

THE MINISTRY OF HEALTH OF UKRAINE  
THE HIGHER STATE EDUCATIONAL INSTITUTION OF UKRAINE  
"UKRAINIAN MEDICAL STOMATOLOGICAL ACADEMY"

Approved  
at the meeting of orthodontics department  
«\_\_\_\_»\_\_\_\_\_20\_\_\_\_y.  
protocol №\_\_\_\_by \_\_\_\_\_  
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**METHODICAL RECOMMENDATION**  
**for independent work of students during the preparation**  
**to practical lessons and on the lessons**

Academic discipline	Orthodontics
Module №1	Orthodontia. Diagnostic of dento-gnathic anomalies and deformations.
The theme of the lesson № 19	Methods of orthodontic patient's treatment. Indications for orthodontic treatment according to the age of patient.
Course	III
Faculty	Preparation of foreign students

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**1. The relevance of the topic.** Relevance of the topic due to know need of all methods of orthodontic treatment to ensure complete care for patients and a complete treatment plan. To prevent the development of malocclusions, and treatment of already formed anomalies are applied several methods of treatment in orthodontics: apparatus, biological, surgical, prosthetic, combined method of treatment that combines several methods.

**2. Specific objectives:**

To know methods that used for treatment of orthodontic patients;

To define the apparatus method of treatment;

To know the types of biological treatment;

To know the types of surgical treatments;

To know the types of prosthetic treatments;

To define the combined method of treatment.

**3. Basic knowledge's, abilities, skills necessary for studying the topic (interdisciplinary integration)**

Name of previous disciplines	Skills
1. Anatomy	Features of the facial bones structure. The structure of the TMJ in different age periods. Origin of maxillo-facial region, tongue, soft palate, pharynx and their function.
2. Normal physiology	Sequence of pulses in muscle contraction.
3. Diseases of the nervous	Innervations of muscles.
4. Medical psychology	Principles of information learning in childhood.
5. ENT disease	Diseases of upper respiratory tract (adenoid vegetation, curvature of the nasal septum ...)
6. Children's stomatology	Dental growth and development of the facial skeleton and muscles in the age aspect.
7. Physiotherapy	Physiotherapy methods used for the biological method.

**4. Tasks for independent work during preparation to the lesson and on the lesson**

4.1. A list of the main terms, parameters, characteristics that need to learn by the student during the preparation to the lesson:

Terms	Definition
1. The apparatus method of treatment	The providing method of malocclusions treatment by using special apparatus – orthodontic appliances.

2. The methods of orthodontic treatment	Apparatus, biological, surgical, prosthetic, combined.
3. The combined method of treatment	This method combines a combination of any of the above methods.

#### 4.2. Theoretical questions to the lesson:

1. The methods used for treatment of orthodontic patients;
2. Determination of apparatus treatment method;
3. Types of biological treatment method;
4. Types of surgical treatment method;
5. Types of prosthetic treatment method;
6. Determination of combined treatment method.

#### 4.3. Practical works (task) which are executed at the lesson:

1. To make a complex of myogymnastic exercises with using different biological methods according to the age of patient.
2. To indicate the surgical methods of treatment according to the age of patient and existing malocclusion.
3. To determine stages of dento-jaw region destruction in existing patient.
4. To indicate prosthetic appliances for deferent stages of dento-jaw region destruction.
5. To use the mixed methods of treatment according to the age of patient in existing patient.

### **The content of the topic:**

In orthodontic practice we apply biological (functional), appliance, surgical, orthopedic (prosthetic) and combined methods of malocclusions treatment.

