eugenol paste
-Abscessremedy

492. In the treatment of deep caries (grade 4), for permanent fillings use:
+ Fuji I
+ Admira
-Ident
-Creatopath

493. In the treatment of deep caries (5th grade), for permanent fillings use:
+ Prodigi
+ Lux
Vinoxolum
-Dentin paste

494. In the treatment of deep caries (5th grade), for permanent fillings use:

+ Admira
+ Prodigi
-Crosodent
-Ident

495. In the treatment of deep caries (5th grade), for permanent fillings use:
+ Composite
_Crystalline
-Calcin
-Abscessremedy

496. In the treatment of deep caries (grade 4), for permanent fillings use:
+ Lux
+ Tetric-Ceram
-Ident
-Unitsem

497. In the treatment of deep caries (grade 4), for permanent fillings use:
+ Prodigi
+ AdmiraCaps
-Eodent
-Tenet

498. In the treatment of deep caries for an insulating pad, use:
+ Adhesor
+ Unitsem
-Revolution
-Tetric-Ceram

499. In the treatment of deep caries for an insulating pad, use:
+ Unifas
+ Baseline
-Lux
-Spectrum TPH

500. In the treatment of deep caries for an insulating pad, use:
+ Calcimol LC
+ KetacCem
-Artificial dentin
-Dentin paste

501. In the treatment of deep caries for an insulating pad, use:
+ Argyle
+ Adhesor
-Filtek Supreme
-Filtek P 60

502. The following forms of fluorosis are distinguished
+ Dashed
+ Spotted
-Cute
Be a proper response is not

503. The following forms of hypoplasia are distinguished :
+ Spotted
+ Wavy
-Cute
Be a proper response is not

504. Marble disease:
+ hereditary disease
+ occurs both in men, so and in women

-enamel not changed
- there are no changes on the radiograph

505. For dysplasia Kapdepona characterized by:
+ undetected etiology
+ undetected pathogenesis
tooth roots are missing
identified pathogenesis

506. By hereditary disorders of teeth include:
+ Marble disease
+ Imperfect amelogenesis
Fluorosis
-Erosion

507. In acute forms of pulpitis observed:
+ spontaneous pain
+ night pain
formation of a wedge-shaped defect
-the presence of fistulous course

508. In acute forms of pulpitis:
+ carious cavity does not communicate with the tooth cavity
+ electrical excitation of the pulp 20-40 μA
-assimetriya person
tooth only hurts during the day

509. In chronic fibrous pulpitis:
+ spontaneous pain
+ pain from all irritants
asymptomatic course
pulp hypertrophy

510. In the treatment of chronic hypertrophic pulpitis is carried out:
+ pulp amputation
-anesthesia
-Appointment of antibiotics
microbiological research

511. In the treatment of chronic gangrenous pulpitis of the 27 tooth is carried out:
+ infiltration anesthesia
+ palatinal anesthesia
- removal of filling material at the top of the root
-zanizhenie bite

512. In the treatment of calculus calculus 26 tooth is carried out:
+ infiltration anesthesia
+ channel filling
- removal of filling material at the top of the root
-sealing fissures

513. Mandibular anesthesia is performed in the treatment of teeth:
+37
+45
-17
-27

514. Mandibular anesthesia is performed in the treatment of teeth:
+35
+46
-sixteen
-24

515. Mandibular anesthesia is performed in the treatment of teeth:
+33
+44
-25
-17

516. When conducting anesthesia, you need to know:
+ Mandibular anesthesia is performed in the treatment of 36 teeth
+ Adrenaline has the ability to increase blood pressure
-Cuts anesthesia is performed in the treatment of 36 teeth
-Tuberal anesthesia is performed in the treatment of 46 teeth

517. When treating pulpit to conduct the restoration of the tooth is necessary to have:
+ Gasket glass ionomer cement
+ Set to finish the processing of seals
-Rimer
pulp extractor

518. In the treatment of pulpitis for root canal obstruction , the following is used:
+ Zinc-eugenol paste
+ Resorcinol-formalin paste
-Dentin paste
-Crystalline C2

519. In the treatment of pulpitis for root canal obstruction , the following is used:
+ Iodent
+ Crosodent
-Latelux
-Composite

520. In the treatment of pulpitis for root canal obstruction , the following is used:
+ Gutta-percha
+ Silver pin
-Crystalline C2
-Latelux

