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COLLECTION OF SITUATIONAL TASKS IN PEDIATRIC SURGICAL DENTISTRY WITH TEST ASSIGNMENTS

(tutorial book)

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Situational and test tasks are compiled in accordance with the program on propaedeutics of pediatric surgical dentistry for students studying in the educational program "Dentistry" of higher educational institutions. They are made on the basic themes of lectures and practical classes and are intended for the independent control of students' knowledge and determination of their initial level of knowledge by teachers at practical classes. Also, these situational tasks are recommended to use for interactive teaching methods (TBL, SBL). The manual includes: 66 situational tasks and 57 test assignments on the studied subject.

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**INTRODUCTION**

At the present stage of development of healthcare in Kazakhstan, a number of advanced universities of the country joining the Bologna process, stringent requirements are imposed on training of specialists of higher medical school. This justifies the need to improve medical education in Kazakhstan and bring it in line with international standards of training.

The priority of higher professional education is to focus on a competence-based approach to teaching students. One of the features is learning using active forms. Active learning is new forms, methods and means of teaching that encourage students to actively think and practice in the process of mastering educational material. It is assumed that the use of such a system of methods is mainly aimed not at the presentation of ready-made knowledge by the teacher, their memorization and reproduction, but at the independent mastery of knowledge and skills by students in the process of active thinking and practical activity. To this end, one of the main principles is the clinical orientation in the study of the structure of the human body, diagnosis and treatment of various diseases of the maxillofacial region. This approach in teaching and mastering the subject, together with deep knowledge of pediatric surgical dentistry, contributes to the beginning of the formation of clinical thinking.

This textbook consists of situational tasks and test assignments devoted to the morphofunctional structure of the maxillofacial region in children and adolescents, the peculiarities of the psycho-emotional state in children before dental intervention. Thus, a large volume of the manual covers topics related to the choice of the method of anesthesia during dental intervention in children, taking into account their psycho-emotional state, indications and features of dental care for children under sedation and general anesthesia, features of performing various methods of local anesthesia during dental interventions in children on the upper and lower jaws, jaw, prevention and treatment of possible complications during anesthesia in children. in the conditions of a dental clinic. Also, the bulk of the section is devoted to the specifics of the operation of removing temporary and permanent teeth in children, their indications and contraindications, the tools used, their possible complications during the operation of tooth extraction in children, measures for their prevention and treatment. The program of propaedeutics of pediatric dentistry has topics related to the inflammatory processes of the maxillofacial region, therefore, the manual reflects issues related to the peculiarities of the clinical course, diagnosis and treatment of inflammatory diseases of the maxillofacial region in children.

**CHAPTER 1. MORPHOFUNCTIONAL FEATURES OF THE MAXILLOFACIAL REGION IN CHILDREN**

**Situational task № 1**

A mother with a 6-year-old child comes to the surgery with complaints of swelling in the lower jaw, malaise, fever and loss of appetite. In the anamnesis: according to the mother, the child has been ill for three days, the child is afraid to treat teeth, she associates the swelling with hypothermia during swimming in the swimming pool, there is no allergy history, the child had an acute respiratory infection a week before the swelling. Objectively: General condition of the child is severe. Facial asymmetry due to swelling of soft tissues in the mandibular region on the right, skin over the swelling is hyperemic, edematous, not creased, glossy. In the oral cavity: 8.5 - deep cavity on the chewing surface, communicating with the tooth cavity, probing is painless, vertical percussion is sharply painful, pus is flowing from under the gum, pathological mobility of 8.5, 8.4 teeth. There is "muft-like" thickening of the alveolar process, mucosa around the tooth is hyperemic, edematous, transitional fold is smoothed, painful on palpation, the "fluctuation" symptom is positive. Panoramic radiograph shows bone thinning in the area of root bifurcation 8.5, periodontal gap widened, bone destruction in the area of roots in the form of "tongues of flame", cortical plate resorption of the follicle 4.5, root resorption in ½ of its length.

1. What is your preliminary diagnosis?
2. What late complication is possible in this clinical situation and why?
3. Is it possible to treat a child in a polyclinic and what method of anesthesia should be carried out?

**Situational task № 2**

A mother with a 7-year-old child consulted the surgery with complaints of swelling in the lower jaw on the right side, malaise, fever and loss of appetite. According to the mother's anamnesis, the child was born healthy with a weight of 3 500 kg, has no allergic history, recently had a viral infection, is not registered for somatic diseases. Objectively: asymmetry of the face due to soft tissue swelling in the area of the lower jaw on the right side, skin over the swelling is not changed in colour, collected in a fold. In the oral cavity: 8.4 - carious cavity on the masticatory-aproximal surface, communicating with the tooth cavity, probing is painless, vertical percussion is sharply painful. Transition fold on the vestibular side of the tooth is smoothed, hyperemic, swollen, painful on palpation, positive fluctuation symptom. In the submandibular region on the right palpated lymph node with the shape of a "bean", painless, elastic consistency, mobile, not fused to the skin and underlying tissues. On a dental radiograph: in the projection of the distal root of the 8.4 tooth there is bone destruction in the form of "tongues of flame", the periodontal gap is enlarged, there is a thinning in the area of root bifurcation, the medial root is half resorbed. The primary 4.4 permanent tooth has no abnormalities. The dentist performed an extraction of the 8.4 teeth and a periostotomy on the transitional fold. But after the in cision there was heavy bleeding.

1. What is your preliminary diagnosis?
2. What is the cause of the bleeding?
3. What is the treatment tactic for this haemorrhage?

**Situational task № 3**

Parents of a 4-year-old boy came to the outpatient clinic with complaints of a small mass in the submandibular region on the right side. According to the mother's anamnesis, this mass was noticed more than 2 months ago. The child had an acute respiratory infection a week ago. External examination: face symmetrical, regular shape, clean skin, pallor is noted. In the submandibular region on the right there was a "pigeon's egg" shape, dense, painless on palpation, not fused to the surrounding tissues. In the oral cavity: deep cavities in teeth 7.5 and 7.4, in the projection of root 7.4 there is a fistula with scant purulent discharge, cf = 9, HI according to Fedorov-Volodkin - 1.8. The child is restless, tearful, communicates with the doctor with difficulty, with the help of long persuasion.

1. What is the preliminary diagnosis in this clinical situation and its definition?

2. What is the etiological factor of this disease?

3. what are the developmental features of the immunological system in children?

**Situational task № 4**

The parents of a 4-year-old child consulted the pediatric maxillofacial department with complaints of restricted opening of the oral cavity, changes in facial configuration, and inability to eat normally. For the last 6 months he has been eating only liquid food. According to the parents, the child had purulent otitis media on the right side when he was an infant and had colds. Parents also noted snoring during sleep and waking up frequently. Objectively: the child is hypotrophic, facial skin is clean. The face is asymmetrical due to reduction of size of one half of the jaw, the chin is displaced to the right. There is visual limitation of the oral cavity opening of III degree. Palpatorically, in the area of the angle of the lower jaw, a "spur" is detected. The middle line of the chin and incisal is displaced to the right, bimanual palpation does not determine the mobility of the TMJ on the right, on the left - TMJ movements are within normal limits. Crossbite, hygienic index according to Green-Vermillion - 2.6, dental papillae hyperemic, edematous, abundant soft plaque. Large number of cavities in the teeth.

1. What is the preliminary diagnosis in this clinical situation?

2. What are the peculiarities of the TMJ structure in childhood and adolescence?

**Situational task № 5**

A mother with a 5-year-old child complains of swelling of the lower jaw, malaise, fever, and loss of appetite. Past medical history: no allergic anamnesis, he had a viral infection a week ago. Objectively: facial asymmetry due to soft tissue swelling in the mandibular region on the right, skin over the swelling was not discolored, it gathered into a fold. In the oral cavity: 8.5 - carious cavity on the chewing surface, communicating with the tooth cavity, probing is painless, vertical percussion is sharply painful. Mucosa around the tooth is hyperemic, edematous, painful on palpation, transitional fold is smoothed, "fluctuation" symptom is positive. In the submandibular region on the right palpated lymph node with the "bean" shape, painless, elastic consistency, mobile, not fused with skin and underlying tissues. On the X-ray: the root of the 8.5 tooth is fully formed, periodontal gap in the apical part of the tooth is enlarged, bone destruction in the form of "flame tongues" is observed in the projection of the distal root of the tooth, the tooth has not been previously treated. The bud of the permanent tooth is without pathology. The child's behavior is indifferent to the dental manipulations, responds sluggishly to the doctor's questions.

1.What is the preliminary diagnosis in this clinical situation?

2.What are the anatomical features of the mandibular structure in children with mandibular anesthesia?

**CHAPTER 2. METHODS OF EXAMINATION OF CHILDREN WITH SURGICAL DENTAL DISEASES**

**Situational task № 6**

A 14-year-old teenager came to the clinic with complaints of minor limitations in the movement of the jaw and pain in the temporomandibular joint on both sides, a feeling of stiffness. The child also complains of limited mobility of the hands on both sides. In the anamnesis of the disease: frequent colds, acute respiratory infections. According to the mother, recently the child began to complain of chest pains on the left. Upon full examination, there is pain and a slight increase in the joint of the hands on both sides. The movement of the hands is limited. The skin around the joint is clean. On examination, there is pain in the area of the temporomandibular joint on both sides. When pressing on the chin, the pain increases.

1. What is the preliminary diagnosis?

2. What is the cause of this condition?

3. What methods of examination are acceptable at the dental surgeon's office?

4. How is bimanual palpation of the temporomandibular joint performed in a child?

5. What radiologic changes are characteristic of this clinical situation?

6. Consultation of which specialist is necessary to make a final diagnosis?

7. What changes in laboratory tests are possible in this clinical situation?

**Situational task № 7**

The parents of an 8-year-old child turned to the children's dental polyclinic with complaints of malaise, loss of appetite, swelling of soft tissues in the buccal region on the right. They note an increase in body temperature to 38.0 ° C for 2-3 days, were treated at home with rinses and antibiotics. Objectively: facial asymmetry due to soft tissue edema in the upper jaw area on the right, there is a diffuse infiltration and hyperemia of the skin of the soft tissues of the buccal region on the right, the skin over the swelling is hyperemic, edematous. When examining the oral cavity, the crown of the 5.3 tooth is destroyed by ½. The transitional fold in the area of the tooth 5.3 is smoothed, infiltrated and hyperemic.

1. What is the preliminary diagnosis in this clinical situation and give a definition?

2. What is the symptom characteristic of the presence of purulent exudate?

3. What is the method of determining the symptom indicating the presence of purulent exudate in the infiltrate area?

4. What is the characteristic of the X-ray image in this case?

**Situational task № 8**

A 16-year-old adolescent boy consulted a dentist-surgeon with complaints of swelling in the right submandibular region and acute pain when eating. Past medical history: he had been sick for 2.5 years; according to his parents, he was registered with a gastroenterologist for chronic gastritis and a dental surgeon after surgical intervention for salivary stone disease of the submandibular salivary gland. But for the last few days the acute pains appeared again while eating and disappeared after eating. Objectively: face symmetrical, regular shape, pale skin. Oral cavity: mucous membrane in the area of the hyoid roll was slightly hyperemic, edematous, the duct mouth was gaping and dilated, palpation of the right submandibular area showed slight increase of the submandibular salivary gland, but of normal consistency and color. When massaging the gland, no saliva is secreted, and on the left side, saliva secretion is normal. On palpation, a dense mass is palpated along the duct in its middle third.

1. What objective methods of examination should be used in this clinical situation?

2. Which of the radiological investigation methods should be considered the most informative in this clinical situation?

**Situational task № 9**

Parents of a 14-year-old adolescent boy consulted a dentist-surgeon with complaints of fever, loss of appetite, soft tissue swelling in the lower jaw on the right side. According to the parents, the adolescent has a history of frequent colds. He was ill for 2 two days. Objectively: asymmetry of the face due to soft tissue swelling in the area of the lower jaw on the right side, skin over the swelling is not discolored, collected in a fold. On examination of the oral cavity, tooth 3.6 was completely destroyed and was below the gingival level. The transitional fold in the area of tooth 3.6 is smoothed, the mucosa is infiltrated and hyperemic. When examining the patient, the dentist-surgeon began to examine the oral cavity after the interview and then began to examine the skin of the maxillofacial region and neck.

1. What mistake did the dentist-surgeon make in examining the adolescent?

2. What is the correct sequence of examination of a patient with surgical pathology of the maxillofacial region and neck?

**Situational task № 10**

The parents of a 6-year-old child turned to the pediatric maxillofacial department with complaints of restricted opening of the oral cavity, changes in facial configuration, and inability to eat normally. According to the parents, the child had hematogenous osteomyelitis of the condylar process on the left side when he was a baby and had frequent acute respiratory infections. Objectively, the child had hypotrophic physique. The face is asymmetrical due to reduction of half of the jaw on the left side, the chin is shifted to the right. Visually, there is a restriction of opening of the oral cavity of III degree. Palpatorily, in the area of the angle of the lower jaw, a "spur" is detected. The middle line of the chin and incisor is displaced to the left, bimanual palpation does not determine the mobility of the TMJ on the left, physiological movement of the temporomandibular joint is noted on the right. Crossbite, hygienic index according to Green-Werllmillon - 2,3, dental papillae in the area of all teeth are hyperemic, the number of deposits is marked. CFE + cf = 10

1. What is the preliminary diagnosis in this clinical situation?

2. What is the normal X-ray anatomy of the TMJ?

3. What is the radiological picture in this clinical situation?

**Situational task№ 11**

A mother with a 6-year-old child applied to a children's dental clinic for oral health care. Past medical history: according to the mother, the child often wakes up with toothache, no allergic history. The child started crying a lot when entering the doctor's office, does not react and does not listen to the doctor's words, actively resists the doctor's actions to put him in the chair. He does not allow to examine the oral cavity, to palpate. Fear was caused not only by the dental instruments, but also by the white coats of the medical workers. From the mother's words, she also applied to private dental clinics, where she also could not sanitize him.

* 1. What kind of examination is necessary before general anesthesia?
	2. What are the normal indications of a general blood test in a child at this age?
	3. What are the advantages of oral sanitation under general anesthesia?

**Situational task№ 12**

A 15-year-old girl turned to the dentist for an appointment with complaints about the unaesthetic location of the tooth and with a request to remove the canines. When examining the oral cavity: distal bite, narrowing of the upper jaw, all teeth are intact, there is crowding of incisors on the upper and lower jaws, vestibular position of 1.3 and 1.4 teeth, the mucous membrane of normal coloration.

What are the tactics of a dentist in this clinical situation?

**Situational task № 13**

Parents of a 14-year-old child complained of an aesthetic defect accompanied by difficult biting and chewing of food. External examination: there is an increase in the volume of the lower third of the face, the lower jaw is located mesially in relation to the upper jaw, the lower lip is forward in relation to the upper lip, when the lips are closed, the muscles of the oral area are tense. In the oral cavity: the upper teeth are positioned in the dentition within the normal range, there are dental fractures between the teeth on the lower jaw, dental papillae in the area of 3.1,3.2, 4.1,4.2 teeth are hyperemic, swollen, the distance from the dental papillae to the transition fold is 3 mm. With anterior cheek cusps 1.6, 2.6 are located between 3.7, 3.6, 4.6, 4.7 teeth, sagittal gap between incisors is 8.0 mm.

1. What is the preliminary diagnosis of this child?

2. What diagnostic methods are needed for this pathology?

3. What is meant by the clinical method of diagnosis?

4. What is the depth of the vestibule in children?

5. What surgical intervention to normalize the vestibule?

**CHAPTER3. PECULIARITIES OF VARIOUS METHODS OF ANESTHESIA DURING DENTAL INTERVENTIONS IN CHILDREN AND THEIR POSSIBLE COMPLICATIONS**

 **Situational task №14**

In the morning, a 16-year-old teenager turned to the dental clinic for an appointment with a dentist with complaints of incessant pain in the tooth. Anamnesis of the disease: according to the teenager, the tooth was sealed in the evening in a private clinic. Allergoanamnesis is not burdened. He asks for tooth anesthesia due to a painful attack. Objectively: the face is symmetrical, the correct shape, the skin is clean, regional lymph nodes are not palpated. When examining the oral cavity: 1.5 tooth- under a photopolymer seal, the mucous membrane in the 1.5 tooth area is pale pink, motionless, percussion is slightly positive. On the X-ray: 1. 5 tooth is sealed to the top. There are no foci of destruction in the periapical tissues.

1. What type of anesthesia is recommended in this clinical situation?

2. How is this type of anesthesia performed?

**Situational task №15**

A 16-year-old teenager turned to the dental clinic with complaints of tooth pain when eating. In the anamnesis: allergic anamnesis is not burdened, from somatic diseases it notes a viral infection. Objectively: the face is symmetrical, the correct shape, the skin is clean. In the oral cavity: 2.5 - a carious cavity on the approximal surface communicating with the tooth cavity, probing is painful at one point, vertical percussion is painless. The mucous membrane around the tooth is pale pink. In the submandibular region on the right, a lymph node with a "pea" is palpated, painless, elastic consistency, mobile, with skin and underlying tissues not soldered. On the X-ray: the root of 2.5 teeth is fully formed, the periodontal gap is normal, the tooth has not been treated before, there is a carious cavity.

1.What is the preliminary diagnosis of the adolescent?

2.What method of anesthesia is applicable in this situation?

3.What is the technique of this anesthesia?

4.What is the anesthetic zone of anesthesia?

5.What are the complications of this anesthesia?

 **Situational task № 16**

A mother with a 6-year-old child came to the surgery with complaints about the mobility of teeth in the lower jaw. In the anamnesis: according to the mother, the child has no allergic anamnesis, at the age of 4 he was ill with viral hepatitis, ARVI. Objectively: 7.1 and 8.1 teeth are intact, mobility of the III degree is noted, the mucous membrane around the tooth is pale pink. In the submandibular region on the right, lymph nodes are not palpated. The child has a negative attitude to dental manipulations: he tries to push away the doctor's hands, is capricious, but answers the doctor's questions, says that he is afraid of injections. On the dental radiograph: the roots of 7.1 and 8.1 teeth are completely resorbed, the rudiments of permanent 3.1 and 4.1 are without pathology, are located directly under the temporary teeth.

1. What is your preliminary diagnosis?

2. Evaluate the psychoemotional state of the child?

3. What method of anesthesia should be performed?

4. What are the indications for this anesthesia?

5. What is the technique of this anesthesia?

6. What are the complications of anesthesia

 **Situational task № 17**

A mother with a 4-year-old child came to the dental office with complaints of pain when eating. In the anamnesis: according to the mother, the allergoanamnesis is not burdened, from somatic diseases, ARVI notes. Objectively: the face is symmetrical, the correct shape, the skin is clean. In the oral cavity: 8.4 - a carious cavity on the chewing-approximal surface communicating with the tooth cavity, probing is painful at one point, vertical percussion is painless. The mucous membrane around the tooth is pale pink. In the submandibular region on the right, a lymph node with a "pea" is palpated, painless, elastic consistency, mobile, with skin and underlying tissues not soldered. On the X-ray: the roots of 8.4 teeth are fully formed, the periodontal gap is normal, the tooth has not been previously treated, there is a carious cavity, the rudiment of a permanent 4.4 tooth without pathology.

* 1. What is the preliminary diagnosis of the child?
	2. What method of anesthesia is applicable in this situation?
	3. What is the technique of this anesthesia?

**Situational task № 18**

A mother with a 3.5-year-old girl applied to a children's dental clinic with complaints of pain when eating in the tooth. According to the mother, there is no history of allergic reactions, only colds. In the oral cavity: 5.1 tooth is destroyed by carious process on the proximal surface, probing is painful in one point, percussion is painless, mucous membrane around the tooth is pale pink. The dentist decided to treat the tooth.

1.Which anesthesia is appropriate in this clinical situation and why?

2.What are the advantages of this anesthesia?

3.What anesthetics are needed for this anesthesia?

4.What types of this anesthesia are known?

5.What is the technique for administering this anesthesia?

6.What are the complications of this anesthesia?

**Situational task № 19**

A mother and her 10-year-old child came to a children's dental clinic to have a tooth extracted. Medical history: according to the mother, after consultation with the orthodontist, the child was recommended to have a retained 1.2 tooth extracted. The mother notes that the child has a history of allergy (allergy to antibiotics, strawberries, citrus fruits), which manifests itself by allergic rashes. The child was treated at the dentist without anesthesia. Panoramic X-ray: there is a narrowing of the maxilla and retained 1.2 teeth between 1.1 and 1.3 in the horizontal position.

1. What institution should be used for the surgical intervention?

2. What medications should be included in the premedication?

**Situational task № 20**

A 15-year-old teenager came to the surgery with complaints of pain in the tooth area when eating, increased body temperature, weakness and malaise. Objectively: facial asymmetry due to swelling of soft tissues in the lower jaw on the right, the skin of physiological color, do not gather in a fold. Body temperature 38.2 °C. When examining the oral cavity: the crown part of the 4.6 tooth is destroyed by ½, on its chewing surface of the tooth there is a deep carious cavity made with softened dentin. Vertical percussion of the tooth is positive, the mucous membrane around the tooth is hyperemic, edematous, smoothness of the transitional fold on the vestibular side is noted, palpation is painful, the symptom of fluctuation is positive. The submandibular lymph nodes on the right are enlarged, slightly painful on palpation, elastic consistency, mobile, not soldered to the skin and underlying tissues. On the X-ray: in the periapical tissues in the area of the apex 4.6, the expansion of the periodontal fissure is determined. According to the general blood test, the shift of the leukocyte formula to the left, increased ESR is determined.

1. What is the preliminary diagnosis of a teenager and give a definition of the disease?

2. What method of anesthesia is applicable and the technique of its implementation?

3. What is your decision regarding the tooth?

**Situational task № 21**

A mother with a 7-year-old child consulted the surgery with complaints of swelling in the region of the lower jaw and fever. Objectively: facial asymmetry due to soft tissue swelling in the left mandible region, skin over the swelling is not discolored, collected in a fold. In the oral cavity: 7.5 - tooth destroyed by 2/3, vertical percussion is sharply painful. Mucosa around the tooth is hyperemic, edematous, painful on palpation, transitional fold is smoothed, "fluctuation" symptom is positive. Lymph node in the submandibular region on the right palpated as "pigeon egg", painless, elastic consistency, mobile, not fused with skin and underlying tissues.

1. What kind of anesthesia is appropriate in this clinical situation?

2. Which anatomical entity is the target site?

3. What is the technique and types of this anesthesia in children?

**Situational task №22**

A mother with a 4-year-old child turned to the children's dental clinic with complaints of tooth pain at night and during meals. Anamnesis of the disease: according to the mother, the allergoanamnesis is burdened, an allergic reaction occurs in the form of rashes from all types of antibiotics, an allergic reaction to lidocaine, novocaine from anesthetics. Often suffers from colds. In the oral cavity: in the oral cavity on the chewing surfaces of 5.4, 5.5, 7.5, 8.5, 6.4 teeth there are deep carious cavities, probing is painful at one point, percussion is painless. The mucous membrane of the oral cavity is pale pink.