Early diagnostics of malocclusions and their timely treatment prevent violations of bite and aesthetics of a face. In this connection it is necessary to apply the complex of the medical measures for patients of different age. They must include methods of treatment aimed at removal of the reasons of morphological, functional and aesthetic violations development as well as removal of violations. After defining of diagnosis we determine age-dependent indication or contra-indications to orthodontic treatment. At the same time have to decide, whether at the present time the patient has malocclusion or it is the state of compensation. And also we determine the prospects of further development of malocclusion with age and whether self-regulation of violation is possible, in what volume and how much time it will take. These data define indications or contraindications to the orthodontic treatment and its volume. When determining of age-dependent indications to treatment we should pay attention to the age as the index of maturity and its potential possibilities for further growth and forming of the dental system. One of the methods based on the possibility of self-regulation present or possible

violations is called biological. Its use is based on natural physiological forces of the body. Therefore this method is also called physiological method.

**Biological method** can be the only one at the beginning of orthodontic treatment at the age of 4-6 years (period of temporal teeth) with the purpose of prophylaxis and treatment of deformations, which are being formed. In the period of teeth changing (7-12 years) biological medical is used with the purpose of removal of the reasons of deformation development up to the moment of active orthodontic treatment or during the period of treatment. In some cases this method is appointed after the period of active orthodontic treatment, with the purpose of prevention of relapses development, if the appliances of mechanical action were used. In the period of permanent teeth this method is appointed with the purpose of acceleration of orthodontic treatment (vibration and ultrasonic massage), and also for training of muscles with the purpose of renewal of the lost functions.

The biological method of treatment includes the physiological loading, massage, gymnastics of mimic muscles, electro-stimulation, activation of bioactive points (acupuncture, laser therapy) and other.

The valuable physiological loading is recommended for normal development of masticatory vehicle (jaws and muscles). It is appointed to the children suffering from «laziness of mastication». Such children usually sit at the table for a long time, prefer soft food. The signs of temporal bite senescence are quite often absent (abrasion of masticatory surfaces and cutting edges of temporal teeth, appearance of physiological dieresis). Insufficiency of the functional loading results in the underdevelopment of dental arcs, which result of wrong location of teeth in the dental arc. For normalization of the mastication function and correct functioning of masticatory musculature and also development of jaws we recommend raw green vegetables and fruit, crusts of bread, introduction in the diet of a child hard food that requires mechanical force and certain efforts. All above-mentioned testifies to the advantages of the biological method of treatment in the prophylaxis and treatment of dento-facial anomalies and deformations.

**Appliance method** has the leading place among the orthodontic methods of treatment and is based on the purposeful redistribution of the functional and mechanical loading on teeth and other areas of jaw-facial region (pseudodont, alveolar process, jaw bones and TMJ).

Appliance treatment consists of two periods: period of active orthodontic treatment and retention period. In the first period of treatment the alteration of the dental system caused by activation of mechanically-operating elements or influence of functional elements takes place. Then it's time for the fixation of the achieved results in the retention period, the appliance operates passively.

The orthodontic treatment of dento-facial anomalies and deformations includes:

- Expansion of dental arcs,
- Narrowing of dental arcs,
- Stimulation or delay of growth of apical base,
- Delay of growth of all of jaw or separate area,

- Changes of position of the malpositioned teeth
- Changes of the lower jaw position (its dislocation distally, mesially or lateral).
- Correction of the bite vertically renewal of functions.
- Treatment of dento-facial anomalies and deformations of the bite is carried out by special devices – orthodontic appliance.

According to the principle of elements action divided:

- mechanical action;
- functionally-acting action,
- functionally-directing action,
- combined action.

In the appliances of mechanical action is used the action of the screws, bows, expansion springs, pushers (protracted springs), springs for the mesio-distal displacements, ligatures, hooks, beams, rods and other elements.

Functionally-acting orthodontic appliance create terms for normalization of the mouth cavity functions (mastication, swallowing, breathing, speech, closing of lips) and renewal of miodynamic balance in the maxilla-facial region. They also provide terms for normal growth and development of jaws, for normalizing of dental rows, for the change of bite feature, with the help of such elements as lip bumpers, check shields, loops. Besides mimic muscles develop force is passed through orthodontic appliance on the teeth that have to be removed, that is instrumental in the removal of anomalies and deformations of the bite.