521. When treating pulpit to conduct the restoration of the tooth is necessary to have:
+ Gasket glass ionomer cement
+ Set to finish the processing of seals
-Rimer
pulp extractor

522. In the treatment of acute pulpitis of 16 teeth by vital amputation , the following is performed:
+ infiltration anesthesia
+ anesthesia of the needle injection site
covering of fluoride varnish
-sealing fissures

523. In the treatment of acute pulpitis of 36 teeth by vital amputation , the following is performed:
+ anesthesia of the needle injection site
+ amputation of the coronal part of the pulp
tuberculosis anesthesia
palatine anesthesia

524. In the treatment of acute pulpitis of 46 teeth by vital amputation , the following is performed:
+ amputation of the coronal part of the pulp
+ laying of medical laying
Root canal expansion

palatine anesthesia

525. In the treatment of pulpitis for permanent fillings, select a composite of chemical curing:
+ Compposite
+ Compolux
-Beladont
-Cemion PH

526. In the treatment of pulpitis for permanent fillings, select a composite of chemical curing :
+ Crystalline C2
+ Uni-Fill
- Unifas
-Foredent

527. In the treatment of pulpitis for permanent fillings, select a composite of light curing:
+ Profill
+ Micronew
-Unifas
-Adgesor

528. In the treatment of acute focal pulpitis of 13 tooth by vital extirpation is carried out:
+ anesthesia of the needle injection site
+ infiltration anesthesia
-nalozhenie permanent fillings of amalgam
-coating tooth fluoride varnish

529. In the treatment of acute focal pulpitis of 21 teeth using a biological method :
+ incisive or infiltration anesthesia
+ carious cavity formation
-medical treatment of the root canal
-application of permanent fillings from dentin paste

530. In the treatment of acute focal pulpitis of the 46 tooth biological method is carried out:
+ mandibular anesthesia
+ carious cavity formation
-extending and processing channels
-filling channels

531. When treating pulpit for the isolation of the carious cavity is used:
+ Cofferdam
+ Clamp for cofferdam
-Pluger
-Scissors File

532. In the treatment of chronic fibrous pulpitis of 37 teeth by vital extirpation held:
+ mandibular anesthesia
+ carious cavity formation
pulp amputation
Root canal impregnation

533. In the treatment of chronic fibrous pulpitis of 11 teeth by vital extirpation held:
+ anesthesia of the needle injection site
+ infiltration anesthesia

-nalozhenie permanent fillings of amalgam
-Zapechatyvanie fissure

534. In the treatment of chronic fibrous pulpitis of 37 teeth by vital extirpation held:
+ mandibular anesthesia
+ carious cavity formation
covering of fluoride varnish
tuberculosis anesthesia

535. In the treatment of acute diffuse pulpitis of 26 teeth by devital extirpation in The first visit is carried out:
+ autopsy cavity tooth under anesthesia
+ partial or complete preparation of carious cavity
-sealing fissures
-coating with fluorine varnish staining with 2% solution of methylene blue

536. In the treatment of acute diffuse pulpitis 16 tooth method devital extirpation of the second (last) visit is carried out:
+ removal of temporary fillings, carious cavity formation
+ amputation and extirpation of tooth pulp
-okrashivanie 2% p-rum Methylene blue
-applications 3% r- rem remode

537. In the treatment of pulpitis for sealing carious cavity is used:
+ matrix
+ cofferdam
-Pluger
-Spreader

538. The root canal treatment process consists of several stages:
+ isolation of the working field
-create access
-functional examination method -
functional tests

539. Paraclinical methods survey includes in itself:
+ instrumental
+ laboratory
-palpation
-percussion

540. When endodontic treatment special attention should be paid to following points:
+ tooth position
+ tooth shape
-on condition pulp
- all answers are correct

541. When endodontic treatment special attention should be paid to following points:
+ ratio of extra - alveolar and alveolar parts of the tooth
+ position to the occlusal surface of the tooth row
-to the state of cement
-on condition pulp

542. The method of radiovisiography has several advantages:
+ reduces the dose to the patient and staff
+ does not require additional room
sterilization at a temperature of 140 ° C
-requires additional staff