1. What type of anesthesia is indicated in this clinical situation?

2. What is the difference between intravenous and endotracheal anesthesia?

3. What is the algorithm of dental measures under anesthesia?

**Situational task№ 23**

A mother and a 14-year-old teenager came to the surgery with complaints of tooth pain when eating, a feeling of "grown tooth". In the anamnesis: according to the mother, the child is registered with an endocrinologist for diabetes mellitus, the allergoanamnesis is not burdened, he recently had lacunar angina. A teenager has been afraid of dentists since childhood. Objectively: the face is symmetrical, the correct shape, the skin is clean. In the oral cavity: 2.6 the tooth is destroyed by 2/3, there is a deep carious cavity on the chewing surface communicating with the tooth cavity, deep probing is painless, vertical percussion is sharply painful, palpation of the transitional fold causes pain in the projection of the root apex, the mucous membrane around the tooth is slightly hyperemic, edematous. In the submandibular region, a lymph node with a "pigeon egg" is palpated on both sides, painless, elastic consistency, mobile, with skin and underlying tissues not soldered.

1. What is your preliminary diagnosis?

2. What kind of therapeutic manipulation is necessary in this clinical situation?

3. What are the tactics of preparation for surgery and anesthesia?

4. What method of anesthesia should be performed?

5. What are the postoperative measures?

**Situational task №24**

The parents of a 10-year-old child turned to the children's dental clinic with complaints in the tooth when taking cold. In the anamnesis, the mother notes an allergy to citrus fruits and some medications. The child had a temporary tooth removed once under 2% lidocaine. Objectively: the face is symmetrical, the skin is clean. In the oral cavity: in the 2.6 tooth there is a deep carious cavity that does not communicate with the tooth cavity, probing is painful along the bottom of the carious cavity, percussion is painless. The mucous membrane around the tooth is without features. It was decided to treat this tooth under anesthesia. After administration of 2.0 ml of 2% lidocaine solution, the child felt palpitations, pressing pain behind the sternum, lack of air, fear of death. There was a chill, cold sticky sweat. The skin and visible mucous membranes are pale, the facial features are sharpened. Breathing became shallow, pulse threadlike.

1. What complication has the child developed?

2. With what disease is differential diagnosis carried out?

3. What is the emergency care for the child?

**Situational task № 25**

A mother with an 8-year-old child turned to the dental clinic with complaints about the mobility of the tooth. In the anamnesis, the mother notes that the girl leads a sedentary lifestyle (she sits at the computer all the time), does not like to play sports. Allergoanamnesis is not burdened. Objectively: the general condition is satisfactory, the girl has an asthenic physique. In the oral cavity: 8.4- intact, mobility of 2 degrees, the mucous membrane around the tooth is pale pink. The doctor decided to remove the 8.4 tooth due to a physiological shift. After performing the application anesthesia with a 10% lidocaine solution in an aerosol, spraying it in the vestibular and lingual area around the tooth, the girl's eyes darkened, she felt dizzy, there was a feeling of lack of air, sweating, nausea and general weakness.

1. What complication occurred in this clinical situation?

2. What is the mechanism of development of this symptom?

3. What preventive measures should be taken to

prevent such phenomena and subsequent complications (collapse)?

**Situational task №26**

Immediately after classes in the gym, the parents of an 8-year-old child brought him to the children's dental clinic for oral sanitation. In the anamnesis: allergic anamnesis is not burdened, he has had ARVI. The child has a negative attitude to dental manipulations: tries to push away the doctor's hands, is capricious, but answers the doctor's questions. Objectively: 7.5 the tooth is completely destroyed, changed in color, there is a fistula with a purulent discharge on the gum in the projection of the tooth root. It was decided to remove the tooth. After the injection of an analgesic solution, the child became dizzy, the facial features sharpened, the skin and mucous membranes became pale with a cyanotic tinge, there was a feeling of cold, chills, a feeling of thirst. The tongue is dry, the pupils are dilated, the muscles are relaxed, breathing is shallow, the pulse is rapid, cold sticky sweat, blood pressure has decreased, the child has become indifferent to the surroundings, adynamic, the reaction of the pupils to light is sluggish, tremor of the fingers is observed. Consciousness is preserved.

1. What is the general complication that occurred in the child, give a definition?

2. What is the cause of this complication?

3. What are the treatment tactics in relation to this complication?

4. With what disease is differential diagnosis performed?

**Situational task №27**

A mother with a 12-year-old child came to the surgery with complaints about limited mouth opening. Anamnesis: in the morning, due to the exacerbation of chronic periodontitis 3.6 teeth, a tooth extraction operation was performed under mandibular and infiltration anesthesia. Objectively: the hole of the removed 3.6 tooth is filled with a blood clot, the mucous membrane around the tooth is without pathology. There is a restriction of mouth opening. The bite is orthognathic, not broken. The volume of lateral movements of the lower jaw to the sides is preserved, with limited movement on the left side. The shape and position of the articular heads of the condyle processes of the temporomandibular joints during palpation without pathology, with a decrease in the volume of movements in these joints.

1. What local complication has occurred?

2. What is the cause of this complication?

3. What is the therapeutic tactics for treating this complication?

 **Situational task №28**

A mother with an 8-year-old child came to the surgery with complaints of swelling in the lower jaw, malaise, fever, loss of appetite. In the anamnesis: according to his mother, he is ill for 2 days after swimming in the pool. Allergoanamnesis is not burdened. Objectively: facial asymmetry due to soft tissue edema in the lower jaw area on the left, the skin above the swelling is not changed in color, going into a fold. In the oral cavity: 7.5 - destroyed by 2/3, changed in color, probing is painless, vertical percussion is sharply painful. The mucous membrane around the tooth is hyperemic, edematous, painful on palpation, the symptom of "fluctuation" is positive. In the submandibular region on the left, a lymph node with a "bean" is palpated, painless, elastic consistency, mobile, not soldered to the skin and underlying tissues. The doctor decided to remove the causal tooth and perform a periostomy. For mandibular anesthesia, the doctor used a 2.0 cm needle, but during the manipulation, the child turned his head sharply, resulting in a breakdown of the injection needle.

1. What is the preliminary diagnosis of the child?

2. What is the cause of this complication?

3. What are the treatment tactics in relation to this complication?

**Situational case №29**

A 15-year-old teenager with complaints of bad breath turned to the dentist-surgeon for an appointment. Anamnesis of the disease: according to his mother, the teenager is very afraid of dentists, as a child, sanitation was carried out with screams. The allergoanamnesis is not burdened. Of somatic diseases, ARVI is noted. Objectively: the face is symmetrical, the correct shape, the skin is clean, regional lymph nodes are not palpated. When examining the oral cavity: CFE= 9, HI- 2.1 according to Green-Vermillion. All chewing teeth have deep carious cavities. On the first visit of the teenager, the doctor decided to remove the 4.6 tooth. St. Localis: 4.6- completely destroyed, changed in color, the mucous membrane around the tooth is pale pink, vertical percussion of the tooth is painless. The doctor performed mandibular and infiltration anesthesia, after a minute the nasolabial fold smoothed out, the corner of the mouth on the right dropped, the upper lip sagged, the skin of the face "stiffened", the face skewed to the healthy side at rest.

1. What local complication has the child developed and why?

2. What are the treatment tactics in relation to this complication?

**Situational task№ 30**

A 16-year-old teenager turned to the dentist-surgeon with complaints of pain in the tooth when biting. Anamnesis of the disease: according to the mother, the tooth was sealed at the age of 13, the allergoanamnesis is not consecrated. The child often suffers from colds. Objectively: the face is symmetrical, regular shape, the skin is clean, the regional lymph nodes in the submandibular region on the right are enlarged with a size of 0.3 x 0.5 mm, painless, elastic consistency, mobile, with skin and underlying tissues are not soldered. On examination of the oral cavity: the crown part of the 1.7 tooth is destroyed by 2/3, the mucous membrane around the tooth is hyperemic, edematous, palpation of the transitional fold is painful, probing is painless, vertical percussion of the tooth is positive. The symptom of "fluctuation" is negative. CFE = 8, HI- 2.0 according to Green-Vermillion. On the dental radiograph: there are remnants of filling material in the root canals of the tooth 1.7. In the periapical tissues in the medial root area, a rounded focus of bone destruction with clear, even contours is determined. In order to remove this tooth, the dentist performed tuberal and palatal anesthesia. Immediately after the completion of the manipulations, the doctor noted that a swelling appeared on the side of the performed anesthesia, which extends from the temporomandibular joint to the lower edge of the chin. The child complained that it was becoming increasingly difficult for him to open his mouth.

1. What is the local complication of conduction anesthesia in this clinical situation?

2. What rules should be followed in order to minimize such complications?

3. How are the treatment tactics in relation to this complication?

**Situational task № 31**

 The parents of a 6-year-old child turned to the children's dental clinic with complaints of pain in the tooth during meals. According to the parents, the tooth hurts for two days, but because of the fear of the dentist's treatment procedure, the child suffered pain, slept poorly. Allergoanamnesis is not burdened. In the oral cavity: there is a carious cavity on the chewing surface of 6.5 teeth, communicating with the tooth cavity, probing is sharply painful at one point. The doctor decided to carry out the treatment under anesthesia. Immediately after the anesthesia, the child's face suddenly turned pale, general weakness, cold limbs, loss of consciousness were noted. Blood pressure is equal to 100 / 70 mm Hg. Pulse is rare, weak filling. Pupils are dilated.

1. What is the common complication that the child has developed?

2. What is the mechanism of occurrence for this complication?

3. What etiological factor contributes to this complication?

4. What are the common complications that require differential diagnosis?

5. What is the algorithm of emergency care in this clinical situation?

6. Is it possible to resume dental care for a

child?

**Situational task № 32**

Parents with a 10-year-old boy turned to the children's dental clinic for the purpose of oral sanitation. According to the parents, the child has an allergy in the form of a rash to antibiotics. A week ago, a tooth was treated with lidocaine for the first time, there was no reaction to this drug. On examination of the oral cavity: 3.6 tooth- filling, 1.6- carious cavity within the enamel, 5.5- completely destroyed, changed in color. The dental surgeon performed infiltration anesthesia with a 2% lidocaine 2.0 ml solution in order to remove 5.5 teeth. After a minute, the child had a feeling of anxiety, fear of death, tinnitus, numbness of the tongue, lips, fingers. He complained of general weakness, dizziness. Objectively: the skin is pale, cold, covered with sticky sweat. The patient is conscious. There is cyanosis of the lips, dilated pupils. From the side of cardiovascular activity, tachycardia appeared, pulse - threadlike, blood pressure was 40/20 mmHg, the child began to complain of a state of suffocation, difficulty exhaling.

1. What is the general complication that the child developed at the dentist-surgeon's appointment and give a definition?

2. What are the common complications that need differential diagnosis?

3. What is the pathogenesis of this complication?

**Situational task № 33**

In order to sanitize the oral cavity, a 14-year-old teenager turned to the polyclinic. Anamnesis: allergic anamnesis is not burdened, there is no chronic somatic pathology. A week ago got over ARVI. In the oral cavity: 3.6, 4.6 - deep carious cavities that do not communicate with the tooth cavity, probing is painful along the bottom of the carious cavity, the reaction to cold causes short-term transient pain. The doctor decided to carry out treatment under mandibular and infiltration anesthesia with a 2% lidocaine solution of 4.0 ml, which was taken from a package located on the desktop, without paying attention to the labeling of the ampoule. During anesthesia, severe pain and a burning sensation appeared in the wing-jaw area, touching the injection site caused a sharp pain. The child became hysterical.

1. What local complication is possible to develop?

2. What is the cause of this complication?

3. What is the algorithm for providing emergency care to a teenager in this situation?

4. What is the outcome of this complication?

**Situational task№ 34**

The parents of an 8-year-old child came to the clinic for oral health care. The doctor immediately proceeded to examine the oral cavity. Objectively: the face is symmetrical, regular in shape, skin is clean, submandibular lymph nodes are not palpated. In the oral cavity: 1.6, 4.6 - cavities within the enamel, 8.5, 8.4, 5.5, 6.4 - completely destroyed, discolored, fistulous passages on the gum. The decision was made to start the sanation of the oral cavity by removing the temporary 5.5 tooth. After infiltration anesthesia with mepivastesin solution - 1.0 ml, the child suddenly lost consciousness. His mouth foamed, skin became pale, face cyanosis appeared, pupils were unresponsive to light, jaws were firmly clenched, torso extended, legs extended and tense, head pulled back.

1.What error did the physician make during the examination?

2.What general complication did the child develop?

3.What is the algorithm for emergency care?

4.Is continuation of surgical intervention possible?

**CHAPTER 4. PECULIARITIES OF SURGERY TO REMOVE TEMPORARY AND PERMANENT TEETH IN CHILDREN. POSSIBLE COMPLICATIONS, THEIR PREVENTION AND TREATMENT.**

 **Situational task № 35**

A mother and her 8-year-old child came to a pediatric clinic with complaints of aching pains. On examination: 7.5 tooth is completely destroyed, discolored, percussion is painful, gingival mucosa is hyperemic and edematous. Panoramic X-ray showed bone thinning in the area of bifurcation of the roots of tooth 7.5, resorption of cortical plate of the follicle of tooth rudiment 3.5, resorption of roots by ½ of their length. Based on the clinical and radiological examinations, the doctor decided to remove the tooth. After administering anesthesia, the doctor tilted the child's head and extracted the tooth with an elevator, but the tooth got into the upper respiratory tract during extraction. The child began to choke, cyanosis of the nasolabial triangle appeared, breathing became whistling, pupils dilated, neck and pectoral muscles tensed, veins in the neck dilated.

1.What complication occurred during tooth extraction?

2. What is the cause of this complication?

3. What types of asphyxiation do you know?

4. What treatment tactics are necessary in this case?

 **Situational task № 36**

A 16-year-old teenager came to the polyclinic complaining of aching pains in the lower jaw area on the right. In the anamnesis of the disease: the allergic anamnesis is not burdened, the mother notes chronic tonsillitis from somatic diseases. This tooth was previously treated, but the seal fell out 2 years ago. Objectively: the face is symmetrical, the correct shape, the skin is clean. The submandibular lymph nodes on the left are enlarged, size 0.8 x 1.2, mobile, not soldered to the surrounding tissue. When examining the oral cavity: 3.6 tooth- completely destroyed, changed in color, percussion is sharply painful. The mucous membrane around the tooth is hyperemic, edematous. Palpation of the transitional fold is painful, but the symptom of "fluctuation" is negative. The dental radiograph shows a rarefaction of bone tissue in the area of the roots of 3.6 teeth in the form of "flames". The doctor decided to remove the tooth with an elevator. After conducting a guide anesthesia, he inserted the elevator deeply and, relying on the 3.7 tooth, tried to remove the causal tooth. But during this movement there was a complete dislocation of the intact 3.7 tooth.

1. What is the cause of this complication?

2. What are the further therapeutic tactics in relation to the 3.7 tooth?

**Situational task № 37**

A mother and a 7-year-old girl came to the polyclinic with complaints of aching pains in the lower jaw area on the right. In the anamnesis of the disease: the allergic anamnesis is not burdened, from somatic diseases the mother notes gastritis, frequent colds. Also, according to the mother, the child's teeth were treated earlier. Objectively: the face is symmetrical, the correct shape, the skin is clean. The submandibular lymph nodes on the right are enlarged, size 0.5x0.8, mobile, not soldered to the surrounding tissue. When examined on the chewing-approximal surface of the tooth 8.5, there is a deep carious cavity, probing is painless, percussion is sharply painful. The X-ray shows rarefaction of bone tissue in the area of bifurcation of the roots of the tooth, destruction of the cortical plate, signs of resorption of the roots of the tooth. Based on the X-ray data, a decision was made in favor of tooth extraction. To remove the tooth, the doctor took the beak-shaped dissimilar spikes with spikes and proceeded to remove. But during the extraction of the tooth, the crown part of the intact 5.5 tooth was broken off.

1. What is the preliminary diagnosis of the girl?

2. What local complication occurred?

3. What is the cause of this complication?

 **Situational task № 38**

 A mother with an 8-year-old child turned to the children's dental clinic with complaints of pain when biting. In the anamnesis of the disease: the allergic anamnesis is not burdened, there are no chronic somatic diseases. Have recently been ill with ARVI. According to the mother, the child was previously treated for teeth. Objectively: the face is symmetrical, the correct shape, the skin is clean. The submandibular lymph nodes are enlarged by the size of 0.5x0.8, mobile, not soldered to the surrounding tissue. In the oral cavity: 5.5 the tooth is destroyed by 1/3, changed to pink, the carious cavity is filled with remnants of filling material with putrid masses, deep probing is painless, the mucous membrane around the tooth is hyperemic, edematous. Vertical percussion and palpation are painful, the symptom of "fluctuation" is negative. The X-ray shows a rarefaction of bone tissue in the apical region of the 5.5 tooth, the distal root is resorbed by half, the periodontal gap is expanded. The rudiment of the permanent 1.5 tooth is located near the medial root of the temporary tooth. The doctor decided to remove the temporary tooth. But during removal there was a fracture of the crown and medial root of the tooth.

1. What is the preliminary diagnosis of the child?

2. What are the causes of a tooth root fracture?

3. What additional examination methods are needed in this case?

4. What are the further therapeutic tactics in this case?

 **Situational task № 39**

 A mother with an 8-year-old child turned to the children's dental clinic for oral sanitation. In the anamnesis of the disease: the allergic anamnesis is not burdened, there are no chronic somatic diseases. According to the mother, the child was previously treated for teeth. Objectively: the face is symmetrical, the correct shape, the skin is clean. Submandibular lymph nodes are not palpated. In the oral cavity: 7.5 the tooth is destroyed by 2/3, there are remnants of filling material with putrid masses in the carious cavity, deep probing is painless, percussion is painless, the mucous membrane around the tooth is pale pink. The X-ray shows a rarefaction of bone tissue in the apical region of 7.5 teeth, the medial root is resorbed by half, the periodontal gap is expanded. The rudiment of the permanent 3.5 tooth is located near the medial root of the temporary tooth. The doctor decided to remove a temporary tooth. But the removal was traumatic and difficult, as there was a fracture of the crown and root part of the temporary tooth. Thus, for the tooth extraction operation, beak spikes not converging with pincers, elevators "from itself" and "on itself" were used.

1.What is the preliminary diagnosis?

2.What complication is likely to develop during traumatic extraction of a temporary tooth?

3.What is the peculiarity of temporary tooth extraction in children?

4.What are the peculiarities of temporary tooth extraction?

5.What distant complications are possible with this complication?

**Situational task № 40**

A 15-year-old adolescent patient complained of pain while eating in the area of the upper tooth in a pediatric dental clinic. According to the adolescent, there is no history of allergic reactions, no chronic somatic diseases. The tooth has been painful for three days; it had not been treated before. In the oral cavity: 1.6 - completely decayed with preserved wall on the palatine side of the tooth, discolored, carious cavity filled with putrid masses, percussion is slightly painful, mucous membrane around the tooth is slightly hyperemic, edematous. Submandibular lymph nodes on the right side were enlarged to the size of "pea", mobile, not fused with the surrounding tissue. On X-ray: there was a widened periodontal gap in the root area, there was a foci of destruction in the distal root area in the form of tongues of flame, the roots projected next to the maxillary sinus of the respective side. The doctor decided to remove the tooth. The doctor used bayonet splints for this manipulation. But during the tooth extraction operation, the doctor pushed the forceps inward excessively and lost the root of the tooth, after which bubbles with blood appeared from the extraction pit.

1.What is the preliminary diagnosis of the child?

2.What local complication occurred during tooth extraction?

3.How is this complication diagnosed?

4.What is the cause of this complication?

5.What are the treatment tactics to eliminate the complication?

**Situational task № 41**

A 16-year-old adolescent patient consulted the surgery with complaints of numbness in the chin area to the right corner of the mouth, alveolar process, several lower jaw teeth on the right side, which appeared yesterday after a tooth extraction. Past medical history: 4.4 was extracted a day ago for orthodontic indications, the extraction was traumatic. Objectively: the face is symmetrical, regular in shape, skin of physiological color, regional lymph nodes are not palpated. Examination of the oral cavity: the extraction pit of the extracted 4.4 tooth without features, filled with blood clot, sensitivity disorder in the area of the mandibular gingiva, mucous membrane of the alveolar process in the area of the 4.4 tooth pit. The study of sensitivity reveals paresthesia of the alveolar process of the lower jaw on the right, the chin area on the right, the area in the right corner of the mouth. Decrease of electroodontodiagnostic (EOD) data of 4.7, 4.6, 4.5 teeth is noted.

1. What local complication occurred after extraction of 4.4 teeth?

2. What are the possible causes of the complication?

3. What is the treatment tactic of the dentist-surgeon in this clinical situation?

**Situational task № 42**

The parents of a 14-year-old teenager turned to the polyclinic with complaints of aching pains in the upper tooth area. According to the mother, the allergoanamnesis is not burdened, there were no chronic somatic diseases, he did not suffer from hepatitis. The tooth has been aching for two days, previously treated, but the seal fell out. In the oral cavity: 2.6- destroyed by 2/3, changed in color, percussion is sharply painful, there are remnants of a filling in the cavity, the mucous membrane around the tooth is slightly hyperemic, edematous. The submandibular lymph nodes are enlarged with a "pea", mobile, not soldered to the surrounding tissue. On the X-ray: there is an expansion of the periodontal gap in the area of the roots of the 2.6 tooth, there is a focus of destruction in the area of the medial and distal roots in the form of flames, there are remnants of filling material in the channels, the roots are projected in the maxillary sinus of the corresponding side. The doctor decided to remove the tooth. For this manipulation, the doctor used a chisel, bayonet spikes and a straight elevator. During tooth extraction, bubbles with an admixture of blood appeared from the hole of the tooth being removed.

1. What is the preliminary diagnosis of the child?

2. What local complication occurred during tooth extraction?

3. How to diagnose this complication?

4. What is the cause of this complication?

5. What are the therapeutic tactics to eliminate the complication?

**Situational task № 43**

A mother with an 8-year-old child turned to a dentist-surgeon for an appointment to sanitize the oral cavity. In the anamnesis: according to mom, the allergoanamnesis is not burdened, from somatic diseases - the child often suffers from colds. Objectively: the face is symmetrical, of the correct shape, the skin is physiologically colored, the regional lymph nodes in the submandibular region on the left are enlarged with "beans", painless, elastic consistency, mobile, with skin and underlying tissues are not soldered. When examining the oral cavity: 7.5 the tooth is under the filling, changed in color, vertical percussion is sensitive, there is a fistula with purulent discharge in the projection of the roots of the tooth on the mucous membrane of the gum, the mucous membrane around the fistula is cyanotic, palpation of the transitional fold around the tooth is painless. The dental radiograph shows the destruction of bone tissue with indistinct contours in the form of flames in the area of the distal root of the tooth, the medial root of the tooth is half resorbed, there is an expansion of the periodontal gap, rarefaction is also noted in the area of bifurcation.

After performing anesthesia, the doctor proceeded to remove 7.5 teeth using beak-shaped forceps with dissimilar cheeks and spikes. However, in the process of performing the tooth extraction operation, bleeding appeared with fragments of the mucous membrane on the thorns, the hole of the removed tooth gaped.