By application of functionally-directing appliance there is force of muscles reduction, which is passed through frontal, lateral or inclined biting planes. Such appliances are instrumental in renewal of dento-facial system functions.

The force that acts on teeth that must be moved is called active force, and reaction force (return) – reactive. If these forces are distributed within the same jaw, the device is considered one-jaw. The design one-jaw appliance inclined plane, frontal or lateral biting planes and other functional-directing elements, which transmit active or the reactive force on the opposite jaw allows to consider them one-jaw devices to inter-jaw action. In the one-jaw devices, the active force acts in the same jaw, and inter-jaw – within the opposite jaw.

When applying extra-oral appliances, the active force acts on teeth that must be moved or lower jaw, and reactive – in the head, neck or body.

#### **Surgical methods include:**

1) plastic of shortened tongue frenulum; 2) moving the point of lips frenulum attachment (upper or lower); 3) plastic in the region of strands of mucosa and deepening of the oral cavity vestibulum; 4) alignment of supramental skin folds; 5) exposure of impacted tooth crown; 6) simultaneous rotation of a tooth along the axis; 7) replantation or transplantation of teeth; 8) extraction of teeth; 9) compactosteotomy; 10) surgical treatment for congenital malformations of the face and jaws.

The use of the combined method of treatment – surgical and apparatuses – allows you to apply greater force of orthodontic appliances action, treatment to accelerate and achieve sustainable results.

In addition to surgical interventions, are of secondary importance in the treatment of dento-alveolar anomalies and deformations applied following surgical interventions. They include: 1) surgery for congenital malformations of the face and jaws (heylo-, velo- and uranoplastic); 2) surgical treatment of traumas, inflammatory or oncological lesions in the maxillofacial region; 3) surgical treatment of the jaws size and position anomalies; 4) surgery for macroglossia.

Orthodontic treatment (methods, timing, sequence of event) need to plan together with the surgeon.

Plastic of the tongue shortened frenulum. The limitation of tongue as a result of frenulum shortening or attachment near the tip is often the cause of malocclusion. The limitation of language makes it difficult sucking movements of infants. The mother noted that during the sucking such children click tongue, tired quickly, not suck enough milk, acting restless. It makes some mothers resort to artificial feeding of the child. Lack of tongue mobility may impair swallowing and pronunciation of sounds. Under the influence of mechanical obstacles in the form of a tongue shortened frenulum during the speech occur atypical of his movement.

Moving the point of lip frenulum attachment. Low attachment of the frenulum of the upper lip considered to be one of the reasons for the occurrence of the diastema in the upper jaw and the shortening (hypoplasia) of the upper lip.

Alignment of supramentale skin folds. After the end of orthodontic treatment distal occlusion in adolescents, despite the achievement of proper occlusal contact between the dental arches, sometimes kept deep supramental fold. To normalize the shape of the lower face part, extension of the lower lip, improving her batting from the top doing plastic surgery in the front portion of the mandible alveolar process from the vestibule of the oral cavity.

Exposure of the impacted tooth crown. Impacted teeth – is located in the jaw after the normal deadlines eruption, in which the root formation is completed. Most impacted teeth are the central incisors, canines, second premolars and third molars, as well as supernumerary teeth. The diagnosis is based on clinical examination, confirmed by X-ray. The underlying impacted teeth can remain in the jaw for a long time. If they do not put pressure on the roots of adjacent teeth, not cause their resorption or displacement is not caused neuralgia pain, exposure of these teeth is not necessary.

Simultaneous rotation of a tooth along the axis. Simultaneously it is possible to turn single-rooted teeth, usually the upper incisors or cutting teeth that have not curved roots. Simultaneous rotation of a tooth along the axis is recommended in the presence of a place for him in the dentition, rotation of 40° and a more, correct position of the teeth-antagonists. Before the operation make the impression of the jaws, cast their models, cut out the misaligned tooth, place it in the correct position and reinforce with glue. Then prepare retention devices – often a removable plate

with a vestibular arch and clasps. After rotation of the tooth along the axis and set it in the tooth arc fitting the plate to the mouth.