543. The method of radiovisiography has several advantages:
+ allows you to archive data
+ makes it possible to transmit images over long distances
-required radiation source using selenium
- the plate is difficult to identify hidden foci
544. X-ray images are divided into :.
+ diagnostic
+ work shots
buccal
-standard
545. According to the diagnostic radiograph is determined by:
+ condition of the crown of the tooth + anatomical features of the tooth
-maxillary joint condition
tooth color
546. The requirements imposed by modern root cement:
+ easy to mix and have convenient packaging
+ radiopacity
-Low ability to condensation
-reduce adhesion when fixing the pin
547. The requirements imposed by modern root cement:
+ high ductility
+ high-quality tightness
-Low ability to condensation
-reduce adhesion when fixing the pin
548. The requirements imposed by modern root cement:
+ long working hours
+ Short time curing in the cavity of the mouth, Minimal shrinkage
dissolve in tissue fluids
-Low ability to condensation
549. Gutta-percha benefits :
+ bioinertness and biocompatibility
+ High ductility and ability to condense
- the difficulty of sterilization
-low plasticity
550. Gutta-percha benefits :
+ easy unsealing if necessary
+ biocompatibility
-sharp shrinkage
-low plasticity
551. Methods of permanent obturation of canals:
+ filling the channel with paste
+ one pin
-silvering
-detopophoresis
552. Methods of permanent obturation of canals:
+ thermomechanical obstruction of gutta-percha
+ vertical condensation
-vibration
-resorcinol-formalin method
553. Criteria for obstruction of the canals:
+ obturation of the root canal to the working length
+ vertical root fracture

- removal of material for apex

554. Criteria for obstruction of the canals:
+ obturation of the root canal to the working length
+ Homogeneity sealing on all over
-perforation
-fragmentation of the tool in the channel

555. The following concentrations of hypochlorite solution (NaOCl) are common :
+ 5.25%
+ 3%
-thirty%
-25%

556. The first-aid kit for providing emergency assistance at the contact of blood to the skin and mucous membranes
shells, injections and cuts include:
+ 5% iodine solution
+ 70% ethyl alcohol
-3% Perico hydrogen
brilliant green

557. Mandibular anesthesia is performed in the treatment of teeth:
+ 37 *
+ 45 *
-17
-27

558. Mandibular anesthesia is performed in the treatment of teeth:
+ 35 *
+ 46 *
-16 -24

559. Mandibular anesthesia is performed in the treatment of teeth:
+ 33 *
+ 44 *
-25
-17

560. When conducting anesthesia, you need to know:
+ Mandibular anesthesia is performed in the treatment of 36 teeth *
+ Adrenaline has the property to increase blood pressure *
-Cuts anesthesia is performed in the treatment of 36 teeth
-Tuberal anesthesia is performed in the treatment of 46 teeth

Assessment criterion

	Academic performance	Rating	Student knowledge level

1	96-100%	Fine "5"	The full correct answer to questions on this topic. Sums up the results and takes a decision, creative thinking, self- analyzes. Situational tasks are solved correctly, with a creative approach, with full justification for the answer. Actively participates in interactive games, correctly makes informed decisions and sums up, analyzes.
2	91-95%	Fine "5"	The full correct answer to questions on this topic. Sums up the results and takes a decision, creative thinking, self- analyzes. Situational tasks are solved correctly with full justification for the answer. Actively participates in interactive games, correctly makes informed decisions and sums up.
3	86-90%	Fine "5"	The correct answer to questions on this topic, but there are 1-2 inaccuracies. It analyzes independently . Inaccuracies in solving situational problems, but with the right approach, the rationale for the answer. Actively participates in interactive games, correctly makes informed decisions and sums up.
4	81-85%	Good "4"	The questions posed on this topic are fully covered , but there are 2-3 inaccuracies, errors. It applies in practice, understands the essence of the issue, talks confidently, has accurate ideas. Situational tasks are solved correctly, but the rationale for the answer is not complete.
5	76-80%	Good "4"	Correct, but not complete coverage of the issue. The student knows this topic. He understands the essence of the issue, talks confidently, has accurate ideas. Actively involved in interactive games. On situational tasks gives incomplete solutions.
6	71-75%	Good "4"	Correct, but not complete coverage of the issue. The student knows this topic. He understands the essence of the issue, has ideas. Participates in interactive games. On situational tasks gives incomplete solutions.
7	66-70%	Satisfy flax "3"	The correct answer to half the questions posed . The student knows, but is not fully versed in the topic. He understands the essence of the issue, talks confidently, has accurate representations only on individual issues of the topic. Situational problems are solved correctly, but there is no justification for the answer.
8	61-65%	Satisfy completely "3"	The correct answer to half the questions posed . The student knows, but is not fully versed in the topic. He understands the essence of the issue, speaks uncertainly, has accurate representations only on certain issues of the topic. Situational problems are solved with errors.
9	55-60%	Satisfy flax "3"	The answer with errors on half the questions posed . The student makes mistakes on the topic, poorly versed, confused. He speaks uncertainly, has partial views on the topic. Situational problems are solved incorrectly.