1. What is the preliminary diagnosis in this clinical situation?

2. What are the stages of removal of this tooth?

3. What local complication occurred in the child?

4. What are the possible causes of the complication?

5. What is the therapeutic tactics of a dental surgeon in this clinical situation?

**Situational task № 44**

A 15-year-old teenager turned to the children's dental clinic for oral sanitation. Anamnesis: allergic anamnesis is not burdened, there is no somatic pathology. Objectively: the face is symmetrical, of the correct shape, the skin is physiologically colored. When examining the oral cavity: the crown part of the 4.6 tooth is completely destroyed, changed in color, percussion is painless, the mucous membrane around the tooth is pale pink. The doctor decided to remove the 4.6 tooth, performed a conductive anesthesia. To remove the tooth, the doctor asked to open his mouth wide, performed detachment of the circular ligament of the tooth (syndesmotomy), and then with the help of beak-shaped forceps with converging cheeks without thorns removed 4.6 teeth, but after removal the teenager could not close his mouth. The following clinical picture was observed: the mouth is open, the chin is pushed forward, the front teeth do not close, the cheeks are flattened and tense, there is no possibility of lateral movements of the lower jaw. When palpating anteriorly from the tragus of the ear, there is a sinking (the absence of the head of the condylar process, which is easily palpable here in the norm), and under the zygomatic arch, in the anterior part, there is a bulge — a displaced head of the condylar process.

1. What local complication occurred during the removal of 4.6 teeth?

2. What organizational condition was violated by the doctor when receiving a teenager?

3. What is the cause of the complication?

4. What therapeutic tactics are necessary in this clinical situation?

 **Situational task № 45**

A 16-year-old teenager came to the polyclinic complaining of aching pains in the lower jaw area on the right. In the anamnesis of the disease: the allergic anamnesis is not burdened, the mother notes chronic tonsillitis from somatic diseases. This tooth was previously treated, but the seal fell out 2 years ago. Objectively: the face is symmetrical, the correct shape, the skin is clean. The submandibular lymph nodes on the left are enlarged, size 0.8 x 1.2, mobile, not soldered to the surrounding tissue. When examining the oral cavity: 3.6 tooth- completely destroyed, changed in color, percussion is sharply painful. The mucous membrane around the tooth is hyperemic, edematous. Palpation of the transitional fold is painful, but the symptom of "fluctuation" is negative. The dental radiograph shows a rarefaction of bone tissue in the area of the roots of 3.6 teeth in the form of "flames". The doctor decided to remove the tooth with an elevator. After conducting a guide anesthesia, he inserted the elevator deeply and, relying on the 3.7 tooth, tried to remove the causal tooth. But during this movement, a complete dislocation of the intact 3.7 tooth occurred.

1. What is the cause of this complication?

2. What are the further therapeutic tactics in relation to the 3.7 tooth?

 **Situational task № 46**

A mother and a 7-year-old girl came to the polyclinic with complaints of aching pains in the lower jaw area on the right. In the anamnesis of the disease: the allergic anamnesis is not burdened, from somatic diseases the mother notes gastritis, frequent colds. Also, according to the mother, the child's teeth were treated earlier. Objectively: the face is symmetrical, the correct shape, the skin is clean. The submandibular lymph nodes on the right are enlarged, size 0.5x0.8, mobile, not soldered to the surrounding tissue. When examined on the chewing-approximal surface of the tooth 8.5, there is a deep carious cavity, probing is painless, percussion is sharply painful. The X-ray shows rarefaction of bone tissue in the area of bifurcation of the roots of the tooth, destruction of the cortical plate, signs of resorption of the roots of the tooth. Based on the X-ray data, a decision was made in favor of tooth extraction. To remove the tooth, the doctor took the beak-shaped dissimilar spikes with spikes and proceeded to remove. But during the extraction of the tooth, the crown part of the intact 5.5 tooth was broken off.

1. What is the preliminary diagnosis of the girl?

2. What local complication occurred?

3. What is the cause of this complication?

**Situational task№ 47**

The parents of a 4-year-old boy came to the surgery with complaints of tooth pain when eating. In the anamnesis: according to the mother, the child suffers from hemophilia A and is registered with a hematologist. The tooth hurts for 2 days, the dentist was not contacted. Objectively: the face is symmetrical, regular shape, the skin is clean, pale. In the oral cavity: on the chewing- approximal surface of the 6.4 tooth there is a carious cavity communicating with the tooth cavity, deep probing is painless, vertical percussion caused sharp pain. The mucous membrane around the tooth is slightly hyperemic, edematous. The radiograph shows the rarefaction of the bone structure in the apecal part of the roots in the form of "flames" and the expansion of the periodontal gap, the rudiment of a permanent tooth without pathology. The doctor decided to remove 6.4 teeth.

1. What is the definition of hemophilia?

2. Is it possible to perform a 6.4 tooth extraction operation in a polyclinic?

3. What possible complications are typical for this category of children?

**CHAPTER5. FEATURES OF THE CLINICAL COURSE, DIAGNOSIS AND TREATMENT OF INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION IN CHILDREN.**

**Situational task № 48**

A 15-year-old teenager came to the surgery with complaints of pain in the tooth area when eating, increased body temperature, weakness and malaise. Objectively: facial asymmetry due to swelling of soft tissues in the lower jaw on the right, the skin of physiological color, do not gather in a fold. Body temperature 38.2 °C. When examining the oral cavity: the crown part of the 4.6 tooth is destroyed by ½, on its chewing surface of the tooth there is a deep carious cavity made with softened dentin. Vertical percussion of the tooth is positive, the mucous membrane around the tooth is hyperemic, edematous, smoothness of the transitional fold on the vestibular side is noted, palpation is painful, the symptom of fluctuation is positive. Submandibular lymph nodes on the right are enlarged, slightly painful on palpation, elastic consistency, mobile, not soldered to the skin and underlying tissues. On the X-ray: in the periapical tissues in the area of the apex 4.6, the expansion of the periodontal fissure is determined. According to the general blood test, the shift of the leukocyte formula to the left, increased ESR is determined.

1. What is the preliminary diagnosis of the adolescent and what is the definition of the disorder?

2. What is your decision regarding the tooth?

**Situational task № 49**

A mother with a 7-year-old child came to the children's dental clinic with complaints of a "balloon" under the skin. Past medical history: noticed the mass two days ago. According to the mother, the child is currently under treatment at the dentist for chronic periodontitis of 7.5 teeth. Objectively: the face is symmetrical, regular in shape, skin is clean. In the oral cavity: 7.5 tooth - open, deep probing is painless, percussion is sensitive, mucosa around the tooth is slightly hyperemic, edematous, epithelialized mucosa after the incision is noted on the transitional fold. An enlarged lymph node, slightly painful on palpation, round in shape, mobile, not adherent to the surrounding tissue, of soft elastic consistency, was palpated in the submandibular region on the left. General blood analysis revealed: moderately pronounced neutrophilic leukocytosis, relative lymphocytosis, accelerated sedimentation rate.

1.What is the preliminary diagnosis of the child?

2.What is the etiological factor of this disease?

3.What part of the body is the lymphatic system and its role?

4.What is the prevention of the disease?

**Situational task №50**

A 12-year-old child came to the surgeon-dentist with complaints of malaise, weakness, "lumps" in the neck, a slight increase in body temperature, poor appetite. Morbi anamnesis: According to his mother, the child is the eldest one in the family (out of 8 children), he was born healthy and full-term. She noticed the symptoms a month ago. The child often catches cold and coughs. Anamnesis vitae: Family has many children, low-income. Objectively: The child has asthenic build, body temperature - 37.2. Face symmetrical, regular shape, clean skin. In submandibular and axillary areas, and anterior surface of the neck along m. sternocleidomasteideus there were 6-7 lymph nodes, 0.3x0.5 mm in size, painless, dense, not fused with the surrounding tissue, mobile. The doctor decided to conduct an auscultation, which revealed rigid breathing and scattered dry rales. Blood count (SAC) showed moderate leukocytosis (11.0 G/L), lymphopenia (18%), accelerated sedimentation rate- 18 mm/h.

1.What is the preliminary diagnosis of the child and give the definition?

2.How is this disease diagnosed in children and what specialist should be consulted in this case?

3.What are the normal blood parameters in children given in this problem?

4.What additional tests are needed for this child?

5.What changes are characteristic of children on a chest radiograph?

**Situational task № 51**

The parents of a 5-year-old child complained of swelling, fever, malaise, lack of appetite and lethargy to the emergency room of the maxillofacial hospital. According to the parents: Two days ago, the child had a filling placed on his lower tooth, after which the child felt discomfort when eating. The next day there was swelling, but he did not go to the doctor. The child used frequent rinses with saline solution. During the last 24 hours, the child's condition worsened, pain when swallowing was added. Past medical history: parents noted frequent colds. Objectively: asymmetry of the face due to collateral edema of soft tissues in the mandible and submandibular region on the left side, skin hyperemic, edematous, glossy, not gathered in a fold. When the tongue is moved and the mouth is opened, increased soreness is noted.

On examination of the oral cavity: 7.5 tooth was restored with a filling made of composite material. The mucosa around the tooth is hyperemic, edematous, muft-shaped thickened in the area of teeth 7.5 and 7.4, percussion is sharply painful. Fluctuation symptom is positive. Pathological mobility of these teeth is noted, pus is detected from the pathological tooth-gingival pocket of the tooth. Mandibular-tongue groove is smoothed, mucous membrane in the area of mandibular-tongue groove is hyperemic, edematous, sharply painful on palpation.

1.What is your preliminary diagnosis and what is your definition?

2.What are the changes in blood parameters in inflammation?

3.What distant complications are possible in the child in this situation and why?

**Situational task № 52**

Parents with a 7-year-old child came to the polyclinic with complaints of aching pains in the tooth on the lower jaw. Objectively: the face is symmetrical, of the correct shape, the skin is physiologically colored, regional lymph nodes are not palpable. When examining the oral cavity: in 7.4 tooth - carious cavity with remnants of filling material, the mucous membrane around the tooth is hyperemic, edematous. Tooth probing 7.4 is painless, there is an abundant amount of softened dentin in the carious cavity. The percussion of the tooth 7.4 is sharply painful. The radiograph shows a small rounded focus of destruction of bone tissue with clear, even contours in the distal root area, there are individual particles of filling material in the root canals, the rudiment of a permanent 3.4 without pathology.

1. What is your preliminary diagnosis?

2. What forms of this disease exist according to the classification of acute odontogenic purulent-inflammatory processes in children?

3. What is the path of the spread of purulent-inflammatory infectious process takes place in this clinical situation?

**Situational task № 53**

The parents of a 14–year-old child complained of swelling of the parotid region on the right, dry mouth to the dental clinic to the dental surgeon. In the anamnesis: in the past, periodic tingling and heaviness in the gland were noted, after the medical procedures it became easier. He is registered with a gastroenterologist for chronic gastritis. Objectively: a slight asymmetry of the face due to edema of the soft tissues of the right parotid region, the skin over the swelling is not changed in color, it gathers into a fold. A painless, soft consistency, enlarged gland is determined by palpation. A small amount of transparent saliva is released from the mouth of the duct. On the sialogram: narrowing of the output III, IV, V orders. ducts that are thinned, well contoured. The shadow of the parenchyma of the gland is evenly determined throughout.

1. What is the preliminary diagnosis of a child?

2. What pathological changes in the structure of the salivary gland are characteristic of this disease?

3. What are the treatment tactics in relation to this disease?

**Situational task № 54**

A 9-year-old child was admitted to the pediatric maxillofacial department with complaints of swollen cheek, dry mouth, elevated T-37.6 °С, malaise. According to the mother, the child had been ill for 2 years, during this period the swelling in the left parotid-cheek area periodically appeared 5-6 times for no apparent reason. But against the background of repeated treatment the swelling disappeared, but then appeared again. Allergic anamnesis was not aggravated, somatic diseases included frequent colds. Among the bad habits the mother noted frequent consumption of spicy chips. Objectively: slight asymmetry of the face due to swelling of soft tissues in the parotid region on the left, the skin above the swelling is hyperemic, edematous, slight tension is noted. On palpation you can feel an enlarged, painful, dense, lumpy gland. Massaging the parotid gland area on the left side of the salivary duct produces scarce viscous saliva with an admixture of pus. The mouth of the duct on the left was hyperemic and edematous. Contrast sialography made during remission shows: enlargement of the main exit duct, irregular enlargement of the first and second order ducts, round cavities 1.0- 2.5 mm in diameter.

1.What is the preliminary diagnosis of the child?

2.What preparations are used to contrast the gland?

3.What additional methods of diagnosing salivary gland disease exist?

4.With what diseases is the differential diagnosis made?

5.What are the therapeutic tactics for this disease?

 **Situational task № 55**

**The mother of an 8-year-old child came to the emergency room of the maxillofacial department with complaints of swelling in the parotid region on the right side and a slight increase in body temperature. According to the mother's medical history, the child often has sore throats and colds, and two weeks ago he got sick after eating ice cream. Swelling appeared 4 days ago. Objectively: body temperature - 37, 6 ° C, the child is of asthenic build. Oral cavity: pharynx is hyperemic, there are single pus plugs on the palatine tonsils. On external examination: slight asymmetry of the face due to swelling of soft tissues in the parotid region on the right, skin over the swelling was not changed in color, it gathered into a fold. Palpation of parotid region reveals dense, painless infiltrate, the ductus oculi are unchanged, transparent saliva is excreted when massaging the gland, and the gland is thickened, painless,**

**1.What is the preliminary diagnosis of the child?**

**2.What is the outcome of the disease and treatment tactics in this clinical case?**

**Situational task № 56**

**A mother and her 10-day-old child were admitted to the emergency room of the maxillofacial department with complaints of swelling in the parotid region, fever, loss of appetite, and the child was restless. Past medical history: sick within a day, prematurely born, breastfeeding, mother developed mastitis three days ago. Objectively: asymmetry of face due to swelling of soft tissues in parotid region on both sides, gland is thickened, painful, skin is hyperemic, it is difficult to fold, ducts mouths are hyperemic, swollen, purulent discharge appears from ducts, fluctuation in front of earlobe is determined on palpation.**

**1.What is the preliminary diagnosis of the child?**

**2.What is the cause of this disease?**

**1.With what diseases should be differentiated?**

**2.What is the therapeutic tactic in this clinical situation?**

**3.What is the prognosis of this disease?**

**Situational task № 57**

A mother and her 8-year-old child came to the clinic with complaints of swelling in the parotid region, malaise, and fever. Past medical history: has been ill for two days. According to the mother's words, at first there was swelling on one side, last night the other side of the face became swollen. The child has frequent colds, a week ago he had a viral infection accompanied by coughing and sneezing. Allergoanamnesis is not burdened. On examination: body temperature 380, asymmetry of the face due to swelling of soft tissues in the parotid region on both sides, skin over the swelling was unchanged in color. In the oral cavity, the ducts of the parotid salivary gland are hyperemic and edematous, the mouth is dry, scanty transparent saliva is secreted on palpation. There is painfulness when pressing in front and behind the earlobe.

1.What is the preliminary diagnosis of the child?

2.What is the pathogenesis of this disease?

3.What are the main clinical symptoms characteristic of this disease?

4.What are the complications of the disease?

5.What are the treatment tactics for this disease?

**Situational task № 58**

A parent of 13 years of age was referred to a dentist-surgeon with complaints of swelling in the right submandibular region and sharp pain when eating. According to the patient's medical history, he is registered at a gastroenterologist for chronic gastritis, likes spicy and salty food. The patient had been suffering from this condition for 1.5 years, but for the last few days he again experienced acute pains while eating and then disappeared after the meal. Objectively: face symmetrical, regular shape, pale skin. In the oral cavity: mucous membrane in the area of the hyoid roll is hyperemic, edematous, slightly swollen, the mouth of the right varton's duct is gaping and dilated, palpation of the right submandibular area reveals a slight increase of the submandibular salivary gland, but of normal consistency and color. When massaging the gland, no saliva is secreted, and on the left side, saliva secretion is normal. On palpation along the course of the duct in its middle third a dense concretion 0.3 cm in diameter is palpable. CFE=6, HI=1.8 according to Green-Vermilon.

1. What is the child's preliminary diagnosis and rationale?

2. What additional tests are needed to confirm the final diagnosis.

3. What are the treatment tactics?

4. What is the method of surgical treatment?

**CHAPTER 6. ODONTOGENIC JAW CYSTS IN CHILDREN**

**Situational task № 59**

 A mother with a 13-year-old child came to an appointment with an orthodontist with complaints of crowding of teeth in the lower jaw area. Anamnesis of the disease: according to the mother, the girl was born healthy, there are no chronic diseases, the allergoanamnesis is not burdened. Objectively: the face is symmetrical, the correct shape, the skin is clean. In the oral cavity: 3.1 the tooth is inclined to the oral side, 4.1 the tooth is inclined to the vestibular side, 3.2 and 4.2 the teeth have a rotation around the axis. The shape of the dental arch in the frontal part is flattened. Teeth 4.7 and 3.7 are missing in the dental arch. There is a short frenulum of the tongue, CFE = 5, HI = 2.2 according to Fedorova - Volodkina. On palpation, there is a slight thickening of the alveolar process in the area of the angle of the lower jaw on the right, painless, dense. A homogeneous rarefaction of rounded bone tissue ("the size of a pigeon's egg") is determined on an X-ray with clear, even boundaries in the area of the angle of the lower jaw on the right, there is a 4.7 tooth in the cavity of the formation.

1. What is the diagnosis of a child?

2. What is the origin of this education?

3. What is the macro- and microscopic structure of this formation?

4. What are the treatment tactics in this clinical case?

**Situational task № 60**

The parents of an 8-year-old boy turned to the children's dental clinic with complaints of swelling of the lower jaw on the left. In the anamnesis, the mother notes the treatment of baby teeth, which was long a year ago. The child suffers from chronic tonsillitis. Allergoanamnesis is not burdened. Objectively: facial asymmetry due to thickening of the alveolar process in the area of the angle of the lower jaw on the left, the skin above the swelling is not changed in color. In the oral cavity: 7.5 the tooth is under a composite material seal, changed in color, the mucous membrane around the tooth is pale pink. The transitional fold is smoothed, painless on palpation. Dupuytren's symptom is positive. On the panoramic X-ray: a shadow of a rounded shape ("the size of a chicken egg") is noted with clear boundaries, there is a rudiment of a permanent 3.5 tooth in the cavity, the rudiments of 3.6 and 3.4 teeth are displaced, but the continuity of the compact layer of these teeth is not broken.

1. What is the preliminary diagnosis of the child?

2. What is the therapeutic tactics of this disease?

**Situational task№ 61**

A 16-year-old teenager consulted a dental surgeon with complaints of swelling in the area of the upper jaw on the right side. Past medical history: the adolescent has a negative attitude towards dental treatment, he started to treat his upper teeth a year and a half ago, but did not finish the treatment because of his fear of dental manipulations. Objectively: slight asymmetry of the face due to convexity of the alveolar process on the right side, small vascular pattern above the swelling, it gathers in the fold. The skin was clean. Oral cavity: multiple cavities on maxillary and mandibular molars and maxillary premolars. Locally: in 1.4 tooth - cavity on the medial-aproximal surface, communicating with the tooth cavity, deep probing and percussion are painless, the tooth is discolored, on the vestibular side there is thickening of the alveolar process in the root projection of 1.4 tooth, palpation is painless, Dupitren's symptom is positive, mucosa over the bulge is pale pink. On the palate there is a limited spherical swelling, easily squeezed by palpation. Radiograph shows diminished size and darkening of the maxillary sinus in the form of a dome, rounded formation from the apex of 1.4 teeth, periodontal cleft is not traced.

1.What is the preliminary diagnosis of the adolescent?

2.What additional diagnostic method is applicable in this clinical situation to make the diagnosis?

3.What disease is the differential diagnosis made with?

4.What is the therapeutic tactic in this clinical situation?

5.What is the technique of surgical intervention?

**Situational task № 62**

The parents of an 8-year-old child consulted the clinic with complaints of swelling in the left lower jaw area. According to the mother's medical history: the lower tooth was treated for complicated caries a year ago. There was no history of allergies. The child had frequent colds. In the oral cavity: 7.5 tooth - under filling, discolored, vertical percussion - painless, on the vestibular side there is swelling of the transitional fold in the projection of the apex of the root of 7.5 tooth, painless, mucosa is not discolored. Palpation of the transitional fold is painless, positive "parchment crunch" symptom. On panoramic X-ray in the area of the root of the 7.5 tooth the area of bone destruction with smooth edges of round shape is marked, in the cavity of the formation a small part of the follicle of the permanent 3.5 tooth is present.

1.What is the preliminary diagnosis of the child?

2.What is the treatment tactic for this mass?

3.What are the indications for cystotomy surgery?

4.What are the disadvantages of cystotomy surgery?

5.What is the cystotomy technique?

**Situational task № 63**

A 15-year-old teenager sought advice with complaints about the presence of swelling in the frontal area of the upper jaw, nasal congestion, decreased sense of smell, difficulty in nasal breathing. Anamnesis: notes an injury two years ago to the frontal teeth. The tooth was not treated, only the tooth was fixed because of its mobility. Allergoanamnesis is not burdened. Of the somatic diseases, chronic tonsillitis is noted. Objectively: slight asymmetry due to bulging of the alveolar process in the frontal area of the upper jaw. In the oral cavity: crown 1.1- the crown part is intact, changed in color, deep probing is painless, vertical percussion is painless, 1.2 the tooth is displaced, there is a gap of 2.0 mm between teeth 1.1 and 1.2, there is a bulge on the vestibular side along the transitional fold in the projection of the tip of the root of 1.1 tooth, painless, the mucous membrane is not changed in color. During rhinoscopy of the nasal cavity, the Gerber roller is pronounced (protrusion in the lower nasal passage). Palpation of the transitional fold is painless, accompanied by a symptom of "parchment crunch". On the X-ray in the area of the root 1.2 of the teeth, there is an expansion of the periodontal gap and its absence in the tooth 1.1, in the projection of the root 1.1 of the tooth, a site in the form of a focus of destruction of bone tissue with smooth edges of a rounded shape.

1. What is the preliminary diagnosis of a teenager being diagnosed?

2. What is the definition of this mass?

3. What is the mechanism of formation of this pathological formation?

4. What are the treatment tactics in relation to this mass?

**Situational task № 64**

A 14-year-old adolescent boy consulted the surgery with complaints of a mass in the hyoid region, which appears and disappears. Past medical history: parents did not associate the mass with anything. Thorough questioning revealed that the child had undergone surgery for low attachment of the upper lip frenulum, short frenulum of the tongue, long treatment by an orthodontist for malocclusion of the bite. On examination: No facial asymmetry on external examination. Gothic palate. The vestibule of the mouth in the area of frontal teeth of the lower jaw is shallow. The mouth opening is free. There was a hemispherical protrusion of oval shape, of soft elastic consistency, painless in the hyoid region. The mucous membrane above the bulge was stretched and thin, translucent with bluish tint. The mass is close to the duct of the submandibular gland on the right side, but it does not compress it.