The teeth extraction. Is applied as an independent method of malocclusion treatment, as well as in combination with other methods. The right choice of teeth for extraction to achieve the sustainable multiple contacts between the dental arches and to normalize the function of the dentition. Extraction of teeth in the early period of the mixed occlusion allows you to place the teeth in the dental arc in a shorter time, reduce the duration of the orthodontic appliances use for correcting the teeth position without damaging the periodontal tissue, and when indicated can be recommended for orthodontic practices.

Hotz method is used as an independent treatment method or in combination with appliances. This method should not be used in the treatment of fearful and undisciplined children. In such cases, the treatment can be postponed until the age of 10. During this period milk teeth and first milk molars fall out begin to erupt are the first premolars, which you can remove at this age, and thereby to accelerate the treatment. However, after removal of first premolars in the anomalous position of incisors and vertical anomalies of occlusion is shown the application of orthodontic appliances.

Compactosteotomy. To accelerate orthodontic treatment, as well as more effective and long lasting treatment results are shown pre-surgery – compactosteotomy. The principle of operation involves the removal of the compact layer of a certain length bone, which weakens the resistance of bone tissue to mechanical stress of orthodontic appliances. The essence compactosteotomy is the biological reaction of inflammation that occurs in bone tissue in response to injury. After this reaction is bone demineralization observed and reparative processes activation, facilitating the restructuring of tissues under influence of orthodontic appliances.

Surgical treatment for congenital malformations of the face and jaws. The treatment is most successful from the point of further development view the dentition, if there is continuity in the treatment of such patients with various specialists (surgeons, orthodontists, orthopedists, pediatricians, etc.). From the orthodontic point of view, the indications for plastic of the upper lip depend on the type of clefts and the location of the upper jaw fragments. In the clefts of the lips and alveolar process, through unilateral or bilateral cleft of the lip, alveolar process and palate without disturbing of the upper jaw fragments location child can be operated on after birth. In violation of the upper jaw fragments location appropriate to the age of three months to correct the shape of the upper jaw by the method of Mac-Neal, and then make cheiloplasty. Orthodontic correction of the upper jaw shape, especially in unilateral and bilateral congenital cleft of the lip, alveolar process and palate, eases cheiloplasty in connection with the normalization of the upper lip position. The installation in the correct position shifted forward inter-incisor bones before the age of three and consolidate the results of orthodontic treatment create the conditions for more effective implementation of uranoplasty. If orthodontic treatment was not carried out in time, after the age of 3 maxillary

bone shifted significantly forward due to the growth of the vomer, often rotated on the axis, which greatly complicates cheiloplasty. Under the pressure of the scarred upper lip after cheiloplasty growth direction and location inter-incisor bones changes. It shifted down and back. As a result of such violations dento-alveolar height increases, overbite deepens. Often the maxillary bone is displaced orally, which further causes improper eruption of the upper permanent frontal teeth.

Such violations are difficult at school age, can be prevented by timely provision of orthodontic care, the following cheiloplasty in childhood. Regarding age indications for plastic of palate from orthodontic point of view there is no consensus. The choice of the age period depends on the form of a cleft. In the case of soft, hard and soft palate cleft, shown veloplastic. In the case of cross-cutting single or double cleft of the lip, alveolar process and palate appropriate to apply a two-phase operation and orthodontic treatment aimed at stimulating of the upper jaw growth on the edges of the cleft by Mac-Neal.