10	50-54%	Dissatisfy completely "2"	The correct answer to 1/3 of the questions posed . The student does not know the topic, poorly versed, confused. Situational problems are solved incorrectly, with the wrong approach.
eleven	46-49%	Dissatisfy completely "2"	The correct answer to 1/4 of the questions posed . The student does not know the topic, poorly versed, confused. Situational problems are solved incorrectly, with the wrong approach.
12	41-45%	Dissatisfy completely "2"	The correct answer to 1/5 of the questions posed . The student does not know the topic, poorly versed, confused. Situational problems are solved incorrectly, with the wrong approach.
thirteen	36-40%	Dissatisfy completely "2"	Coverage of 1/10 of the questions with the wrong approach. Practically not versed in this topic.
14	31-35%	Dissatisfy completely "2"	On questions not give answers. He doesn't know the topic .

Literature

Primary:

1. A.A. Kolesov. - "Dentistry of childhood." - Moscow, 1991 g .
2. T.F. Vinogradova. - "Dentistry of childhood." - Moscow, 1987 g .
3. T.F. Vinogradova, O.P. Maksimova, E.M. Melnichenko. - "Diseases of periodontal and oral mucosa in children." - Moscow, 1983 g .
4. T. Kh. Safarov, I. Kh. Khalilov. - "Bolalar davolash dentistry is given by Amaliy Kullan." - Toshkent, 1997.
5. E. M. Kuzmina et al. - "Prevention of dental diseases." - Moscow, 2002
6. N. G. Pakhomov. - "Primary prevention in dentistry." - Moscow, 1982 g .
7. N.V. Kuryakina. - "Therapeutic dentistry of children." - N. Novgorod, 2004
8. THEIR. Khalilov. O.S. Yuldashkhanova. Et al. "Bolalar therapeutist stomatology dentist Kasalliklar prophylaxis" Toshkent-2011.
9. I.Kh. Khalilov va boshk. "Bolalar Faculty of Therapeutics Dentistry" Toshkent-2013y.

Additional.

1.E. V. Borovsky. - "Therapeutic dentistry". - Moscow, 1997 g .
2.E. V. Borovsky, P.A. Leus. - "Tooth decay." - 1979 g .
3M. I. Groshikov. - "Prevention and treatment of dental caries." - 1980 g .
4. Ed. K. Georgieva. - "Emergency care in dentistry." - Moscow, "Medicine", 1983

5.T. F. Vinogradova. - "Pediatrician about dental diseases in children." - Moscow, "Medicine", 1982 g .
6.T. F. Vinogradova. - "Clinical examination of children at the dentist." - Moscow, “Medicine”, 1988 .
7.V. S. Ivanov, G. D. Ovrutsky, V.V. Gemonov. - "Practical endodontics." --Moskva, 1984 g of .
8.B. S. Ivanov, L.I. Urbanovich, V.P. Berezhnoy. - "Inflammation of the pulp of the tooth." - Moscow, 1990 g .
9.U. I. Vorobyov. - "X-ray of teeth and jaws." - Moscow, 1990 g .
10. G. V. Banchenko. - "Combined diseases of the oral mucosa and internal organs." - Moscow, 1979 g .
11.Y. A. Fedorov. - "Prevention of diseases of the teeth and oral cavity." - Leningrad, 1979 .
12.A. A. Prokhonchukov, N.A. Zhizhina. - "Lasers in dentistry." - Moscow, 1986 g .
13.P. I. Roshchina, L.N. Maksimovskaya. - “Medicines. Dentistry. " - Moscow, 1989 g .
14M. I. Groshikov. - "Non-carious diseases of hard tissues of teeth." - Moscow, 1986 g .
15.M. G. Syrbu. - "Pulpitis in children." - Moscow, 1981.