1.What is the preliminary diagnosis of the adolescent?

2.What is the cause of the mass in this clinical situation?

3.Why does the mass appear and then disappear?

4.What is the treatment tactic for this mass?

**Situational task № 65**

A 16-year-old teenager consulted a dental surgeon about a small swelling in the lower jaw on the right side. His medical history includes an operation for a radicular cyst from tooth 3.6 (cystectomy). According to the adolescent, the operation was successful, the postoperative period had no complications. From somatic diseases he noted frequent colds. Objectively: slight asymmetry due to bulging of the alveolar process in the area of the right angle of the lower jaw. Oral cavity: 3.6 tooth missing, on the vestibular side of this tooth there is a swelling on the transitional fold, painless, mucosa is not discolored. Palpation of the transitional fold is painless, dense under pressure. There is convergence of 3.7 and 3.5 teeth towards the missing tooth. The 3.7 tooth is filled on the chewing surface with glass ionomer filling material. Tooth 3.5 has a cavity on the proximal surface, which does not communicate with the dental cavity. Probing and percussion of the tooth is painless. The mucous membrane around the tooth is pale pink.

1. What is the tentative diagnosis of the adolescent diagnosed?

2. What is the mechanism of origin of this pathological mass?

3. What additional methods of examination should be performed?

4. What is the therapeutic tactic for this mass?

5. What is the classification of cysts?

**Situational task № 66**

A 15-year-old adolescent boy consulted a surgeon-dentist in the outpatient clinic complaining of swelling in the frontal area of the upper jaw, difficulty in nasal breathing. Past medical history: 1.2 teeth were treated for complicated caries. From somatic diseases he mentioned frequent acute respiratory infections. Objectively: 1.2 tooth was filled with glass ionomer filling material, vertical percussion - painless, 1.1 tooth is displaced, there is a 2.0 mm gap between teeth 1.1 and 1.2, on the vestibular and palatal side, bulging of the alveolar process in the apex, painless, mucosa is not discolored. Palpation of the transitional fold is painless, palpation on the palatine side is accompanied by the symptom of "parchment crunch". On X-ray: root of 1.2 tooth is filled behind the apex, the periodontal gap is widened and absent in 1.1 tooth, in the projection of 1.2 root the area in the form of bone destruction foci with smooth rounded edges is noted.

1. What is the preliminary diagnosis of the adolescent diagnosed?

2. What is the morphological characteristic of this pathological entity?

3. When is the Gerber's symptom detected?

4. What is the preferred radiological method of radiological diagnosis for makingan accurate diagnosis?

5. What complex of symptoms is characteristic of this pathological entity?

6. What are the radiological criteria of a radicular cyst?

ANSWERS TO SITUATIONAL TASKS

ANSWERS TO SITUATIONAL TASKS ON THE TOPIC: "MORPHOFUNCTIONAL FEATURES OF THE MAXILLOFACIAL REGION IN CHILDREN".

**Answers to the task № 1**

1. Acute odontogenic purulent osteomyelitis of the lower jaw to the right of the 8.5 tooth.

2. The long-term complications of this disease are the loss of the permanent tooth buds and the growth zone of the jaw, resulting in deformities and defects and underdevelopment of the lower jaw due to the anatomical features of the jaw structure. Osteoclastic and osteoblastic processes of the jaw bones in children are particularly vigorous, which can be attributed to their well-developed circulatory system. In turn, children's jaw bones are easier to get infected due to the abundant blood circulation than adults. The wide canals of the jaw, the thin and delicate structure of the bone ligaments, between which there is a large amount of myelin tissue, and the red bone marrow, which is less resistant to various irritants than the yellow bone marrow in adults, also contribute to infection of the jaw. The periosteum of the jawbones in childhood is thick. The growth of the jawbone consists of 1-3 years, 7-9 years and 12-14 years (pre-puberty and puberty). In addition, there are areas of irregular growth in the different jaw regions and growth zones. In the upper jaw, these are the palatal suture, the mandibular margin, the posterior margin of the tubercle; in the lower jaw, the condyle, the angle and the branch. The alveolar process of the lower jaw occupies a special place, because it grows in a special way, together with the growth of teeth. If the teeth do not grow, the bone stunts its growth as well. In this clinical situation, the suppurative process is located in the angle of the lower jaw, so one of the growth areas is disturbed and causes these complications.

3. The child needs surgical intervention under general anesthesia in a hospital.

**Answerstothetask № 2**

* 1. The child is diagnosed with: Acute purulent periostitis of the lower jaw on the right side of the 8.4 teeth.
	2. The etiological factor for bleeding during periostomy in a child is the particular structure and blood supply of the mandible in children. It should be taken into account that in children there is not only an intraosseous but also an extraosseous blood supply (through the periosteum). The periosteum contains numerous blood vessels that anastomose to each other. It is known that the main source of blood supply to the lower jaw is a. alveolaris inferior, but according to some authors (Uvarov V.M., Supiev T.K.) there are 7 additional arteries that feed the lower jaw besides this artery. Thus the periosteum is abundantly supplied with blood. When making incisions in the jaw, the doctor must be careful and after making the incision in the transitional fold, proceed bluntly up to the periosteum. Rough work with deep penetration of the scalpel can cause a lot of bleeding.
	3. To stop bleeding in this clinical situation, the patient should be tamped with iodoform gauze, or a haemostatic sponge may be used. In case of persistent bleeding, when local methods of stopping bleeding do not help, the patient should be admitted to the maxillofacial department of the hospital.

**Answers to the task № 3**

1. A child is diagnosed with chronic odontogenic lymphadenitis.

Lymphadenitis is inflammation of regional lymph nodes as a result of their infection.

2. Temporary teeth were the entry gate for the infection. It should be noted that children's teeth are in a state of permanent development. The pulp has a close relationship with the periodontal tissues before the completion of root formation and during its resorption. The dentinal tubules of temporary teeth are wider and shorter.

The immunological system matures by the age of 7 years. Formation of the barrier function of the lymph nodes at an early age is not complete. In children there is a high intensity of blood circulation in the tissues, immaturity of the parenchymatous organs, high permeability of the blood-brain barrier. Imperfection of the tissue barrier causes rapid transition of one nosological form of the disease to another. General reactions often outpace the development of the local inflammatory process. Appearance of lymphadenitis in children is associated with incomplete formation of local tissue immunity, immaturity of lymph nodes, a decrease in their barrier phagocytic function, the presence of chronic foci of infection.

Factors such as hypothermia, stress, trauma, the presence of an infectious disease are of great importance for the activation of infection and reduction of humoral and cellular reactions in the lymph node.

**Answers to the task № 4**

1. Diagnosis: Ankylosis of the temporomandibular joint on the right

2. The articular fossa and tubercle in newborns are lined only with periosteum and lack cartilage. This explains the rapid destruction of the joint tissues as a result of inflammation or trauma, "exposure" of the articulating surfaces, and the formation of bone adhesions between them. In addition, the posterior part of the 4th arch of the articular fossa borders the tympanic cavity, which contributes to the rapid transfer of inflammation from the middle ear to the joint.

Another feature of the structure of the TMJ in childhood and adolescence is that the articular head is covered by a thin layer of hyaline cartilage and supracartilage with well-defined cambial and fibrous layers. The articular fossa and articular tubercle are lined only by periosteum with the same layers. The articular disk consists of dense collagenous connective tissue (in adults, the articular surfaces and articular disk in the center acquire cartilage structure). Therefore, in children and adolescents, a bone fusion is always formed between the articular surfaces during inflammatory processes of the joint (in adults, a connective tissue fusion). There is a zone of longitudinal growth of the lower jaw in the area of the condyle.

**Answers to the task № 5**

1.Acute purulent periostitis of the lower jaw, on the right side of the 8.5 teeth.

2.The target point for this anesthetic is the mandibular foramen, located on the inner (medial) surface of the mandibular branch, approximately in the middle, where the mandibular canal is located. This orifice changes as the jaw grows and develops, both in size and location. Between the ages of 9 months and 1 1/2 years, the mandibular orifice is located an average of 5 mm below the level of the alveolar process. In children 3 1/2 to 4 years of age, the orifice is on average 1 mm below the chewing surface of the teeth. Between the ages of 6 and 9 years, the mandibular orifice is located on average 6 mm above the chewing surface of the teeth, and at 12 years and later, it is located about 3 mm above the chewing surface of the teeth.

Knowledge of the age-specific topography of the mandibular foramen is important when performing mandibular anesthesia in children. Thus, as the jaw develops, it moves upward. In adults, it is located between the horizontal lines drawn conventionally along the edge of the alveolar process and on the chewing surface of the lower molars. However, in the front, this opening is covered by a bone suture, which is an obstacle to the needle advancement during mandibular anesthesia. The mandibular opening itself is grooved and above it there is a groove where the inferior alveolar nerve is located freely. In the body of the jaw this nerve is located horizontally, below the permanent premolar sulcus the nerve is divided into two parts. The inner, narrower branch of the canaliculus goes further toward the midline. The outer and broader branch is directed, like the mandibular canal, obliquely backward and upward toward the mandibular foramen.

But in children, due to the growth of the jaw at 3-4 years of age, it is twice as narrow as in adults. The distance of the temporal ridge to the mandibular foramen is 8-9 mm at this age, 10 mm at 5-6 years and 12-13 mm at 11-13 years. The volume of the wing-mandibular space in childhood is smaller, so the mandibular, lingual and cheek nerves are closer to each other. The mandibular opening itself is located lower, being in the same plane as the chewing surface of the masticatory lower molars. Therefore, when mandibular anesthesia is performed, the lower the age of the child, the closer to the level of the masticatory surface of the lower molars the needle is injected. At preschool age, it is possible to switch off the sensitivity of all three nerves.

ANSWERS TO SITUATIONAL TASKS ON THE TOPIC: "METHODS OF EXAMINATION OF CHILDREN WITH SURGICAL DENTAL DISEASES".

**Answers to the task № 6**

1. Rheumatic arthritis, articulo-visceral form, acute course.

The etiological factors of TMJ disorders are: local and general factors, psycho-emotional disorders. Local factors include: occlusal disorders, disorders of physiological state of the masticatory muscles, changes in the spatial position of the lower jaw and functional interaction of articular elements, acute and chronic injuries of the joint, oral parafunctional habits. General factors include: systemic connective tissue diseases, neurohormonal and metabolic disorders, musculoskeletal disorders, infectious diseases. Psycho-emotional disorders include psychosocial stress, anxiety, depression, sleep disorders and others. Frequent etiological factors of rheumatic arthritis are acute respiratory viral infection or bacterial-viral infection

3. Mandatory clinical examination methods include external examination of the maxillofacial region, visual examination of the TMJ, palpation and auscultation of the TMJ, changes in TMJ mobility (angulometry), palpation of the masseter muscles, neck muscles and upper limb girdle.

Additional methods of examination are radiological examinations. Such as tomography, orthopantomography, panoramic zonography, as well as modern technologies: CT, MSCT, dental volumetric tomography, MRI. Among the functional studies the following ones are of great importance: masticatory muscles electromyography, axiography, MRI-analysis (lower jaw position indicator), audiography of articular sound phenomena. In recent years, endoscopic techniques, in particular arthroscopy, have been of great importance in the diagnosis of internal joint disorders.

4. Bimanual palpation of the TMJ is performed through the skin in front of the ear canal or through the anterior wall of the external auditory canal when the jaws are closed in the central occlusion position and during jaw movement. The child's head should rest on the head rest. The tips of the index fingers are placed on the front wall of the external auditory canal, at which the severity and moment of pain, crunching, snapping, mobility of the joint are determined.

5. Radiological changes in acute arthritis of the TMJ are absent, rarely develops a widening of the articular cleft due to effusion.

6. Consultation with a rheumatologist is necessary to make a final diagnosis.

8. In rheumatoid arthritis the following changes in laboratory tests are possible: hypochromic anemia with hemoglobin content up to 90 g/l, increased sedimentation rate up to 30 mm/h, leukocytosis, detection of rheumatoid factor.

**Answers to the task № 7**

1. acute purulent periostitis of the upper jaw from the right 5.3 teeth. Periostitis is an acute inflammation of the periosteum, in which the area of the primary infectious and inflammatory process in the jaw is limited to the periodontium of the affected tooth. Periostitis is characterized by the spread of the inflammatory process to the periosteum of the alveolar process and body of the upper jaw and the alveolar part and body of the lower jaw.

2. The symptom indicating the presence of purulent exudate in the area of the infiltrate is called the fluctuation symptom.

3. The fluctuation symptom is determined by palpation. Palpation of the soft tissues in the area of the subcutaneous inflammatory focus identifies a dense painful infiltrate. When serous inflammation turns into purulent inflammation along the transitional fold, there is a valvular protrusion - subperiosteal abscess, which is soft on palpation and fluctuation is determined in the center of the infiltrate.

4. The radiograph shows a widening of the periodontal gap of the caused tooth, the presence of foci of bone destruction in the root area of the teeth, characteristic of chronic periodontitis.

**Answers to the task № 8**

1. In this clinical situation the following investigation methods should be used: physical (bimanual palpation), instrumental (probing), radiological (ultrasound, orthopantomogram, cavity floor X-ray, nuclear magnetic resonance computed tomography).

2.The magnetic resonance computed tomography is the most informative of the radiological methods in this clinical situation. This method is based on a layer-by-layer study of the organs and tissues, which involves the phenomena of magnetic resonance. It is based on measuring the electromagnetic response of atomic nuclei, most often the nuclei of hydrogen atoms, namely, on their excitation by a certain combination of electromagnetic waves in a constant magnetic field of high intensity.

**Answers to the task № 9**

1. Dentist-surgeon violated the sequence of examination of a patient with surgical pathology of the maxillofacial region and neck.

2. The correct sequence of examination of a patient with maxillofacial and neck surgery is as follows:

- determination of the child's psycho-emotional status;

 - interview (collection of complaints, life history, medical history);

- examination of the external surfaces of the maxillofacial area and neck;

- palpation (you need to palpate all the reliefs of the maxillofacial area and neck, paying attention to symmetry, soreness, size, regional lymph nodes should be examined);

- Examination of the oral cavity (the mucosa of the vestibule of the mouth, including the frenulum and arches, the mucosa of the oral cavity itself), assessment of bite, examination of the dentition;

- Examination of pharynx and oropharynx.

**Answers to the task № 10**

1. Diagnosis: Ankylosis of the temporomandibular joint on the left side

2. X-ray anatomy of the TMJ is normal: a normal joint is characterized by clear and continuous cortical plate in the area of articular surfaces. The articular heads are centrally located in the sockets or occupy the upper internal corner. The articular pad occupies two-thirds of the oval surface of the head. The lumen of the radiological articular cleft is the same in all sections or narrower in the anterior section. When the mouth is wide open, the head of the articular process contacts the apex of the articular tubercle. A gap of 1 mm remains between the cortical plates at the apex of the articular tubercle and the head.

3.An orthopantomogram in this clinical situation reveals a sharp deformity of the left articular process (the process is short, passes as a continuous bone conglomerate into the temporal bone), the height of the left jaw branch is reduced, the branch is wider than on the healthy side. The angle of the jaw is deformed, a "spur" is detected.The coronal process is enlarged in height and looks like an awl.

**Answers to the task № 11**

1.Preparation of the child for oral cavity sanation under general anesthesia includes mandatory clinical and laboratory examination: complete blood count, biochemical blood count, urinalysis, ECG, chest X-ray, consultation with a pediatrician and cardiologist. If possible, orthopantomogram and oral cavity examination to make a preliminary treatment plan.

2.Clinical blood work may be either extensive or brief and abbreviated. During the general analysis, the following indicators may be examined:

- absolute number of enzyme elements;

- CRP - shows the comparative content of different fractions of plasma proteins and may be a nonspecific marker of the inflammatory process;

- hematocrit number, reflecting the ratio of the total volume of form elements (mainly erythrocytes) and blood plasma;

- concentration of hemoglobin - a substance that is part of red blood cells and is responsible for oxygen transport;

- color index - reflects the relative concentration of hemoglobin, an iron-containing protein, in the erythrocyte;

- leukocyte formula - gives an idea of the ratio between different fractions of white blood cells;

- erythrocyte indices: average volume (value) of red blood cells, average amount of hemoglobin protein contained in an erythrocyte, its average concentration in erythrocytes, distribution of red blood cells by size.

Blood parameters in a 6-year-old child are normal:

Erythrocytes- 4-5.3 x1012/l

Platelets-160-390 x109/l

White blood cell- 5-12 x109/l

Reticulocytes- 3-15%

Hematocrit- 34-40%

SLE- 4-12 mm/h

Color index- 0.85-1.15

Hemoglobin-110-140 g/l

Leukocytic formula:

Basophils- 0.5

Eosinophils- 1.5

Neutrophils:

- juvenile- 0.25

- bacillary- 3.5

-segmentonuclear- 42.75

lymphocytes- 42

monocytes- 9,5

Plasma cells- 0

3. The advantages of oral cavity sanitation under general anesthesia are: the possibility of oral sanitation in one visit, the patient's calm behavior during sleep, the absence of trace reactions that occurs after stress during violent treatment and which can persist for many years, working in a dry mouth, the possibility of a better view of the oral cavity and teeth.

**Answers to the task № 12**

In this clinical situation, the girl should be advised to consult an orthodontist, who should give the patient a written opinion if any tooth needs to be extracted for orthodontic reasons. In addition, when surgical procedures are performed on children under 18 years of age, informed written parental consent must be obtained and all dental procedures (especially surgical procedures) must be performed in the presence of the parents.

**Answers to the task № 13**

1. Preliminary diagnosis: progenia, shallow premandibular.

2. The main diagnostic methods are: a) clinical; b) biometric (examination of diagnostic jaw models); c) anthropometric; d) radiological; e) functional.

3. clinical diagnostic methods consist of static and dynamic examination. Static examination includes: passport part, history of life and disease, general examination, examination of the oral cavity and nasopharynx. The passport part allows the following analysis: to compare the passport age with somatic, dental and bone age to identify deviations in the growth and formation of the dentoalveolar system, to assess the racial features of its structure. The anamnesis of life and disease is collected from the words of his parents. Particular attention is paid to factors which may have been etiological in the formation of maxillofacial pathology. The psycho-emotional state of the child is evaluated during the general examination. The results of clinical examination are recorded in the outpatient history of the child, at present the results of examination and treatment performed are recorded on the Medelement platform in the Republic of Kazakhstan. Dynamic examination includes: parafunctions of the maxillofacial muscles - lips, cheeks, tongue, floor of the mouth, soft palate, bruxism, hypertrophy of the nasopharyngeal lymphatic ring, pathology of the temporomandibular joint (TMJ) are revealed. Of great diagnostic value is the severity and level of attachment of the frenulum and appendages, the shape and size of the tongue. There are disorders of: breathing, biting and chewing, swallowing, speech. The symptomatology of such disorders is manifested by testing the patient, during the examination and collection of complaints. Determine the nature of the excursion of the lower jaw in the pronunciation of various sounds, slow opening and closing of the mouth. Evaluate the degree of expression of nasolabial and supramental folds, tension of mimic muscles when speaking and swallowing, tightening of the cheeks and point depressions in the skin of the chin - "thimble-symptom", manifested when the lips are closed at rest and when swallowing.

4. Normally the depth of the vestibule in children 6-7 years old is 4-5 mm, at the age of 8-9 years - 6-8 mm, by 13-15 years old it reaches 9-14 mm.

5. Vestibuloplasty is performed when the vestibule of the mouth is shallow. Vestibuloplasty is a surgical intervention to increase the width of the attached gingiva, in order to eliminate mechanical trauma of the marginal periodontium, by the muscular tractions of the muscles of the vestibule of the mouth (mimic, lingual, lip, chin and cheek muscles). For the formation of the vestibule in the postoperative period, a splint-pelot or a forming plate is used, which is made by the dental technician before the surgery.

**ANSWERS TO SITUATIONAL TASKS ON THE TOPIC: "PECULIARITIES OF VARIOUS METHODS OF ANESTHESIA IN DENTAL INTERVENTIONS IN CHILDREN AND THEIR POSSIBLE COMPLICATIONS".**

**Answers to the task № 14**

1. In this clinical situation, the dentist may recommend local anesthesia by a physicochemical method (introduction of anesthetics by electrophoresis).

2.The anesthetics are administered by means of galvanization devices with an anode. A gauze napkin moistened with anesthetic solution (5-10% solution of novocaine with adrenaline) shall be applied to the anesthetic surface, a wet hydrophilic pad 1 cm thick shall be placed on top of it, and then the electrode. The cathode is placed on the forearm or in the interscapular area. The current intensity is determined by the patient's sensations and ranges between 15-20 mA. The exposure is 2-4 minutes. The treatment is prescribed as a course of 7-10 sessions daily.

**Answers to the task № 15**

1. A teenager is diagnosed with: Chronic fibrous pulpitis of 2.5 teeth.

2. In this clinical situation an injection anesthesia - indirect infiltration anesthesia - should be used. The anesthetic from the depot created under the mucous membrane penetrates into the thickness of the cancellous bone substance, impregnating the nerves running from the dental plexus to the teeth. The effectiveness of this anesthesia is due to the fact that the compact plate of the alveolar process of the upper jaw is quite thin on the vestibular and palatine sides, with a significant number of small holes through which blood and lymphatic vessels and nerves pass. These holes are located throughout the alveolar process, which creates good conditions for the diffusion of the anesthetic solution into the cancellous bone substance.

3. When performing indirect infiltration anesthesia you should make sure that the injection needle is well fixed on the syringe cannula. The syringe is taken with three fingers (I, II, III) of the right hand, like a writing pen, so that the I finger freely reaches the distal end of the piston. Therefore, the fingers on the syringe should be placed further away from the cannula. Needle is injected under the mucous membrane in the transitional fold in the area of the projection of the apex of the root of tooth 2.5 (bevel to the bone at an angle of 40-45º to the alveolar process). Then I finger is transferred to the plunger and the anesthetic is slowly injected up to 0.5 ml (¼ of the carpula volume). Infiltration anesthesia on the palatal side of the alveolar process, done at a distance of Z-4 mm from the neck of the 2.5 teeth to the bone, the direction of the injection from the bottom up. 0.2-0.3 ml of anesthetic is injected under the mucous membrane. The injection provides anesthesia of the mucous membrane, periosteum and partially the bone in the area of the 2.5 tooth.

4. Area of anesthesia: mucous membrane, periosteum, bone tissue in the area of the 2.5 teeth.

5. Complication: Injection into the palatal mucosa often results in injury of vessels that run along the palatine arch of the anterior palatine artery and its branches. This complication is easily recognized: when the anesthetic is injected into the vessel, the palate turns pale in the area of the injection and the anesthetic solution is easily injected into the tissue (as a rule, the anesthetic solution is injected under pressure).

**Answers to the task № 16**

1.The child is diagnosed with: Physiological change of 7.1 and 8.1 teeth.

2. The child has a negative attitude toward dental manipulation, but responds to the doctor's questions, which is consistent with a negative but coping behavior.