**Indications for dental prosthetics during the period of temporary occlusion:**

- 1) violation of the crowns integrity due to aplasia and hypoplasia of the enamel of deciduous molars;
- 2) having a repeatedly sealed temporary molars with weakened walls, anatomical form which cannot be restored with fillings;
- 3) subtotal and total post-traumatic defects without opening the cavity of the tooth;
- 4) the development trend of dento-alveolar elongation and deformation of the occlusal plane;
- 5) erasure of hard tissues of temporary teeth when dysplasia Stanton-Capdepon;
- 6) mixed of temporary dentition for a year or more before the eruption;
- 7) the presence of defects of dentition with multiple edentulous;
- 8) the need to stimulate the process of temporary teeth eruption;
- 9) postoperative defects of dentition and jaws;
- 10) violation of the height of bite becoming process on the first and second stages of physiological growth due to early destruction and removal of temporary molars;
- 11) the presence of dental anomalies in combination with defects of dentition;
- 12) violation of the speech function and the presence of harmful habits (laying of the tongue in the defect);
- 13) a significant underdevelopment of the maxilla in congenital cleft of the lip and palate.

Indications for dental prosthetics in the period of the mixed occlusion:

- 1) violation of first permanent molars crown integrity due to enamel hypoplasia;
- 2) the repeated filling the first permanent molars with substantial loss of dental hard tissues, anatomical form which cannot be restored with a filling;

3) subtotal and total post-traumatic crowns of upper and lower incisors defects;

4) violation of the height of bite becoming process on the second stage of physiological growth due to early destruction and removal of first permanent molars;

5) the presence of dental anomalies in combination with defects of dentition;

6) pathological abrasion when dysplasia by Stanton-Capdepon;

7) multiple or complete adentia of temporary and permanent teeth;

8) single or multiple impacted permanent teeth in the alveolar bone;

9) reduction defects of dentition in a horizontal direction, and reduce inter-alveolar distance in the vertical direction;

10) defects of the dentition and the slow growth of the jaw or its individual sections;

11) the formation of the jaws and dentition defects after surgery for tumors.

Indications for dental prosthetics in adolescents with permanent dentition:

1) extensive destruction of crowns of teeth due to dental caries, enamel hypoplasia, fluorosis, pathological abrasion, cuneiform defects, anatomical shape and height of which cannot be restored by fillings;

2) aesthetic prosthetics in abnormal development of shape, color and sometimes the position of individual teeth;

3) congenital multiple adentia of permanent teeth;

4) the prosthesis with the aim of impacted teeth removing;

5) violations of the process of becoming of height of bite in the third stage of physiological growth due to early destruction and removal of the second permanent molars;

6) replacement of defects of dentition;

7) the replacement of jaw defects after surgery for tumors.

Caries and early extraction of deciduous molars in children violate the processes of growth and development of the dentition, which leads to secondary deformities, abnormal development of teeth, dental arches and jaws, a violation of the act of chewing and digestion, it is therefore necessary to ensure the integrity of these teeth until their physiological change.

Rational method that complements the range of activities undertaken in the treatment of deciduous teeth caries and permanent molars and its complications in children who observed a significant destruction of the hard tissues of the tooth and poor fixing of fillings, is the use of thin-walled stainless steel crowns section 140-150 microns. Before you start the prosthetics with the aim of restoring the disturbed physiological balance and normalization of height of bite becoming process, it is necessary to prepare the oral cavity of the child.

The children's mouth must be sanitized and it is unacceptable to keep focus of infection. In the mouth has to be only healthy and treated teeth. Teeth are not treatable, you need to extract. Deformation of the masticatory apparatus prevent by timely elimination of the defect, formed by laminar prosthesis.

Depending on the stage of the teeth and dentition destruction, as well as the period of the dentition formation for the restoration of anatomical tooth form is used different designs of retail: tabs, crown and pin teeth, fixed and removable prosthesis for replacement of dentition defects.

Indications for restoration of anatomic shape of deciduous teeth during formation and functioning of temporary occlusion occur 3 times more often than in the period of mixed dentition.

For the purpose of rational planning orthopedic care to children, the choice of prosthesis design in each case and to increase the effectiveness of orthopedic measures should take into account the nature of the damage, the etiological factors contributing to the formation of teeth and dentition defects, as well as the design of prostheses that are recommended for replacement of defects in different periods of the formation of the masticatory system in children.