3. Applicative anesthesia is acceptable in this situation, since there is tooth mobility of the third degree and the roots are completely resorbed. Applicative anesthesia is a non-invasive method (without disruption of tissue integrity).

4. Indications for applicative anesthesia in pediatric surgery are: 1) anesthesia of the needle puncture site; 2) removal of temporary teeth of grade III mobility; 3) opening of submucosal abscesses.

5. During application anesthesia a drug (in this case 10% lidocaine solution) is applied to the surface of the mucosa in the area of 7.1 and 8.1 teeth. This drug has a high concentration without vasoconstrictors. Due to the high concentration, the local anesthetic quickly penetrates through the surface of the mucosa to a depth of up to several millimeters and performs a blockade of receptors and peripheral nerve fibers. Anesthetic effect develops and lasts for several minutes.

6. The main disadvantage of using aerosol anesthetics is the large spray area of the anesthetic, which entails almost complete impossibility of accurate dosage. Because of the high concentration of drugs and their characteristic effect on vasodilation, once in the blood, they accumulate there to toxic amounts. Therefore, saliva ejector must be used when performing this anesthesia.

**Answers to the task № 17**

1. The child is diagnosed with: Chronic fibrous pulpitis 8.4 teeth.

2. When anesthetizing the lower jaw in children, it is recommended to use the so-called "rule of ten". Its essence is the following: if the number of a child's full years combined with the order number of the tooth is 10 or less, then infiltration anesthesia will be sufficient to anesthetize that tooth. In this case, the child is 4 years old and needs a pulpotomy of the pulp in 8.4 teeth, respectively, IV tooth on the lower jaw, on the right, and its serial number is IV. Calculate: 4 + IV = 8, which is less than 10. Conclusion: Infiltration anesthesia is enough to treat 8.4 teeth in a 4 year old child. Only one injection on the cheek side would be sufficient. The criterion for effectiveness with this anesthetic technique is complete analgesia of the operating field. An indirect criterion is numbness of the lip. The back and tip of the tongue on the working side are usually not numb. According to the "rule of ten", adequate analgesia for any type of treatment can be achieved by injecting 1/6 to 1/4 of the carpula volume.

3. infiltration anesthesia technique in the lower jaw: the needle is inserted into the lower transitional fold, slightly medial to the lower right canine, up to the projection of the root of the 8.4 teeth. Anesthetic depot is created above the apex of the root of the 8.4 tooth. Slowly inject 0.5 -1.0 ml of anesthetic solution.

**Answers to the task № 18**

1.In this clinical situation infiltration anesthesia is desirable. The effect of anesthesia is optimal due to the structure of the bone tissue at this age: porosity, lower mineralization contribute to easier diffusion of the anesthetic.

2. Advantages of infiltration anesthesia:

a) in comparison with the conductive method a simpler technique of anesthesia;

b) much less number of traumatic complications due to the fact that during infiltration anesthesia the needle is not inserted deeply so the needle does not injure nearby nerve trunks, muscles and large blood vessels;

c) infiltration anesthesia has advantages over conduction anesthesia when anesthetizing tissues, innervation of which is carried out by branches of several nerves. Frontal dental groups on the upper and lower jaws are innervated by corresponding nerves on the left and right sides, that is why infiltration anesthesia is only applied at the root apex.

3. This anesthesia is best performed with preparations based on articaine and mepivacaine. Articaine has a number of significant advantages over mepivacaine and lidocaine, the main ones being its relatively low systemic toxicity, shorter half-life and greater anesthetic activity. It should be noted that vasoconstrictors are not added in children under 5 years of age, because at this age the tone of sympathetic innervation prevails, as a result of which adrenaline may cause increased heart rate, increased BP and cardiac arrhythmia. Under the influence of adrenaline there may also be sharp vasoconstriction of abdominal organs and skin, which causes shivering, sudden pallor, occurrence of sticky cold sweat, development of fainting.

4. Types of infiltration anesthesia:

(a) Periosteal administration: the drug is injected into the periosteum at a forty-five degree angle into the fold between the upper lip and the dentition.

b) intraligamentary injection: the anesthetic is injected into the ligament of the tooth under high pressure, which allows for quick and effective pain relief.

c) intracapillary injection: it is carried out with a short sharp needle into the gingival papillae between the teeth. The method involves the introduction of the drug on both sides of the diseased tooth.

d) Subperiosteal anesthesia: the anesthetic is injected under the periosteum of the upper jaw, creating a depot of the drug, this allows a long-lasting anesthesia using a minimum amount of the drug.

e) intracostal technique: the drug is injected with a special needle (trocar) into the tissue of the cancellous bone substance.

f) intraseptal injection: the anesthetic is injected into the alveolar septum of the upper jaw.

5. To perform infiltration anesthesia in this clinical case the needle is injected into the transitional fold at the level of the central incisor in the projection of the tooth root, advancing the needle without reaching the bone. Above the apex of the tooth is injected 0,5 -1,0 ml of anesthetic solution.

6. Complications of the infiltration method of anesthesia:

a) insufficient anesthesia: can be a consequence of too rapid injection of the drug under high pressure, in which case the anesthetic does not have time to infiltrate the necessary area, pushed by the pressure of the syringe into more distant structures.

b) vessel damage with a needle: a hematoma is formed, which may cause pain symptoms;

c) nerve trunk injury: a complication that may be accompanied by a prolonged pain syndrome, as well as impaired sensitivity in the zone of innervation of the damaged nerve.

d) needle breakage: a sharp movement of the patient or doctor may cause breakage of the needle in the tissues of the upper jaw, which will require additional measures for its extraction.

**Answers to the task № 19**

1. surgical intervention must be performed in an inpatient setting. In the maxillofacial department after obligatory consultation with an allergologist.

2. Premedication must necessarily include antihistamines such as dimedrol, suprastin. Antihistamines should be injected intramuscularly 30-60 minutes before general anesthesia.

**Answers to the task № 20**

1. Acute purulent odontogenic periostitis of the lower jaw on the right side of the 4.6 tooth. Periostitis is an inflammatory process localized in the periosteum.

2. Torusal anesthesia is preferable, when the mandibular, lingual and buccinator nerves are blocked, which run below and inside the mandibular ridge (eminence). The anatomical formation of the valgus or eminence consists of two bony tendons that give rise to the condylar and coronal processes. It is located above and in front of the bony tongue of the jaw on the inner surface of the branch of the jaw. On the three ramps of the mandibular ridge there are three nerves (cheek nerve, lingual nerve and mandibular nerve) in three corresponding directions (to the maxillary notch, mandibular orifice and base of the coronal process). Anesthesia technique: open the mouth as wide as possible. The place of needle injection - a point formed by the intersection of the horizontal line drawn 0.5 cm below the masticatory surface of the upper third large molars and the groove formed by the lateral slope of the wing-mandibular fold and the cheek. The needle is injected perpendicularly to the cheek mucosa, guiding the syringe from the opposite side, where it is located at the level of large molars. The needle is advanced into the soft tissues toward the bone to a depth of 15-20 mm, and 1.5-2 ml of anesthetic is injected, anesthetizing the inferior alveolar and cheek nerves. By extending the needle a few millimeters, 0.3-0.5 ml of anesthetic is released to anesthetize the lingual nerve. Anesthesia comes in 3-5 minutes.

3. The tooth should be saved. After periostotomy, additional endodontic treatment of the permanent tooth is performed and exudate outflow through the tooth is created.

**Answers to the task № 21**

1. In this clinical situation, mandibular anesthesia is appropriate because the lower provisional molar is affected and there is inflammation, hence infiltration anesthesia is inadequate.

2. The target point for this anesthesia is the mandibular foramen, located on the inner (medial) surface of the mandibular branch, approximately in the middle, where the mandibular canal is located.

3. the modified fingerless method of mandibular anesthesia according to Weisbrem. For this purpose, an injection needle is inserted into the medial zone of the anterior edge of the mandibular branch, then it is advanced along the inner surface of the branch to a depth of half its width (1.5 - 2.0 cm) and at an angle of 15-30°.

More reliable and convenient in pediatric practice is anesthesia according to J.I. Kominek et al. Principle of anesthesia: the thumb of the left hand from the side of the oral cavity and the index finger from the outside tightly embrace the branch of the lower jaw, closer to the temporal ridge, with a good fixation of the patient's jaw. At 3 cm distal to the thumb from the opposite corner of the mouth a needle is pricked and advanced to the bone. No additional anesthesia of the cheek and lingual nerve is required.

**Answers to the task № 22**

1.In this clinical situation, the child is indicated for oral hygiene under general anesthesia. The child has frequent colds, it is necessary to postpone the sanation under anesthesia until the inflammatory processes have resolved.

2. If intravenous anesthesia is used, the duration of manipulation is limited to the time set by the anesthesiologist. The main difficulty for the dentist is the need to work under time pressure without reducing the quality of treatment. Diprivan and ketamine can be used as the main hypnotic component. Diprivan differs significantly from ketamine for the better. It induces rapid, restful falling asleep and awakening. After the operation, patients quickly regain consciousness. When performing endotracheal anesthesia, the anesthesiologist performs three successive stages of action: introduction to surgical sleep, maintenance of a stable state, and awakening. The first stage consists of performing light introductory anesthesia. The patient receives intravenous medications or inhales a mixture of gases. When the muscles are completely relaxed, the anesthesiologist inserts an intubation tube through the nose into the trachea. It provides ventilation of the lungs with oxygen and inhalation of anesthetic gases. Therapeutic manipulation is accomplished better.

Algorithm of dental procedures under anesthesia in the oral cavity:

(a) First of all, the treatment of teeth requiring the most painful manipulations (opening of the tooth cavity, pulpotomy and pulpectomy) is performed;

b) the use of filling materials that ensure speed and quality of work;

c) surgical manipulations after the completion of therapeutic treatment;

d) because of the complexity of the correction of occlusion after the placement of the filling, the doctor must have a good knowledge of the anatomy of temporary and permanent teeth;

e) carefully remove moisture and dust from the oral cavity using a vacuum cleaner and saliva ejector to avoid asphyxia;

f) limit the use of additional means of isolating teeth from oral fluid. Exclude work with cofferdam, which in case of emergency measures interfere with the rapid action of the anesthesiologist;

g) do not move the lower jaw during treatment and do not put significant pressure on it during tooth extraction;

h) removal of teeth is carried out sequentially on both halves of the jaw, you should pay special attention to careful hemostasis in the course of surgical treatment (it is necessary to count the number of swabs used). If several adjacent teeth are extracted, the resulting extended wound is sutured, which protects it from trauma, e.g. in case of inadequate behavior of the child upon awakening, and is a prevention of secondary bleeding.

i) full interaction and coordination with the anesthesiology team, and the dentist should know: the main clinical signs of the stages of anesthesia, be able to determine the change in the depth of anesthesia in the treatment by symptoms in the oral cavity (for example, the appearance of salivation, color changes of the mucosa, the appearance of tension and mobility of the tongue muscles, etc.), in case of non-standard situation first free the mouth from foreign bodies.

**Answers to the task № 23**

1. Exacerbation of chronic periodontitis of 2.6 teeth.

2. Teenager needs an operation for extraction of tooth 2.6

3. A child with diabetes requires special tactics for preoperative preparation and anesthesia during surgery. The main task to prevent complications after surgery is the correction of elevated blood sugar levels. Diabetes has a high risk of arterial hypertension. Reduction of blood pressure in diabetic patients is hampered by the effect of insulin on sodium retention. Together with sodium retention of fluid in the body, swelling of the vessel wall makes it sensitive to the action of vasoconstrictor hormones. Local anesthesia is carried out with preparations without vasoconstrictors, i.e. means devoid of vasoconstrictor components.

4. Pain during dental treatment becomes a trigger for adrenaline release, and fear of the treatment only intensifies its production. In this clinical situation, after mandatory premedication, infiltration and palatal anesthesia with Mepivacaine 2.0 ml solution is performed.

5. Postoperative complications in diabetic patients are associated with the fact that blood loss, the use of anesthetics and pain after surgery, activate the synthesis of glucose in the liver, the formation of ketone bodies, the breakdown of fats, proteins. A teenager in the postoperative period should be prescribed broad-spectrum antibiotics (cephalosporin). In addition to antibiotics, Metronidazole or Clindamycin are prescribed.

**Answers to the task № 24**

1. A child developed a complication after injecting a 2% lidocaine solution: Anaphylactic shock.

2. Differential diagnosis is made with fainting (no pressure drop, no pain behind the sternum); collapse (consciousness preserved, no pain behind the sternum).

3.When providing emergency care, it is necessary to:

a) stop administering the drug substance that caused the anaphylactic shock;

b) lay the patient down, turn his head on the side and move the lower jaw to prevent tongue retraction and asphyxia;

c) Introduce prednisolone at the rate of 1 mg per 1 kg body weight or 4-10 mg dexamethasone, or 50-150 mg Hydrocortisone (the last two drugs are administered without regard to body weight);

d) inject 2 ml of 2.5% solution of Pipolfen or 2 ml of 2% solution of Suprastin;

e) inject adrenaline solution 0.5 - 1.0

f) in case of cardiac insufficiency, cardiac glycosides and diuretics are indicated.

g) call a specialized ambulance team.

Intensive therapy is carried out if there is no effect from the mandatory antishock measures.

4. It is necessary to hospitalize the patient.

**Answers to the task № 25**

1. The girl's blood pressure dropped sharply.

2. All local anesthetics have a vasodilator effect. Decreased blood pressure is one of the most common side effects of anesthetic agents. In addition, a 10% solution of lidocaine, sprayed on the mucous membrane of the alveolar process of the lower jaw on the lingual side, inevitably gets under the tongue, where the intensity of drug absorption is very high (very close to intravenous administration). The anesthetic in a sufficiently high concentration, quickly entering the vascular bed, blocks the conduction of sympathetic nerve fibers running in the anterior roots and carrying vasoconstrictor impulses from the center to the periphery. This dilates the arterioles and lowers the blood pressure.

3. To prevent such complications you should:

- Strictly adhere to the dosage regimen of the drug in the aerosol;

- Do not spray anesthetics in aerosol in the oral cavity without a saliva ejector included, which helps to remove excess drug from the oral cavity and minimize its contact with areas not interested in the surgical intervention;

- inject vasoconstrictors (ephedrine, mesaton, caffeine, sodium benzonate) to prevent the development of collapse.

**Answers to the task № 26**

1. The child has developed a general complication - collapse.

Collapse is an acute vascular failure characterized by a sharp fall in arterial and venous pressure caused by a decrease in the mass of circulating blood in the circulatory-vascular system, a drop in vascular tone or a reduction in cardiac output.

2. In this clinical situation, fear, fright, or orthostatic collapse due to prolonged exercise in a gymnasium has contributed to the development of collapse. Orthostatic collapse occurs with prolonged standing upright, when blood is redistributed, increasing the venous portion and decreasing the flow to the heart.

3. At the first sign of collapse you should immediately call the ambulance. Carry out a number of necessary actions: lay the patient on a hard surface; raise the legs, putting a pillow; tilt the head, ensure free breathing; unbutton the shirt collar, release from everything constraining (belt, belt); open windows, provide fresh air; put ammonia to the nose, or massage earlobes, upper lip dimple, temples, give hot tea, heating pad on the legs. Intravenously administer 20-60 ml of 40% glucose solution with 2-5 ml of 5% ascorbic acid solution, 2-3 ml of cordiamine, 1-2 ml of 10% caffeine solution.

4. Differential diagnosis is made with syncope, in which functional disorders are much weaker, BP is normal, as well as with heart failure, distinguished from collapse by orthopnea, increased circulating blood volume, normal BP.

**Answers to the task № 27**

1. The child had a local complication: damage to the medial pterygoid muscle in the form of mandibular contracture.

2. Damage of the medial pterygoid muscle is possible during anesthesia at the mandibular foramen, when the needle is inserted not under the edge of the muscle, but through it. This often results in hemorrhage of the muscle tissue. Medial pterygoid muscle damage is clinically manifested by its contracture. 3.

The treatment is conservative. Physiotherapeutic procedures (ultrasound, UHF electric field) are indicated, after 4-5 days - mechanotherapy.

**Answers to the task № 28**

1. A child is diagnosed with: Acute purulent periostitis of the lower jaw from the left 7.5 teeth.

2. Breakage of the injection needle occurs mainly during anesthesia at the mandibular foramen. The cause of this complication could be: a sharp movement of the syringe from one position to another (from the level of molars on the opposite side to the level of incisors), sudden movement of the child's head at the time of needle insertion into the tissues, and corrosion of metal due to moisture accumulation in the junction of the needle and cannula, which reduced its strength, could also be the cause of needle breakage. In this clinical situation, the injection needle broke for two reasons: sharp rotation of the child's head and the use of a short needle. A needle no shorter than 5 cm should be used for mandibular anesthesia.

3. If the end of the needle is visible, it is easy to retrieve by the protruding end by grasping it with tweezers. This is not possible if a short needle is broken. If the needle fragment is completely immersed in the tissue and inaccessible for extraction, the patient must be hospitalized, where X-ray diagnosis is performed. But another outcome is possible if the needle fragment is sterile, it is encapsulated by fibrous tissue, firmly fixed by it and does not bother the patient.

**Answers to the task № 29**

1. In this clinical situation the child developed a local complication - paresis of the mimic muscles. At the time of mandibular anesthesia the doctor did not touch the bone with the needle tip and the anesthetic solution got under the capsule of the parotid salivary gland located behind the branch of the mandible. As a consequence, there was a blockage of the facial nerve.

2. The developed paresis of the mimic muscles persists for the duration of the injected anesthetic (2-3 hours). This complication does not require special treatment.

**Answers to the task № 30**

1. In this clinical situation, a hematoma occurred due to the performance of tuberal anesthesia. The injury of the blood vessel occurred because the needle was moved into the tissue without touching the bone or without the anesthetic jet being applied in order to hydraulically prepare the tissue.

2. In order to minimize such complications when performing tuberal anesthesia, basic rules should be followed:

- Have a perfect knowledge of the topographic anatomy of the site;

- advance the injection needle deep into the tissues strictly touching the bone, preconditioning the anesthetic jet in order to hydraulically prepare the tissues;

- after the injection, recommend for 5-7 minutes to perform compression action (with the patient's own fist in the cutaneous projection of the anesthesia zone);

3. A course of antibiotics and desensitizing drugs should be administered to the adolescent with hematoma to prevent the development of pyo-inflammatory complications. Cold should be recommended in the projection of the hematoma on the skin. In the future it is recommended to control body temperature, warn that if the condition worsens and symptoms of intoxication or increase swelling and edema in the maxillofacial area, increasing restriction of opening the mouth should be immediately addressed to the emergency room of the maxillofacial department.

**Answers to the task № 31**

1. The child has developed a general complication - fainting.

2. fainting is loss of consciousness due to temporary disturbance of blood circulation in the brain.

The etiological factors of this complication in this situation may be:

- psycho-emotional overstrain;

- lack of sleep;

- overfatigue;

- fear;

- hunger;

4. The differential diagnosis of syncope should be made with

Collapse and anaphylactic shock.

Collapse is an acutely developing vascular failure, manifested by a sharp decrease in arterial and venous pressure, signs of cerebral hypoxia and suppression of vital body functions. The patient's consciousness is preserved. The pulse is weak, thready, sharply rapid, arrhythmic. Heart tones are muffled, with characteristic arrhythmia. Respiration is shallow.

Anaphylactic shock is an immediate type of allergic reaction, life-threatening for the patient, caused by the effect of a medication on his body. It is characterized by a sharp drop in blood pressure, severe damage to the central nervous system, circulation, respiration and metabolism. Subjectively, the child has anxiety, fear, weakness, a feeling of tightness behind the chest, pain in the heart. The skin turns sharply pale, the patient is covered with cold, clammy sweat, there may be abdominal pain, nausea, vomiting, seizures may occur. Pupils are dilated, they do not respond to light. The pulse is rapid, thready, BP is low, heart tones are muffled and hard to hear. Breathing is shallow.

5. To provide emergency care for fainting, the child should be given the Trendelenburg position (the head is below the legs), unbutton his shirt, provide an inflow of fresh air, and breathe in a vapor of 10% ammonia solution, which reflexively stimulates the respiratory and vasomotor centers.

6. After recovery from this condition it is necessary to continue dental manipulation, taking measures to prevent a relapse: treatment should be carried out in the horizontal position of the child with adequate premedication with the use of weak tranquilizers.

**Answers to the task № 32**

1. In this clinical situation a common complication - anaphylactic shock - has developed. Anaphylactic shock is an immediate allergic reaction that develops upon contact with foreign substances-antigens, which is accompanied by pronounced circulatory disorders and organ and system functions.

2. The differential diagnosis of anaphylactic shock shouldwith syncope and collapse.

Syncope is a sudden short-term loss of consciousness, which develops as a result of short-term spasm of brain vessels. It is characterized by dizziness, ringing in the ears, yawning, nausea, pale skin of the maxillofacial area. The pulse is weak, frequent, BP usually does not change. Breathing is sparse and shallow. Pupils are dilated.

Collapse is an acutely developing vascular failure, manifested by a sharp decrease in arterial and venous pressure, signs of cerebral hypoxia and oppression of vital body functions. The patient's consciousness is preserved. The pulse is weak, thready, sharply rapid, arrhythmic. Heart tones are muffled, with characteristic arrhythmia. Breathing is shallow.

3. The pathogenesis of the disease is rather complicated and consists of three consecutive stages: immunological, pathochemical, pathophysiological. Pathology is based on contact of certain allergen with immune system cells, after which specific antibodies (Ig G, Ig E) are released. These antibodies cause a huge release of inflammatory factors (histamine, heparin, prostaglandins, leukotrienes and so on). The inflammatory factors then penetrate all organs and tissues, causing disruption of circulation and blood clotting in them up to the development of acute heart failure and cardiac arrest. Normally, any allergic reaction will only develop if there is REAL contact with the allergen.

**Answers to the task № 33**

1.A complication associated with the administration of an aggressive fluid during anesthesia.

2. The erroneous administration of the corrosive fluid was caused by:

a) an ampoule of corrosive fluid was similar to a lidocaine ampoule and was on the dentist's desk, some medications must be placed in a special medication cabinet;

b) the doctor did not check the labeling of the ampoule before putting the drug into thesyringe.

3. When providing emergency care in case of erroneous injection of aggressive liquid it is necessary to stop the injection, in the area of the injection made urgently inject 0.5% novocaine solution in the volume of 5 times the volume of the injected aggressive liquid. It is required to install the injected drug, if necessary apply an antidote. It is necessary to make an incision in the projection of the infiltrate, instill the wound with an antiseptic solution and drain it. In addition, in this clinical situation it is necessary to apply: intramuscularly 2.0 ml of 50% analgin solution, 2.0 ml of 1% suprastin solution, and if necessary prescribe antibacterial therapy.

4. The outcome of this complication depends on the injected fluid, the consequence of the introduction of aggressive fluid can be necrosis of soft tissues, osteomyelitis bone, neuritis, various kinds of neuralgia.

**Answers to the task № 34**

1. In this clinical situation, the physician did not collect an anamnesis. The doctor should have asked the following questions: Does he have any somatic diseases? Is he registered with a pediatrician? Does the child have any allergic reactions? Has he ever had any previous dental treatment?

2. Did the child have an epileptic seizure while under stress?

3. To provide emergency care for an epileptic seizure

It is necessary to protect the child from bruising, ease breathing, unbutton the collar, insert a spatula wrapped in gauze between the molars of the jaw. The patient should not be awakened or administered any medication after the seizure is over.

4. In this clinical situation, you should refrain from an intervention performed routinely by sending the child to a neurologist for consultation.

**ANSWERS TO SITUATIONAL TASKS ON THE TOPIC: "PECULIARITIES OF TEMPORARY AND PERMANENT TOOTH EXTRACTION OPERATIONS IN CHILDREN. POSSIBLE COMPLICATIONS, THEIR PREVENTION AND TREATMENT".**

**Answers to the task № 35**

1. In this clinical situation, aspiration of a tooth root into the upper airways has occurred, causing asphyxia (suffocation). Asphyxia is an acute pathological condition that occurs when there is a lack of oxygen and accumulation of carbon dioxide in the body.

2. The doctor strongly tilted the child's head when extracting the tooth, and when working with the elevator there was no fixation of the extracted tooth with the fingers of the left hand.

3. There are 5 types of asphyxia of mechanical origin:

a) dislocation-occurs due to blockage of the airway by the tongue due to its displacement to the back in bilateral fractures in the mandibular mandibular axis.

b) Obturation - occurs as a result of narrowing of the trachea by a foreign body, blood clots, etc.

c) valvular - observed when the airway is narrowed by torn and hanging soft tissues during inhalation.

d) stenotic - occurs when the airways are compressed by hematoma, swelling of the pharynx, etc.,

e) aspiration - when blood or vomit is aspirated.

4. In this clinical situation, urgent measures are needed, i.e. a coniotomy is performed urgently to restore airway patency. The child is laid on his back with his head strongly tilted back on a firm base. The doctor grasps the thyroid cartilage with the thumb and middle finger of the left hand and uses the index finger to feel the depression between the lower edge of the thyroid cartilage and the upper edge of the metatarsal cartilage. Exactly along the midline, the scalpel makes a tissue incision and the airway is opened. The appearance of a sharp whistling breath confirms that the trachea is open. A cannula, catheter, or other tube is inserted into the opening. The patient is then urgently admitted to the hospital for bronchoscopy and removal of the tooth from the airway.

**Answers to the task № 36**

1. The cause of this complication was: working with an elevator when the tooth was used as a support.

2. When the intact 3.7 tooth is completely dislocated, it is necessary to perform a replantation. The essence of it is to return the extracted tooth into its own alveolus. The method of dental replantation is as follows. The dislocated tooth is immersed in warm (37 ° C) isotonic sodium chloride solution with the addition of antibiotics. The alveolus of the extracted tooth is gently washed with isotonic sodium chloride solution with antibiotics from a syringe and covered with a sterile gauze tampon. Then the treatment of the tooth is performed. During treatment of the tooth the rules of asepsis are strictly observed. The tooth is held in a sterile gauze napkin dampened with isotonic sodium chloride solution with antibiotics. The tip of the dentist and burs should also be sterile. The remnants of the periodontium on the root of the tooth are not removed. Root canals are filled, and after filling the root canal the root apex should be resected, because in the area of the root apex there are a large number of deltoid branches of the canal. Penetration of infection from these branches beyond the apex of the root of the replanted tooth leads to recurrence of chronic periodontitis. The prepared tooth is immersed in sodium chloride solution. The blood clot is removed, the hole is carefully washed with antiseptics, then the tooth is placed in the hole and secured with a splint for 3-4 weeks. The patient is recommended a sparing diet, analgesics and antibiotics are prescribed, from the 4th-6th day physical procedures (UVO, UHF) are prescribed.

**Answers to the task № 37**

1. Based on clinical and radiological data, the diagnosis is: exacerbation of chronic periodontitis of the 8.5 teeth.

2. There was a local complication during tooth extraction surgery: damage to the crown of the antagonist tooth 5.5.

3. The cause of this complication is: unexpected slippage of the forceps from the extracted tooth and premature extraction of the tooth.

**Answers to the task № 38**

1. The child is diagnosed with chronic granulomatous periodontitis of 5.5 teeth in the acute stage.

2. Fracture of the tooth crown and root can be associated with: significant destruction of the tooth by caries process, as well as with features of the structure of the tooth root, the result of errors in surgical technique: improper choice of instrument, non-compliance with the sequence of tooth extraction techniques, abrupt movements.

3.Of the additional methods of examination in this case we need a targeted X-ray to clarify the localization of the fracture, its direction.

4. Further therapeutic tactics in this clinical situation is: extraction of the tooth root.

**Answers to the task № 39**

1.The child is diagnosed with chronic granulomatous periodontitis of 7.5 teeth.

2. In this clinical situation, a local complication may develop: damage to the follicle of the permanent 3.5

3. When extracting temporary teeth, the features of the structure of the jaw should be taken into account: small size, delicate bone tissue of the alveolar process and the mucosa covering it and temporary teeth: the neck is not expressed, the wide location of the roots and the presence of the rudiments of permanent teeth under or between them. Therefore it is advisable to use a set of child forceps and be familiar with the removal technique.

4. Specific features of temporary tooth extraction include:

a) the circular ligament is not destroyed, after the imposition of forceps the cheeks are not moved far;

b) when removing it is necessary to fix the alveolar process on both sides with fingers, do not make excessive movements during removal (this allows not to break the crown, the apex of the root or the alveolar process and not to dislocate the jaw);

c) especially carefully remove molars with destroyed crown

Particularly carefully when removing molars with a destroyed crown. Their roots are widely spaced and when loose can

They can break when loosened.

d) when using an elevator you should not go deep into the extraction site because you might damage the follicle of the permanent tooth;

e) curettage of the alveolus is not carried out so as not to traumatize or remove the rudiment of a permanent tooth;

e) the margins of the alveolus are squeezed carefully after tooth extraction so as not to traumatize the alveolar process.

f) it is necessary to take into account the coincidence of the axes of the root of the tooth, the cheeks of the forceps and the direction of movement, and also to know the anatomical shape of the root and the structure of the alveolar process (which wall is thinner and which is thicker).

5. A distant and serious complication of this situation can be adentia, due to damage to the rudiment of the permanent tooth.

**Answers to the task № 40**

1. The child is diagnosed with chronic granulomatous periodontitis of 1.6 teeth in the acute stage.

2. There was a local complication: pushing of the root into the maxillary sinus.

3.Panoramic radiographs are needed to diagnose the problem.

4. This complication is possible in the following cases:

a) excessive advancement of the elevator or forceps in the anatomical proximity of the root and the maxillary sinus.

b) the presence of a pathological process in the area of the compact plate.

5. In the presence of perforation in the maxillary sinus and the presence of the root in it, a maxillary sinus surgery in hospital conditions is necessary. Therefore this patient should be urgently sent to the otorhinolaryngologist department.

**Answers to the task № 41**

1. An adolescent patient developed a local complication - damage (neuritis) of the inferior alveolar nerve on the right side after traumatic tooth extraction.

2. Possible causes of the complication include: traumatic extraction of the 4.4 tooth, which should take into account the anatomical features of the tooth roots and the close location of the mental orifice. Removal in children should be performed in the presence of a panoramic radiograph.

3. In this clinical situation it is necessary to prescribe a complex treatment:

1) medication;

2) physiotherapy (UVB, UHF).

To relieve the swelling of the nerve trunk, the following should be prescribed:

- glucocorticoids (prednisolone) - at least 40 mg per day (divided into two doses) for 5 days with subsequent reduction of the dose to 5 mg per day;

- dehydrating agents: "Furosemide" - 0,04 g (1 tablet once a day in the morning);

- potassium preparations: Panangin (1 tablet 3 times a day after meals);

- Nicotinic acid - intramuscularly 0.17% 1 ml 2 times a day for 10 days;

- Antihistamines: "Tavegil" - 1 mg (1 tablet 2 times a day) for 10 days;

From the general tonic agents used drugs:

- Vitamin B12 - 200 mcg once every 2 days for 30 days;

- Vitamin B1 - 0.01 g (1 tablet 2 - 3 times a day) for 30 days;

- Vitamin C - 0.1 g (1 tablet 3 times a day after meals) for 10-15 days;

Sedatives, tranquilizers and neuroleptics should be prescribed:

- Sodium bromide3% solution (1 tablespoon at night);

- "Diazepam" - 0.005 g (1 tablet once a day for 5 days);

- Table #8 (diet with restriction of salt).

Be sure to schedule a consultation with a neurologist

**Answers to the task № 42**

1. The child has been diagnosed with chronic granulomatous periodontitis of 2.6 teeth in the acute stage.

2. In this clinical situation a local complication developed: perforation of the floor of the maxillary sinus.

3. When a community between the oral cavity and the maxillary sinus occurs, oral and nasal tests are objective:

a) oral - if you clamp your nostrils with your fingers and try to inflate your cheeks, the air comes out with a whistling sound through the hole into your mouth;

b) Nasal - trying to inflate the cheeks, the air goes out the nose and the cheeks to blow can not.

4.This is due to the anatomical features that determine the location of the roots of these teeth in relation to the bottom of the maxillary sinus. The apexes of molar roots are separated from the floor of the sinus by a thin bone plate, 0.1-0.2 mm thick. They can go into the sinus, protruding above its bottom. Due to chronic periodontitis, the bone separating the roots of the teeth from the maxillary sinus is resorbed, and the inflammatory tissue fuses with the mucous membrane of the sinus. When such a tooth is extracted, the mucous membrane of the sinus is torn and the formed cavity is used for communication between the sinus and the oral cavity.

5. When the bottom of the maxillary sinus is perforated, formation of a blood clot in the hole is achieved. The hole is covered with turunda with anesthetic and disinfectant to protect against mechanical damage and infection. If a clot does not form immediately, an iodoform tampon is placed, fixing it to the edges of the gum. After a few hours a clot will form. The sponge is kept in the mouth for 5-7 days. During this time the damaged mucous membrane of the maxillary sinus fuses and its scarring begins.

Sometimes in hospital conditions they resort to plasty of the defect with local tissues. For this purpose a flap is cut from the external side of the alveolar process and separated from the bone. The flap is moved to the defect area, sutured to the mucous membrane of the palate and the wound edges. For better healing of the wound it is covered with iodoform gauze and a protective plastic plate. Consultation with an otorhinolaryngologist doctor is mandatory.

**Answers to the task № 43**

1. The child has been diagnosed with Chronic Granulomatous Periodontitis 7.5

2. There are 5 stages of tooth extraction: pliers, advancement, fixation, rotation or luxation, and dislocation of the tooth.

3. When a tooth is extracted, a local complication occurs - a tear in the gum mucosa

The main reasons for this complication are:

- insufficient lighting;

- Insufficient exfoliation of the mucosa in the area of the neck of the tooth before the operation;

- gripping of the mucous membrane with forceps for tooth extraction;

- lack of fixation of the alveolar margin by the doctor with the fingers of the left hand.

5. In this clinical situation, the doctor should examine the area of injury, the area of torn gingival mucosa should be placed in place and secured with catgut sutures, taking into account that when suturing, the needle should be inserted on the moving side of the mucosa and stabilize it on the fixed side. Give necessary recommendations for oral care.

**Answers to the task № 44**

1. In this clinical situation, an anterior bilateral dislocation of the lower jaw occurred.

2. In pediatric dentistry, in order to do any dental manipulations, the parents' informed consent is necessary. In this situation the doctor did not get it, therefore he should not have extracted the tooth.

3. Possible reasons for this complication include:

- Lack of fixation of the lower jaw with the left hand of the surgeon at the time of the tooth extraction surgery;

- Excessive force by the doctor when extracting the tooth;

- Excessive opening of the mouth by the patient;

- peculiarities of anatomical structure of temporomandibular joint (flat articular tubercle, weakness of ligament apparatus).

4. It is necessary to set the temporomandibular joint. To do this, the child should be seated in a chair with the lower jaw at the level of the elbow joint of the lowered arm of the doctor. The dentist-surgeon stands in front of the patient and introduces the thumbs of both hands, wrapped in a sterile towel, into the oral cavity and rests them on the chewing surfaces of the molars. With the remaining fingers, he grasps the lower edge of the body of the lower jaw from the outside. Then, pressing with his thumbs on the molars, shifts the lower jaw to the back. At the same time, the other fingers, placed under the edge of the body of the lower jaw, raises its anterior part. Gradually the head of the lower jaw moves downward and slips on the posterior slope of the articular tubercle and enters the articular cavity. The heads are repositioned with a characteristic clicking sound and the teeth close tightly. After reduction of the dislocation of the lower jaw, a soft pramidal dressing should be applied for 1-2 weeks and it is recommended to eat liquid food.

**Answers to the task № 45**

1.The cause of this complication was: working with an elevator when the tooth was used as a support.

2.If the intact 3.7 tooth is completely dislocated, it is necessary to perform a replantation. The idea is to return the extracted tooth into its own alveolus. The method of dental replantation is as follows. The dislocated tooth is immersed in warm (37 ° C) isotonic sodium chloride solution with the addition of antibiotics. The alveolus of the extracted tooth is gently washed with isotonic sodium chloride solution with antibiotics from a syringe and covered with a sterile gauze tampon. Then the treatment of the tooth is performed. During treatment of the tooth the rules of asepsis are strictly observed. The tooth is held in a sterile gauze napkin dampened with isotonic sodium chloride solution with antibiotics. The tip of the dentist and burs should also be sterile. The remnants of the periodontium on the root of the tooth are not removed. Root canals are filled, and after filling the root canal the root apex should be resected, because in the area of the root apex there are a large number of deltoid branches of the canal. Penetration of infection from these branches beyond the apex of the root of the replanted tooth leads to recurrence of chronic periodontitis. The prepared tooth is immersed in sodium chloride solution. The blood clot is removed, the hole is carefully washed with antiseptics, then the tooth is placed in the hole and secured with a splint for 3-4 weeks. The patient is recommended a sparing diet, analgesics and antibiotics are prescribed, from the 4th-6th day - physiotherapy.

**Answers to the task № 46**

1. Based on clinical and radiological data, the diagnosis is: exacerbation of chronic periodontitis of the 8.5 tooth.

2. there was a local complication during the tooth extraction operation: damage to the crown of the antagonist 5.5 tooth.

3.The cause of this complication is: unexpected slipping of the forceps from the tooth to be extracted and premature extraction of the tooth.

**Answers to the task № 47**

1. Hemophilia is a severe hereditary disease characterized by blood clotting disorders. Its main symptom is frequent bleeding, which is very difficult to stop. The hemophilia gene is linked ("linked") to the sex chromosomes, with which it is transmitted.

2. In this clinical situation, tooth extraction surgery is indicated. In a boy with hemophilia form A, tooth extraction operation 6.4 must only be performed under hospital conditions, in the presence and consultation of a hematologist. Special pre-operative preparation is also necessary.

3. As a result of bleeding, a number of complications can occur: paralysis, gangrene (because of compression of extensive hematoma of nerve endings and large vessels); severe anemia (because of profuse bleeding as a result of trauma or surgery); acute respiratory failure (because of mechanical obstruction of the airways, resulting from bleeding from the laryngeal mucosa) severe lesions of the nervous system and even death (due to hemorrhages in the brain and spinal cord, as well as in the meninges); thrombocytopenia (decreased number of platelets); aseptic tissue necrosis and bone decalcification (osteoporosis) due to frequent hemorrhages in bone tissue.

**ANSWERS «INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION IN CHILDREN».**

**Answers to the task № 48**

1. Аcute purulent odontogenic periostitis of the lower jaw on the right side of the 4.6 tooth. Periostitis is an inflammatory process localized in the periosteum.

2. The organ-preserving principle of treatment should be followed. In this case you have to make maximum effort to save the permanent tooth.

**Answers to the task № 49**

1. The child is diagnosed with: Chronic odontogenic lymphadenitis

2.The etiologic factor is a chronic infection from a 7.5 tooth.

3. the lymphatic system is a part of the immune system, which is a complex of cells and organs, the joint activity of which provides human protection against the effects of various pathogenic agents (bacteria, toxins, etc.). The main cells of the immune system are lymphocytes, which circulate in the blood and are also located in different organs of the immune system (lymph nodes, spleen), which are the first to come in contact with foreign agents entering the body, providing activation of other immune cells and mechanisms, thereby playing a protective role.

4. Prophylaxis involves mandatory and timely sanitation of the oral cavity, otorhinolaryngology organs, increasing immunity, general strengthening therapy.

**Answers to the task № 50**

1. A child is diagnosed with: specific lymphadenitis on the background of tuberculosis lesion.

Tuberculosis is a specific infectious disease, the causative agent of which is Mycobacterium tuberculosis (Koch's bacillus), can affect absolutely every system and organ of humans and animals, is characterized by a chronic course, the presence of intoxication and the formation of specific foci of inflammation.

2. The only confirmation of tuberculosis in childhood is positive tuberculin tests (Mantoux test and Diakintest). Tuberculin diagnosis is based on the determination of delayed-type hypersensitivity to tuberculin, that is, tuberculin allergy resulting from infection with virulent Mycobacterium tuberculosis (MBT) or BCG vaccination. Consequently, tuberculin detects specific antibodies (Ig A, M, G) to tuberculosis, which are produced during the formation of tuberculous granulomas. Tuberculin is a purified tuberculosis toxin, which acts as an allergen to which a child infected with MBT has an immune response. Tuberculosis allergens do not contain microbial bodies and therefore cannot cause tuberculosis disease. In this clinical situation, a consultation with a phthisiatrician is urgently needed.

3. the norm of leukocyte level for children under 6 years old is 5-12 g/l, at the age of 7 years and older - 4-9 g/l; the norm of lymphocyte level at the age of 7 days to 6 years old is 45-65%, over 6 years old - 25-40%; the norm of SOE - 1-10 mm/h.

4. additional methods of examination include: chest X-ray, CT, MRI.

5. Children's chest radiographs are characterized by enlargement of the lung root due to increased intrathoracic lymph nodes with unchanged pulmonary margins. Calcinates and Gon foci in the lungs and intrathoracic lymph nodes are often detected.

**Answers to the task № 51**

1. Acute odontogenic osteomyelitis of the lower jaw of the left mandible from 7.5 teeth, complicated with abscess of the maxillary lingual groove. Odontogenic osteomyelitis is a purulent-necrotic and infectious-allergic lesion of the jawbone.

2.The following findings are indicative of the development of inflammation in the blood: a significant increase in the number of leukocytes, accelerated sedimentation rate of erythrocytes (sedimentation rate), and a shift of the leukocytic formula to the left. The shift of leukogram to the left occurs when the number of bacilliform leukocytes increases. and the number of immature neutrophils is higher, this leads to a shift of the leukocytic formula to the left. For example: basophils - 1, eosinophils - 4, young neutrophils - 1, bacillocytes - 12, segmented neutrophils - 40. This is a shift to the left of the white blood cell formula - immature, young neutrophil forms appeared.

3. The long-term consequences of osteomyelitis in childhood can be quite serious, which are associated with the presence of rudiments of permanent teeth in the thickness of the bone tissue and the presence of the jaw growth zone in the angle of the lower jaw. Osteoclastic and osteoblastic processes of the jaw bones in children are particularly vigorous, which can be attributed to their well-developed circulatory system. In turn, with abundant blood circulation, children are more easily exposed to infection. Infection of the jaw is also facilitated by the wide haversian canals, the thin and delicate structure of the bone ligaments, between which there is a large amount of myelinous tissue, and the red bone marrow, which is less resistant to various irritants than the yellow bone marrow of adults. The periosteum of the jaw bones in childhood is thick.

Osteomyelitis in childhood often leads to: death of the rudiments of permanent teeth, microgenia- delayed jaw growth rate, deviations in growth and development of the jaw bone, significant bone defects, there may be pathological fractures of the jaw, jaw deformities, significant scar deformities of soft tissue.

**Answers to the task № 52**

1.Chronic granulomatous periodontitis of tooth 7.4 in the acute stage.

2. According to the classification of acute odontogenic purulent inflammatory processes in children there are 3 forms of chronic periodontitis: fibrous, granulomatous and granulomatous.

3. In this clinical situation, the purulent-inflammatory infectious process spread through the root canals of the causal tooth.

**Answers to the task № 53**

1. A child is diagnosed with: Exacerbation of chronic interstitial sialoadenitis of the parotid gland on the right side.

2. The disease is characterized by overgrowth of interstitial connective tissue with subsequent replacement of lobules of the gland parenchyma. At prolonged course of the process the ducts and terminal sections atrophy and become immured among dense hyalinized fibrous connective tissue. The lumen of discharge ducts is considerably narrowed.

3. At exacerbation of interstitial parotitis warm compresses with camphor oil on the gland area, bumping of duct system, repeated injection of warm 0.5% solution of etacridinolactate (Rivanol) or 0.02% solution of Furacilin have a positive effect. Prescribing corticosteroids: cortisone is prescribed by mouth at 0.025 3 times daily for 7-10 days, or intramuscularly by 5 ml of 2.5% solution (total 5-6 injections), prednisolone is used in tablets at a dose of 0.005 g 2 times daily for 5-7 days, which in addition to activating metabolic processes, contribute to inhibition of connective tissue, but reduce the secretory function of the salivary glands, so must appoint CAUTION, control excretory saliva. In addition, general strengthening therapy, a gentle diet, consultation and treatment by a gastroenterologist are mandatory.

**Answers to the task № 54**

1. A child is diagnosed with: Exacerbation of chronic parenchymal parotitis on the left side.

2. Warmed iodolipol (30% iodine solution in peach oil) is used for gland contrasting, which allows obtaining a clear picture of the gland ducts. In children, it is possible to use water-soluble contrast agents (76% verogran solution, 60% urographin solution). But we must consider its disadvantage: between the filling of the gland with contrast mass and radiography time is minimized, the contrast substance injected into the duct is removed within 2-3 minutes. For contrasting of the gland a water-soluble radiopaque pre-preparation "Omnipack" can be used (a triiodine-containing preparation with the active substance iodehexol with 46.4% iodine solution, well soluble in water). The drug binds little with blood proteins, is quickly and almost completely eliminated unchanged, it is slightly toxic.

3.Ultrasound is the most informative method of salivary gland examination, which allows to diagnose, stage of disease and control the stages of treatment. Method of echography is particularly indicated in children, as it is non-invasive, short in time, does not cause a child's negative attitude towards the procedure.

4. This disease must be differentiated with Herzenberg disease, tumors of this area, chronic interstitial parotitis, during aggravation - with epidemic parotitis.

Final diagnosis is established on the basis of clinical and after additional methods of examination.

5. In this clinical situation is anti-inflammatory, obsolete, hypersensitizing, immunoactive drugs, sanitation of chronic foci of infection. Daily instillation of enzyme solutions (chymopsin, chymotrypsin), using their ability to break up fibrinous formations under local influence, dilute viscous secretion, have anti-inflammatory, dehydration, anticoagulation and antiseptic effect, increase phagocytic function of leukocytes, stimulate reparation processes. Medicinal treatment is combined with exposure to physical factors (UHF-therapy) and HBO. Apply also ointment dressings with 30-50% solution of dimexide. Dimeksid improves tissue microcirculation, has analgesic, bacteriostatic effect, promotes the conduct of drugs through the skin. Gentle diet, completely eliminate chips, spicy and salty foods, recommend breadcrumbs.

**Answers to the task № 55**

1.Lymphonodular sialodenitis (Herzenberg's parotitis)-acute serous lymphadenitis of the intracapsular lymph node of the parotid salivary gland.

2.The outcome of the disease depends on early elimination of the cause. In this case the cause of the disease is chronic tonsillitis, nasopharyngeal sanation is necessary, after which the inflammatory process in the gland will subside.

Abscessed lymph node is also possible. When massaging the gland, pus will be excreted from the gland's orifice, in which case it is necessary to open the pus.

In this case physiotherapy (dry heat, UHF, UVB) is additionally prescribed.

**Answers to the task № 56**

1. The child is diagnosed with newborn parotitis.

2. In this clinical situation, the etiological factor was mastitis of the mother, which against the background of prematurity played a key role.

3. Differential diagnosis is carried out with hematogenous osteomyelitis of the condylar process, abscess of the cheek, purulent lymphadenitis.

4. First of all, it is necessary to create an outflow of pus (surgical), anti-inflammatory in shock doses, detoxification, passive immunotherapy (anti-staphylococcal gamma globulin), desensitizing and general strengthening therapy.

5. With timely initiated rational treatment - the prognosis is favorable. Decreased secretory function, salivary fistulas, facial neuritis, otitis media, temporomandibular joint dysfunction due to the lesion of the growth area are possible.

**Answers to the task № 57**

1. A child is diagnosed with Epidemic Mumps. Caused by a filtration virus that has hemagglutinating, neuraminidase, hemolytic and symplastic activity.

2. Entrance gate for the virus is the epithelium of the mucous membrane of the upper respiratory tract and tonsils, where the virus multiplies, penetrates into the blood (primary virosemia) and is spread by the bloodstream to various organs and tissues. However, salivary glands - parotid, submandibular, sublingual with predominant lesions of interstitial tissue of these glands - are the most sensitive to the virus. After intense replication and virus release from inflamed salivary glands into blood, secondary virosemia occurs, which leads to lesions of many organs and systems: CNS (meningoencephalitis, meningitis or neuritis), genitals (testicles, testes), other organs (polyarthritis, pancreatitis, thyroiditis, rarely - nephritis, myocarditis, hepatitis).

3. the main clinical symptoms are: Murson's (hyperemia and swelling of the mucosa around the parotid gland's outlet duct); Filatov's symptom (pain on pressing in front and behind the earlobe; Hetchcock's symptom (soreness of the angle of the mandible).

4. In this disease, complications are manifested by lesions of the glandular organs and the central nervous system. Complications: orchitis, pancreatitis, total deafness, serous meningitis.

5. Treatment of the child in this clinical case is carried out at home, complete isolation. It is necessary to observe bed rest for at least 10 days. For prevention of pancreatitis, a dairy-plant diet, general therapy. It is better to eat rice, allowed to eat black bread, potatoes, breadcrumbs. Locally prescribed dry heat, oral care.

**Answers to the task № 58**

1. Salivary stone disease of the right submandibular salivary gland, with localization of the stone in the duct. The diagnosis is based on the history of thedisease and clinical examination.

2. It is necessary to perform sialogram of submandibular salivary gland in order to clarify concrement localization and identify possible concrements in the thickness of the gland itself.

3. In this clinical situation it is necessary to stop the inflammatory process (anti-inflammatory, antihistamine, general strengthening therapy, massage of the gland, salivary diet). At the stage of remission surgical treatment is shown (removal of the concrement from the duct of the gland).

4. surgical tactics involves the removal of stones from the duct of the salivary gland by various methods. The most advanced method of treatment of salivary stone disease is interventional sialendoscopy, which allows to remove salivary stones endoscopically, eliminate cicatricial strictures of ducts. Among the modern minimally invasive methods of treatment of sialolithiasis are also extracorporeal lithotripsy - breaking up of salivary gland stones by ultrasound. In some cases, intraductal litholysis is effective: chemical dissolution of stones by injecting a 3% solution of citric acid into the ducts of the salivary gland. Surgical removal of salivary gland stones may be performed in the open method - by dissecting the outlet duct from the side of the oral cavity where the nodule is located, the stone is extracted from the duct, the duct is washed with antiseptic solutions, the wound is not sutured, but drained with a thin glove drainage.

**ANSWERS TO SITUATIONAL TASKS ON THE TOPIC: "ODONTOGENIC CYSTS OF THE JAW IN CHILDREN**

**Answers to the task № 59**

1. A child is diagnosed with a follicular cyst from a 4.7 tooth ( tooth-containing)

2. The origin is due to a violation of the development of the dental rudiment. As we know, the dental germ consists of the enamel organ, the dental papilla, and the dental sac. This cyst develops from the dental sac: a cluster of mesenchymal cells around the dental organ, which is the shell of the dental rudiment.

3.The macroscopic structure of a follicular cyst is represented by a single-chamber cavity containing a transparent yellow fluid with cholesterol crystals. Microscopic structure: cyst shell is represented by connective tissue (capsule) on the outside, and lined by multilayer squamous epithelium on the inside. In follicular cysts, keratinization of the epithelium is much more common. Epithelia of follicular cysts are more differentiated and retain their continuity throughout.

4. In this clinical situation, orthodontic treatment should be delayed. The treatment tactic for follicular cysts is surgical. A cystectomy, i.e. a complete removal of the mass along with the removal of the permanent 4.7 tooth, is necessary.

**Answers to the task № 60**

1. A child is diagnosed with: Inflammatory radicular cyst from a 7.5 tooth

2. In this clinical situation it is necessary to perform:

a) cystectomy i.e. radical removal of the cyst.

b) Removal of the rudiment of the permanent 3.5 tooth.

**Answers to the task № 61**

1. Radicular cyst of the upper jaw on the right side of 1.4 teeth

2. A simple additional method of diagnosing a root cyst is diagnostic puncture of the mass. This produces a yellowish colored liquid, opalescing in the light due to the content of cholesterol crystals.

3. Differential diagnosis is made with a follicular cyst. This cyst is not associated with complicated caries. On the radiograph, the cyst cavity contains the crown of a retained or unformed permanent tooth. There is no permanent tooth in the dental arch, or its place is occupied by a baby tooth. When the cystic shell is removed, it is found to be attached strictly to the neck of a non-erupted and atypically located tooth.

4. Treatment is surgical - cystectomy, it is important to preserve the existing mucosa of the maxillary sinus, which is pushed upward by the cyst. The root canals of 1.4 teeth are filled before the intervention, and during the surgery the apex of the tooth is resected.

5. In case of cyst overgrowth into the maxillary sinus an oroantral cystectomy is performed. This procedure is performed if the bone wall separating the cavity from the maxillary sinus is thin or perforated. If the bone wall thickness is a few millimeters or more, it does not need to be done. The thickness of the bone wall can be judged by its elasticity during surgery.

**Answers to the task № 62**

1. A child is diagnosed with: Radicular cyst of the lower jaw from the left 7.5 teeth.

2. In this clinical case a cystotomy is performed. Cystotomy is a method of surgical treatment, when the external (anterior) wall of the cyst is removed along with the adjacent bone, and the intra-bony cavity is combined with the vestibule of the mouth, i.e. the cystic cavity is turned into an additional cavity of the mouth.

3. Indications for cystotomy surgery are:

(a) Large cysts of the maxilla that extend into the maxillary sinus with destruction of the bony floor of the nasal cavity and palatine plate;

b) extensive cysts of the lower jaw with significant thinning of the bone walls, if complete removal of the cyst shell could significantly weaken the strength of the jaw and contribute to the occurrence of a pathological fracture;

c) in a changeable bite, if an attempt to completely remove the cyst shell could damage the rudiments of permanent teeth.

4. Disadvantages of cystotomy:

a) nonradicality of surgical intervention;

b) formation of additional cavities, which require a long postoperative care;

c) possible recurrence of the disease.

5. Cystotomy technique. The operation is carried out under local anesthesia. In this clinical case, the 7.5 tooth is removed, but the rudiment of the permanent 3.5 tooth is preserved. A semi-oval mucosal-periosteal flap is excised with the base facing the transitional fold. The anterior (external) wall of the jaw is removed, i.e. a bone window is made according to the largest diameter of the cyst. The external (front wall) of the cystic membrane up to the rudiment of the permanent tooth is dissected out. Sharp edges are carefully smoothed out. The mucosal-periosteal flap is inserted into the cyst cavity. The latter is tamponized with iodoform gauze, which holds the flap at the entrance to the cavity.

**Answers to the task № 63**

1.A teenager is diagnosed with: Radicular cyst of the upper jaw from 1.1 teeth.

2.Radicular cyst is a benign tumor-like mass with fibrous walls that forms in the apical zone of the tooth root.

The membrane of the cyst is represented by connective tissue directly adjacent to the surrounding bone and lined by epithelium on the inside. The epithelial lining is built according to the type of multi-layered squamous epithelium of the oral cavity without keratinization. Inflammatory changes can always be detected in the lining of the radicular cyst, which are pronounced to varying degrees. Inflammatory phenomena lead to erosion of the epithelium with subsequent necrosis of part or all of the shell. Morphological study of the cyst envelope sometimes reveals epithelial lining only in some areas. A characteristic feature of the structure of radicular cysts is the presence of cholesterol in their contents and walls. Its appearance is associated with the decay of lipid-rich cellular structures.

3.Radicular cysts are formed mainly from teeth affected by chronic granulomatous periodontitis. The mechanism of formation is as follows: repeated exacerbations of the inflammatory process with impaired microcirculation in the area of granuloma localization lead to accumulation around the granuloma of fibroblasts producing collagen with the formation of a fibrous sheath. During remission, epithelial cells develop inside the fibrous capsule of the granuloma and areas of granulation tissue are replaced by epithelial tissue. The epithelium sections connecting to each other form the inner epithelial shell of the granuloma, like a second layer, which produces a secret and thus determines its growth, eventually forming a cystogranuloma, and then a periradicular cyst. The cysts continue growing slowly, due to the increased volume of the cystic content, which puts pressure on the surrounding bone and causes the bone to atrophy. A bone defect can form in the jaw, and the cyst continues to grow under the periosteum (subperiosteal cyst). The cyst grows due to the higher pressure of the cystic fluid than in the bone.

4.A cystectomy is performed. A cystectomy is a radical surgical treatment that consists of a complete removal of the cyst membrane followed by closure of the surgical wound (primary deafening of the wound). Before the surgery, endodontic treatment of teeth 1.1 and 1.2 must be performed, filling them behind the apex, resection of the root apex, which prevents the development of recurrence. As osteostimulants in the filling of bone defects it is possible to use antibiotic paste combined with blood, hemostatic sponge, hydroxyapatite and its derivatives, collagen and its derivatives, lyophilized allosteal rubble.

**Answers to the task № 64**

1. A teenager is diagnosed with: Ranula or retention cyst of the right sublingual salivary gland. (Ranula or frog's tumor, so named because the swelling in the sublingual area resembles a sac-like protrusion of the bottom of the frog's mouth).

2.As the child has abnormalities of dysontogenetic origin (low attachment of upper lip frenulum, short frenulum of tongue, anomaly of bite, gothic palate, shallow precum), this mass is presumably of dysontogenetic origin, particularly this cyst, i.e. developed from diverticula of anterior outlet duct. Some authors are of the opinion that frequent formation of cysts in the hyoid gland depends on the peculiarities of its anatomic structure and location of its ducts. Small ducts opening at the top of the hyoid fold create favorable conditions for the infection penetration and traumatization of the ducts mouth parts that can lead to narrowing and duct closure with cyst formation (in the middle and back parts).

3. Cysts of the hyoid gland slowly increase in size without causing much concern. If the membrane (gland capsule) ruptures, the wound is emptied, but recovery does not occur as the defect heals and the cyst fills up with its contents. You cannot puncture the cyst, because after puncture it empties (a transparent, mucousy, viscous yellowish fluid is released).

4. Treatment is surgical. Cystotomy is the most frequent variant of wound treatment. It consists in wide dissection of the cyst along the hyoid ridge with suturing of the cystic cavity edges to the bottom mucosa. Initially, the opened cyst cavity is filled with loose iodine-forming gauze, which is gradually pushed out by scar tissue, and the epithelium of the capsule metaplasizes into the normal epithelium of the oral cavity mucosa. The cystectomy option is very rarely used because of the thinness of the shell, complex anatomical structure, and small space for the surgeon to work.

**Answers to the task № 65**

1. An adolescent is diagnosed with a Residual Cyst.

2. The mechanism of origin of this pathological formation may be:

a) fragments of an odontogenic granuloma that remained in the alveolus after a tooth extraction;

b) the result of an inadequately performed cystectomy

c) as the 3.7 tooth is filled and the 3.5 tooth has a cavity, there is a possibility of formation of a radicular cyst from these teeth.

3. A panoramic radiograph is necessary to make a definitive diagnosis. This diagnosis on the radiograph will be characterized by a small bone destruction foci with smooth rounded edges in the area of the extracted 3.6 tooth.

4. A repeat thorough cystectomy is necessary.

5. Classification:

I. Inflammatory odontogenic cysts:

1. Radicular cyst.

2. Residual cyst

II. Dysontogenetic odontogenic cysts:

1. Follicular cyst (tooth-containing cyst)

2. Cyst of eruption

**Answers to the task № 66**

1. A child is diagnosed with a radicular cyst from 1.2 teeth

2. Morphologically: cystic mass with transparent yellowish fluid with inclusions of cholesterol crystals; inner wall is made by multi-layered squamous epithelium (4-12 layers). Under epithelium is granulation and young fibrous connective tissue. Deeper fibrous connective tissue is gradually replaced by scar tissue. The capsule has a large number of nerve endings.

3. The Gerber's symptom is present when the cyst is located on the upper jaw and the frontal teeth are the cause of this mass. Rhinoscopy of the nasal cavity reveals a Gerber's roll, i.e. a protrusion in the lower nasal passage.

4.Of the modern methods of radial diagnosis, cone-beam computed tomography is the preferred method to accurately characterize the mass. Since:

a) it is possible to determine a reliable location in three mutually perpendicular planes;

b) determination of the involvement of adjacent structures;

c) the possibility of determining the exact size;

d) accurate determination of surgical access;

e) differential diagnosis.

5. Symptomcomplex characteristic of most cysts of the jaw:

- Destroyed and discolored causal tooth;

- percussion of the causal tooth is painless;

- symptom of divergence (divergence) of roots and convergence (convergence) of crowns of teeth;

- Runge-Dupuytren's symptom (parchment crunch);

- J. I. Bernadsky's symptom (springiness of the wall);

- symptom of elastic tension;

- symptom of fluctuation (in places of complete resorption of bone tissue) and facial deformity;

- in case of suppuration - intoxication, reactive lymphadenitis, fistulas;

- If localized in the area of the upper frontal teeth, formation of Gerber's ridge is possible - palpated in the area of the nasal passages;

- Vincennes' symptom - if localized near the neurovascular bundle (pain and parasthesia)

- On an X-ray: an area of bone lucidity with clear contours (clear contours disappear with suppuration);

6. Radiological criteria of radicular cysts:

a) localization: any tooth;

b) nidus of destruction: in the area of tooth root tips;

c) shape: round (oval);

d) size: variable and depending on the period of existence;

e) Structure: homogeneous;

f) contours: smooth, clear;

g) sclerotic rim: present;

h) Involvement of vital tooth roots: present;

f) Root divergence: present;

k) disruption of cortical plate integrity: present to varying degrees and depends on the localization and size of the cyst;

m) Root resorption of the root of the causal tooth: present when the cyst is purulent;

m) peculiarities: the presence of an endodontically treated tooth indicates in favor of a radicular cyst.

**TEST ASSIGNMENTS FOR SITUATIONAL TASKS**

1. The parents of a 4-year-old child came to the surgery for acute purulent odontogenic periostitis of the lower jaw from the right 8.5 teeth. The doctor decided to perform a periostotomy. During the surgical intervention, profuse bleeding opened, after which the child was hospitalized.

Which anatomical feature of the children listed below is most likely to cause this complication?

1. thin periosteum
2. thin cortical plate
3. thick cortical plate
4. +abundant blood supply to the periosteum
5. abundant blood supply to the soft tissue

2. A mother with an 8-year-old girl came to the clinic for an oral cavity rehabilitation. Past medical history: the girl suffers from chronic asthmatic bronchitis. In the oral cavity: 3.6 - deep cavity, not communicating with the tooth cavity, probing is painful on the bottom of the cavity. The doctor administered anesthesia, after which the child started having asthma attacks.

Which type of allergic anesthesia from the following is NEARLY likely?

1. +bronchospastic
2. abdominal
3. cerebral
4. cardiac
5. mixed

3. A mother with a 5-year-old child came to the clinic for oral cavity care. The boy is friendly, willingly obeys the doctor's commands, and shows interest in the environment.

What rating on the expressive features scale does the child's behavior MOST correspond to?

1. +positive
2. neutral
3. negative
4. negative
5. negative irresistible

4. A 3-year-old child was brought to the outpatient clinic for oral hygiene, who does not come into contact, does not listen to what the doctor says, actively resists, cries, refuses to follow the doctor's commands. A grade III carious process was noted during the examination.

What grade on the scale of expressive signs does the child's behavior REALLY correspond to?

1. positive
2. neutral
3. negative
4. negative
5. +negative irresistible

5. A mother and her 3-year-old child came to the children's dental clinic for oral health care. On examination the crown of 6.2 tooth was 1/3 destroyed, pulp chamber was opened during excavation of the affected dentin, painful when probing. The mucosa around the tooth is unchanged.

Which method of injection anesthesia is NEARLY acceptable for treatment of this tooth?

1. +infiltration
2. incisal
3. palatal
4. tuberal
5. application

6. The parents of a 5-year-old child came to the outpatient clinic for oral hygiene treatment. In the oral cavity: 5.5 and 6.5 - carious cavities communicating with the tooth cavity, probing is painful in one point, percussion is painless, mucosa around the tooth has no features.

Which of the following methods of anesthesia is the MOST appropriate for the treatment of upper temporary molars?

1. palatal
2. incisal
3. tuberal
4. infraorbital
5. +infiltration

7. A mother with a 6-year-old child turned to the dental clinic about an exacerbation of chronic periodontitis of 8.4 teeth. The doctor decided to treat the tooth.

Which method of anesthesia is MOST indicated in this case?

1. infiltration
2. torusal
3. +mandibular
4. tuberal
5. mental

8. Parents with a 4-year-old child contacted a private clinic about a decompensated form of caries. It was decided to treat under general anesthesia due to negative irresistible behavior.

Which method of general anesthesia is MOST acceptable for dental interventions in polyclinic conditions in children?

1. +intramuscular
2. combined
3. endotracheal
4. endonasal
5. intravenous

9. A mother and a 6-year-old boy went to the polyclinic for the purpose of tooth extraction. Anamnesis: the child suffers from chronic asthmatoid bronchitis. In the oral cavity: 7.3 tooth - the crown is destroyed, the mucosa around the tooth is without features. The doctor performed anesthesia, after which the child began having asthma attacks.

The introduction of which drug from the following is MOST appropriate in this clinical situation?

1. +euphyllin 2,4%
2. strophanthin 0.3
3. suprastin 10 mg/ml
4. aerosol "Ingalipt"
5. cordiamine 1.0

10. Parents of a 3-year-old child with negative irresistible behavior were recommended simultaneous sanitation of the oral cavity under general anesthesia

Which method of general non-inhalation anesthesia from the following is the MOST acceptable in this clinical situation?

1. mask
2. epidural
3. +intramuscular and intravenous
4. endotracheal
5. vagosympathetic blockade

11. A 3-year-old child has a labile nervous system, a pronounced negative irresistible attitude to dental treatment, is registered at a dispensary with a neurologist for epilepsy, cp = 10.

Which method of rehabilitation is MOST appropriate to use?

1. pharmacological correction of behavior
2. +simultaneous sanitation of the oral cavity under general anesthesia
3. rehabilitation after a course of treatment with a neurologist
4. dental treatment under local anesthesia
5. remineralizing therapy

12. The child is 2 years old. Mom complains of an increase in body temperature to 38.5 ° C, pain when eating. Objectively, against the background of a hyperemic mucous membrane of the oral cavity, multiple elements of the lesion are determined in the form of blisters, erosions. The gum mucosa is swollen, hyperemic, and bleeds easily. Submandibular lymph nodes are enlarged.

Which of the following topical anesthetic drugs is MOST applicable for mucosal anesthesia?

1. novocaine
2. articaine
3. ultracaine
4. +lidoxor
5. mepivacaine

13. A mother with a child of 3 years turned to the children's dental clinic. Complaints of night toothache. From anamnesis: the girl is registered at a dispensary with a neurologist for epilepsy. On examination, multiple carious cavities in the oral cavity. The girl cries, does not sit in the chair, pushes the doctor away. CP index = 8.

Which of the following methods of rehabilitation is the MOST appropriate to use?

1. +general anesthesia followed by treatment
2. treatment by a neurologist, then sanitation of the oral cavity
3. dental treatment under local anesthesia
4. pharmacological correction
5. tooth extraction

14. A mother with a 6-year-old child turned to a dentist for an appointment with a dentist in order to sanitize the oral cavity. In the oral cavity: 6.4 the tooth is completely destroyed, changed in color, the mucous membrane around the tooth is not changed in color.

At what level is an injection needle injected during infiltration anesthesia for the removal of a temporary tooth?

1. three teeth on the vestibular side
2. three teeth on the palatine side
3. +tooth to be removed
4. adjacent tooth
5. tongue

15. A 5-year-old child was brought to the polyclinic. On examination, the crown part of the tooth 8.4 is completely destroyed, the mucous membrane is pale pink. Mandibular anesthesia was used to remove the tooth.

Which injection site of the injection needle is MOST appropriate for mandibular anesthesia?

1. at the level of the middle of the pterygoid-mandibular fold
2. +at the level of the chewing surface of the lower molars
3. at the level of the chewing surface of the upper molars
4. below the chewing surface of the lower molars
5. between the upper and lower molars

16. A 10-year-old child suffering from cerebral palsy came to the surgical room accompanied by his mother, does not move independently, there is a lag in neuropsychic development. On examination, the crown part of the tooth 8.5 is completely destroyed, the mucosa is hyperemic, edematous. The child indifferently comes into contact, adequately treats the words of the doctor, does not cry.

Which type of behavior of the child, of the following, is MOST likely?

1. positive
2. +indifferent
3. irresistible negative
4. initial manifestations of negative
5. pronounced, but surmountable negative

17. A 12-year-old girl complained of swelling in the upper jaw region on the left side. Objectively: asymmetry of the face due to swelling of the soft tissues of the upper jaw on the left side. In the oral cavity, the transitional fold in the area of 1.4, 1.5 teeth is smoothed, edematous, hyperemic, positive "fluctuation" symptom.

Which of the following methods of anesthesia is the most appropriate?

1. +infiltration
2. incisal
3. palatinal
4. tuberal
5. infraorbital

18. A mother and her 11-year-old child came to a pediatric clinic for an oral rehabilitation. In the oral cavity: 7.5 tooth - under a filling, the mucosa around the tooth has no features.

What therapeutic tactics is advisable when a temporary tooth, which has been delayed in its change, is extracted?

1. tamponade of the extraction site
2. clamping the edges of the extraction site
3. application of styptic agents
4. +x-ray to rule out adentitia
5. processing of socket with anti-inflammatory drugs

19. An 11-year-old child presented for dental care complaining of discomfort while eating. Objectively, tooth 8.5 is intact, surrounding mucosa is pale pink in color, tooth mobility II degree.

Which of the following is the most likely preliminary diagnosis?

1. acute purulent periodontitis
2. +physiologic change
3. incomplete dystopia
4. incomplete dislocation
5. full dislocation

20. A mother with a 9-year-old child came to a pediatric clinic complaining of nagging pain. On examination on the chewing surface of tooth 5.5 there is a cavity, percussion is painful, gingival mucosa is hyperemic and edematous. On the radiograph, bone thinning in the area of bifurcation of roots of tooth 5.5, resorption of cortical plate of follicle of tooth rudiment 1.5, resorption of roots by ? their length.

Which of the following is the most likely preliminary diagnosis?

1. +acute chronic periodontitis exacerbation
2. acute focal osteomyelitis
3. acute purulent lymphadenitis
4. acute purulent periostitis
5. acute total pulpitis

21. A 6-year-old patient complained of tooth mobility. Objectively 85 tooth - intact, mobility of III degree. The mucous membrane around the tooth is pale pink.

Which of the following instruments is the most appropriate for treatment?

1. +beak-shaped with cheeks
2. beak-shaped without cheeks
3. straight
4. hetchet
5. s-shaped with a spike on the left side

22. A 6-year-old child came to the clinic with complaints of tooth mobility. Objectively, the face is symmetrical. In the oral cavity 8.5 tooth-intact, mobility II degree. Mucous membrane around the tooth without pathology.

Which dental instrument out of the following is the MOST appropriate to use for extraction?

1. + beak-shaped forceps with cheeks
2. s-jaw forceps with a spike on the left side
3. beak-shaped forceps without cheeks
4. straight forceps
5. wide hetchet

23. A mother and a 7-year-old child came to the clinic with complaints of pain when biting. In the oral cavity: 7.5 tooth is destroyed by 2/3, the mucous membrane around the tooth is hyperemic, edematous. The doctor decided to remove the tooth.

At what stage of the operation for the extraction of a temporary tooth does the axis of the cheeks of the forceps and the tooth coincide?

1. tooth dislocation
2. fixation of the cheeks of forceps
3. removing the tooth from the hole
4. applying forceps to the tooth
5. +advancing the forceps cheeks along the axis

24. A mother and a 5-year-old girl came to the surgical office with complaints about the presence of a root. Objectively, in the area of ​​5.1 the tooth is a root, in the projection of the tooth root there is a fistula with purulent discharge. The doctor made a decision to remove the tooth.

Which dental pliers are the MOST advisable to remove this tooth?

1. bayonet
2. flat
3. beak-shaped root
4. beak-shaped coronal
5. +straight with converging cheeks

25. Mother went to a dental clinic with a 7-year-old child for oral cavity sanitation. Objectively: 7.5 tooth is destroyed by 2/3, discolored, percussion is not painful. The doctor decided to remove the tooth. When 7.5 tooth was removed, a fracture of the coronal part of the tooth occurred.

What dental instruments are the MOST acceptable for removing the roots of a tooth with this complication?

1. +wide hetchets
2. flat forceps
3. beak-shaped forceps with converging cheeks
4. beak-shaped forceps with smooth diverging cheeks
5. beak-shaped forceps with diverging cheeks with forceps

26. A 16-year-old girl applied to the children's dental clinic for oral cavity sanitation. In the oral cavity: 1.6 tooth - destroyed by 2/3, 1.1, 2.1, 3.6 - carious cavities, the mucous membrane is pale pink.

The roots of which teeth are MOST often bordered by the floor of the maxillary sinus?

1. incisors of the upper jaw
2. +molars of the upper jaw
3. molars of the lower jaw
4. canine teeth of the upper jaw
5. premolars of the upper jaw

27. A mother with a 6-year-old child turned to the polyclinic to sanitize the oral cavity. Objectively, 7.5 tooth is destroyed by 2/3, changed in color. The doctor recommended to remove the tooth.

Which of the following is the MOST likely complication during tooth extraction?

1. neuritis
2. bleeding
3. +crown fracture
4. perforation of the maxillary sinus
5. damage to the neurovascular bundle

28. When a 6.5 tooth was removed for chronic periodontitis, a 7-year-old child had a soft tissue rupture in the area of ​​the tooth being removed.

What is the MOST likely cause of this complication?

1. use of a hetchet
2. +insufficient mucosal detachment
3. use of bayonet pliers
4. removal with S-shaped forceps with forceps
5. removal with S-shaped forceps without forceps

29. When a 3.6 tooth was removed for chronic periodontitis, a 14-year-old teenager had an incomplete dislocation of the adjacent tooth.

What is the MOST likely cause of this complication?

1. + use of an elevator
2. insufficient mucosal exfoliation
3. use of flat forceps
4. removal with beak forceps with forceps
5. removal with beak forceps without forceps

30. A 6-year-old child came to the clinic with complaints of aching pains. Objectively, the 6.5 tooth is completely destroyed, the mucous membrane is hyperemic, edematous. In order to extract the tooth, the doctor took S-shaped non-adjoining forceps with a spike.

What complication is MOST likely in this situation?

1. neuritis
2. bleeding
3. + root fracture
4. perforation of the maxillary sinus
5. damage to the neurovascular bundle

31. Parents with a 6.5-year-old child turned to the surgical office with complaints of pain when eating. Objectively, the 8.5 tooth is completely destroyed, the mucous membrane is hyperemic, edematous. In order to extract the tooth, the doctor took the beak-shaped closing forceps and, during the extraction of the tooth, damaged the 5.5 tooth.

What is the MOST likely cause of this complication?

1. insufficient detachment
2. + limited mouth opening
3. violation of the rotation stage
4. violation of the stage of luxation
5. violation of the fixation stage

32. A mother with a 7-year-old child turned to the polyclinic for the purpose of reorganization. In the oral cavity 8.4, 8.5 teeth are completely destroyed, the mucous membrane around the tooth is unremarkable. The doctor decided to remove the tooth, and used an elevator to remove the tooth, but the root of the tooth got into the airways.

What type of asphyxia is MOST likely in this situation?

1. aspiration
2. dislocation
3. stenotic
4. + obturation
5. valve

33. A 5-year-old child came to the surgery room of the polyclinic with complaints of swelling in the lower jaw on the left. On external examination: asymmetry of the face due to edema of soft tissues in the lower jaw on the left, the skin is hyperemic. In the oral cavity: the 7.5 tooth is destroyed by 2/3, the mucous membrane around the tooth is hyperemic, edematous, palpation of the transitional fold in the area of ​​7.5, 7.4 teeth is painful, smoothed, the mobility of both teeth is grade 2, the symptom of fluctuation is positive.

Which of the following is the MOST likely late complication?

1. + underdevelopment of the lower jaw
2. bone resorption
3. lysis of the interdental septum
4. weight loss
5. persistent anemia

34. The parents of a 5-year-old girl turned to the polyclinic with complaints of swelling in the lower jaw on the left, body temperature - 38 ° C. Sick for 2 days.Objectively: facial asymmetry due to swelling of soft tissues in the lower jaw on the left. The skin is not tense. Regional lymph nodes are enlarged, the mouth opens freely. In the 7.5 tooth there is a large carious cavity, sharp soreness during its percussion. The transitional fold in the area of ​​tooth 75 is smoothed, the mucous membrane around the tooth is edematous, hyperemic, fluctuation is determined on palpation.

Which of the following is the MOST probable preliminary diagnosis?

1. odontogenic phlegmon of the submandibular space
2. acute odontogenic osteomyelitis of the lower jaw
3. + acute odontogenic periostitis of the lower jaw
4. phlegmon of the floor of the mouth
5. phlegmon of the buccal region

35. The parents of a 4-year-old boy turned to the polyclinic with complaints of swelling in the lower jaw on the left, body temperature 38 ° C. Sick for 2 days. Objectively: asymmetry of the face due to swelling of soft tissues in the lower jaw on the left. The skin is not tense. Regional lymph nodes are enlarged. In the 7.5 tooth there is a deep carious cavity, sharply painful on percussion. The mucous membrane around the tooth is edematous, hyperemic, the transitional fold is smoothed, fluctuation is determined on palpation.

With which of the following diseases is it MOST advisable to carry out differential diagnostics?

1. + acute odontogenic osteomyelitis
2. acute odontogenic phlegmon
3. hematogenous osteomyelitis
4. primary chronic periostitis
5. radicular cyst

36. The parents of an 8-year-old child turned to the children's clinic with complaints of swelling in the lower jaw on the left. Sick for 3 days, previously the tooth was left open, a periostomy was made, but the child's condition worsened. Objectively: body temperature 38.5 ° C. Facial asymmetry due to soft tissue edema in the lower jaw on the left. In the oral cavity: the transitional fold at the level of tooth 7.5 is smoothed, the mucous membrane is edematous, hyperemic, percussion is painful.

Which of the following is the MOST priority of treatment?

1. appointment of anti-inflammatory therapy
2. appointment of immunomodulators
3. sequestrectomy
4. + tooth extraction
5. physiotherapy

37. The parents of a 6-year-old girl turned to the polyclinic with complaints of swelling in the lower jaw on the left. Sick for 2 days, body temperature in the evening up to 38 ° C. Objectively: facial asymmetry due to swelling of soft tissues in the lower jaw on the left. Regional lymph nodes are enlarged. In the 7.5 tooth there is a large carious cavity, sharp soreness during its percussion. The transitional fold in the area of ​​tooth 7.5 is smoothed, the mucous membrane is edematous, hyperemic, fluctuation is determined on palpation.

Which of the following is the MOST priority treatment tactic?

1. appointment of anti-inflammatory therapy
2. creating an outflow through the tooth
3. + periostotomy
4. removal of a tooth
5. physiotherapy

38. A 16-year-old teenager applied to a polyclinic to sanitize the oral cavity. On examination: 1.6 tooth is half destroyed, discolored. The x-ray shows the expansion of the periodontal gap, rarefaction in the apical part of the tooth in the form of "tongues of flame".

Which of the following is the MOST appropriate tool to use in this clinical situation?

1. + s-shaped with a spike on the left
2. s-shaped with smooth cheeks
3. straight with converging cheeks
4. s-shaped with converging cheeks
5. straight with non-converging smooth cheeks

39. A 2.6-year-old teenager applied to a polyclinic for oral cavity sanitation. On examination: 2.6 tooth is half destroyed, discolored. The x-ray shows the expansion of the periodontal gap, rarefaction in the apical part of the tooth in the form of "tongues of flame".

Which of the following is the MOST appropriate tool to use in this clinical situation?

1. + s-shaped with a spike on the right
2. s-shaped with smooth cheeks
3. straight with converging cheeks
4. s-shaped with converging cheeks
5. straight with diverging smooth cheeks

40. A mother with an 8-year-old child turned to the surgical office to sanitize the oral cavity. In the oral cavity, the 7.5 tooth is half destroyed, painted pink. To remove the tooth, the doctor used an elevator, the removal was difficult.

What complication is MOST likely when using the elevator roughly during a tooth extraction operation?

1. secondary bleeding
2. fracture of the body of the lower jaw
3. neuritis of the mandibular nerve
4. + damage to the permanent tooth follicle
5. pushing the tooth root into the mandibular opening

41. In a 14-year-old patient, during the extraction of the roots of tooth 2.6 due to exacerbation of chronic periodontitis, the palatine root was pushed into the maxillary sinus. On the radiograph of the paranasal sinuses, the shadow of a foreign body is determined, in the area of ​​the maxillary sinus floor.

What is the MOST probable cause of this complication?

1. + rough work by the elevator
2. the presence of chronic sinusitis
3. presence of an inflammatory process
4. strong pressure on the lower jaw

42. A 14-year-old teenager sustained a severe head injury in a car accident. The general condition is serious. On examination, there is bleeding from the nose, mouth, ears, retraction of fragments of the upper jaw, malocclusion, a symptom of "steps" along the right lower orbital edge.

What is the MOST possible asphyxiation of the following?

1. + aspiration
2. dislocation
3. obstructive
4. stenotic
5. valve

43. A mother with a 10-year-old child came to the clinic with complaints of a cosmetic defect of the tongue, minor bleeding due to constant tears of the frenum of the tongue, profuse salivation during speech, aerophagia, snoring during sleep.

On examination: a short frenum of the tongue in the form of a thick, powerful, opaque cord attached close to the tip of the tongue. The mobility of the tongue is limited, when it is extended, its tip is tucked, the back rises in the form of a V, prognathia, gingivitis and periodontitis, exposure of the necks of the teeth, hyperesthesia of the anterior teeth on the lower jaw.

Which of the following research methods is the MOST advisable before surgery?

1. + complete blood count, time of its clotting
2. etermination of leukocyte blood count
3. bacteriological culture of feces
4. biochemical analysis of blood
5. analysis of urine

44. An 11-year-old girl came to the polyclinic with complaints of a delay in the eruption of the 12th tooth. On examination: In the oral cavity - late changeable bite. 52 tooth - 1st degree mobility.

 What auxiliary diagnostic methods are MOST appropriate for determining further treatment?

1. + orthopantomography
2. electrocardiogram
3. electroencephalography
4. fluorographic examination
5. x-ray of the lower jaw according to Schuller

45. A child came to the clinic with complaints of pain in the temporomandibular joint after an injury, restriction of opening the mouth.

Which of the additional research methods is the MOST informative?

1. ultrasound examination of temporomandibular joint
2. +CT TMJ in 3 dimensions
3. x-ray in lateral projection
4. x-ray of the TMJ in Parma packing
5. x-ray of temporomandibular joint joint in Schuller's packing

46. ​​A 9-year-old child was admitted to the clinic in a serious condition with a diffuse inflammatory process of one half of the face and head, which developed within one week from the start of treatment. 3.6 tooth for exacerbation of chronic periodontitis.

 Which infection is the MOST probable causative agent of the disease?

1. aerobic infection
2. intestinal infection
3. + anaerobic infection
4. yeast-like fungi
5. staphylococcal infection

47. A 13-year-old adolescent complained of painful swelling of the left cheek and high body temperature. Objectively: the body temperature is 37.50 s, the face is asymmetric due to the edema of the left buccal region, the skin is not changed in color, gathers in a fold, the mouth is opened in full. In the oral cavity, a painful infiltration is determined, in the area of ​​3.5, 3.6, 3.7 teeth from the vestibular side, the transitional fold is smoothed, the mucous membrane is edematous, hyperemic, the symptom of fluctuation is positive. 3.6 was previously treated for complicated caries, percussion is mildly painful.

Which of the following is the MOST likely diagnosis?

1. acute serous periostitis of the lower jaw on the left
2. + acute purulent periostitis of the lower jaw on the left
3. acute odontogenic osteomyelitis of the lower jaw on the left
4. radicular cyst of the lower jaw on the left in the area of ​​the 36 tooth
5. chronically ossifying periostitis of the lower jaw on the left

48. A child at the age of 8 months was admitted to the admission department of maxillofacial surgery with complaints of an increase in body temperature up to 38.5 ° C. The child is restless; on the lateral surface of the neck, a painful diffuse infiltrate is determined, the skin over it is hyperemic. Diagnosed with adenophlegmon of the lateral surface of the neck.

Which of the following methods of treating a patient MOST corresponds to the described clinical picture?

1. antibacterial and hyposensitizing therapy
2. + drain the purulent focus under general anesthesia
3. supervision and treatment by a pediatrician at the place of residence
4. physiotherapy and compresses
5. dry heat, oral irrigation

49. A child at the age of 8 months was admitted to the admission department of maxillofacial surgery with complaints of an increase in body temperature up to 38.5 ° C. The child is restless; on the lateral surface of the neck, a painful diffuse infiltrate is determined, from the edge of the lower jaw to the supraclavicular region, the skin above it is hyperemic, tense, shiny, the symptom of fluctuation is positive. From the anamnesis: a week ago, the child suffered from ARVI.

What is the MOST probable preliminary diagnosis?

1. odontogenic phlegmon of the submandibular region
2. + adenophlegmon of the lateral surface of the neck
3. lateral cyst of the neck
4. submandibular abscess
5. odontogenic purulent lymphadenitis

50. A mother with a baby for 8 days was taken to the emergency room with complaints of swelling in the parotid region, fever. Anamnesis: sick for 24 hours, the mother suffers from mastitis, the child is breastfeeding. Objectively: facial asymmetry due to swelling of soft tissues in the parotid region on both sides, the gland is compacted, painful, purulent discharge appears from the ducts of the salivary gland.

Which of the following is the MOST probable preliminary diagnosis?

1. parotitis
2. non-epidemic mumps
3. Herzenberg mumps
4. + mumps of newborn
5. viral sialoadenitis

51. A mother with a child for 10 days was taken to the emergency room with complaints of swelling in the parotid region, fever. History: sick for 24 hours, premature, breastfeeding. Objectively: facial asymmetry due to swelling of soft tissues in the parotid region on the right, the gland is compacted, painful, purulent discharge appears from the ducts of the salivary gland.

What is the MOST probable etiological factor of this disease from the following?

1. + mastitis
2. rickets
3. sepsis
4. anemia
5. prematurity

52. A 6.5-year-old child was admitted to the infectious diseases hospital with complaints of swelling of the parotid region on both sides, high temperature. On examination: an increase in the parotid salivary gland on both sides due to collateral inflammation around it, pushes the earlobe outward, squeezes and narrowing the external auditory canal, painful on palpation, the amount of saliva secreted is reduced, the orifice of the excretory duct is hyperemic.

Which of the following are the MOST effective interventions for prevention?

1. + immunization with live mumps vaccine
2. immunization with influenza vaccine
3. appointment of multivitamins
4. dousing with cold water
5. dispensary observation

53. A mother with a 9.5-year-old child came to the surgery with complaints of swelling of the parotid-masticatory region on the right. History: ARVI, pustular rash on the face a month ago. The swelling appeared for the first time. Objectively: on palpation, a dense, limited, with clear contours, painless formation, the skin is not changed in color. Freely transparent saliva is released from the right parotid duct.

Which of the following is the MOST initial treatment tactic in this clinical situation?

1. + warming compresses with camphor oil
2. rinsing the mouth with antiseptics
3. administration of corticosteroids
4. bougienage of the gland
5. surgery

54. A 7.5-year-old child was admitted to the maxillofacial department with complaints of pain in the left parotid region. According to his mother, he has been ill for a year, on his own

passed after applying compresses. Ob-but: asymmetry of the face due to edema of the soft tissues of the left parotid-masticatory region. The skin is unchanged in color. On palpation, a sharply painful, dense and lumpy infiltrate bordering the earlobe is determined. In the oral cavity: hyperemia and gaping of the mouth of the Stenon's duct on the left.

Which of the following is the MOST commonly used radiopaque contrast solution for sialography?

1. + urografin
2. verostafin
3. iodine
4. iodinol
5. astafin

55. A 12-year-old child turned to the clinic with complaints of swelling in the frontal part of the jaw. Two years ago, there was an injury to the upper front teeth. Locally: the crown of tooth 2.1 is intact, discolored. From the vestibular side, there is a bulging in the projection of the apex of the tooth root 2.1, painless on palpation. On the R-gram, in the area of ​​the roots of teeth 2.1, 2.2, a round-shaped defect of bone tissue with clear boundaries is determined.

Which of the following is the MOST probable preliminary diagnosis?

1. ameloblastoma of the upper jaw
2. cystic form of osteoblastoclastoma
3. fibrous dysplasia of the upper jaw
4. chronic periodontitis of teeth 2.1, 2.2
5. + odontogenic inflammatory cyst of the upper jaw

56. A mother with a 12-year-old child turned to the clinic with complaints of protrusion of the upper lip on the left. On examination: Tortoanamalia 2.2, 2.4 if there is space in the dentition. The crown 2.2 is destroyed by 2/3, the cavity of the tooth is opened, probing and percussion are painless. The mucous membrane of the gums is pale pink, the deformation of the alveolar process is determined in the area of ​​2.1, 2.2, 2.4 about 2 cm in diameter, the palpation is painless. A puncture was performed in the area of ​​deformation of the alveolar process: 1.5 ml was obtained. transparent opalescent liquid of straw color.

On the intraoral radiograph: in the area of ​​the alveolar process of the left upper jaw in the area of ​​the roots 2.1, 2.2, 2.4, a focus of destruction of bone tissue of rounded shape 1.4 cm in diameter with clear contours is determined, containing the crown of the 23 tooth primordium.

Which of the following is the MOST probable preliminary diagnosis?

1. + tooth cyst from 23 teeth.
2. radicular cyst from 23 tooth
3. paradental cyst from 23 tooth
4. residual cyst from 23 tooth
5. follicular cyst from 23 tooth

57. Parents of a 6-year-old child turned to a dental clinic with complaints of swelling of the lower jaw on the left. From the anamnesis: The swelling was noticed 3 months ago, slowly increased, did not bother. On examination: Defusion (asymmetry) of the face due to swelling of the lower third of the left buccal region. Above the swelling, the skin is not changed in color, gathers in a fold, palpation is painless. Opening the mouth is not limited. The transitional fold within 7.4, 7.5 is smoothed, the mucous membrane is unchanged, a dense, oval-shaped, smooth, painless protrusion of the bone is palpable. 7.5 is sealed, percussion is painless. Regional lymph nodes are not palpable.

Which of the following is the MOST probable preliminary diagnosis?

1. + radicular cyst
2. premordial cyst
3. follicular cyst
4. residual cyst
5. dermoid cyst

**TEST ANSWERS**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 4 | 13 | 1 | 25 | 1 | 37 | 3 | 49 | 2 |
| 2 | 1 | 14 | 3 | 26 | 2 | 38 | 1 | 50 | 4 |
| 3 | 1 | 15 | 2 | 27 | 3 | 39 | 1 | 51 | 1 |
| 4 | 5 | 16 | 2 | 28 | 2 | 40 | 4 | 52 | 1 |
| 5 | 1 | 17 | 1 | 29 | 1 | 41 | 1 | 53 | 1 |
| 6 | 5 | 18 | 4 | 30 | 3 | 42 | 1 | 54 | 1 |
| 7 | 3 | 19 | 2 | 31 | 2 | 43 | 1 | 55 | 5 |
| 8 | 1 | 20 | 1 | 32 | 4 | 44 | 1 | 56 | 1 |
| 9 | 1 | 21 | 1 | 33 | 1 | 45 | 2 | 57 | 1 |
| 10 | 3 | 22 | 1 | 34 | 3 | 46 | 3 |  |  |
| 11 | 2 | 23 | 5 | 35 | 1 | 47 | 2 |  |  |
| 12 | 4 | 24 | 5 | 36 | 4 | 48 | 2 |  |  |

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