**Materials for self-control:**

A. Tasks for self-control (tables, diagrams, drawings, graphs):

1. Write down the methods used to treat of orthodontic patients;
2. Write down the determination of apparatus treatment;
3. Write down the determination of biological treatment;
4. Write down the determination of surgical treatment;
5. Write down the determination of prosthetic treatment;
6. Write down the determination of combined.

B. Tasks for self-control:

1. For the correction of malocclusions in children of preschool age most often used:

- biological method
- combined method
- instrumental method
- prosthetic method
- surgical method

2. The purpose of the myogymnastics lesson introductory stage is:
  - training of body to increasing loads
  - performing to special exercises aimed at normalizing the functions of separate organs and systems
  - gradual relaxation of the body, reduced stress, normalization of respiratory function
  - using of maximum muscle tension
  - normalization of the swallowing and respiration functions

3. Disks by Fryel used for training:
  - orbicularis oris muscle
  - pharyngeal muscles
  - muscles of the tongue

muscle that elevate the lower jaw  
muscles that pushing the lower jaw forward

4. Activator by Dass used for training  
orbicularis oris muscle  
pharyngeal muscles  
muscles of the tongue  
muscle that elevate the lower jaw  
muscles that pushing the lower jaw forward

5. Purpose of the final corrective gymnastics lessons is:  
gradual relaxation of the body, reduce the load, normalization of respiratory function  
training the body to increasing loads  
performing of special exercises aimed at normalizing the functions of separate organs and systems  
using of maximum muscle tension  
normalization of the swallowing and respiration functions

6. Vacuum therapy is used:  
in the treatment of dental arches narrowing, for a favorable influence to stimulate a muscles tone  
to normalize of the tongue position in the oral cavity  
to restore swallowing function  
to stimulate blood flow

7. The appliances of mechanical action include:  
appliance on the upper jaw with vestibular arch and a screw  
appliance on the upper jaw with vestibular arch and an inclined plane  
appliance on the upper jaw with a screw and occlusal planes  
appliance on the upper jaw with springs and biting plane  
appliance on the lower jaw with a screw and bilateral occlusal planes

8. If necessary, separation of occlusion in lateral areas with preservation of the lower anterior teeth crowns height design of the appliance, you must make:  
frontal biting plane with imprints  
smooth occlusal planes  
inclined biting plane  
occlusal plane with prints on front teeth  
inclined plane

9. Frontal biting plane is designed for:  
increasing of pressure on the teeth and alveolar process in the anterior area  
and separation of occlusion in lateral areas

increasing of pressure on the teeth and alveolar process in the lateral areas  
and retardation of growth in the frontal area  
stimulating of jaws apical bases development in transversal direction  
delay of jaws apical bases development in transversal direction  
stimulating of jaws apical bases development in the sagittal direction

10. The buccal shields are used for:

stimulating of jaws apical bases development in transversal direction  
increasing of pressure on the teeth and alveolar process in the anterior area  
and separation of occlusion in lateral areas  
increase the pressure on the teeth and alveolar process in the lateral areas  
and separation of occlusion in the frontal area  
delay of the apical bases of the jaws development in transversal direction  
increasing of the pressure on the teeth and alveolar process in the sagittal  
plane

11. The distal displacement of the mandible in the treatment of prognathic  
occlusion by Frankel possible:

5 mm  
from 2 to 5 mm  
from 7 to 10 mm  
from 2 to 4 mm  
from 1 to 5 mm

12. Appliances with occlusal biting planes correcting the occlusion in:

vertical plane  
horizontal plane  
sagittal plane  
orbital plane  
no correct answer

13. In appliance by Brukl'-Reichenbach design is:

appliance for the lower jaw with inclined biting plane and vestibular arch  
appliance for the upper jaw with inclined biting plane and vestibular arch  
appliance on the upper and lower jaw  
frame-block designed appliance  
appliance for the upper jaw with occlusal biting plane

14. Orthodontic appliances that called monoblock designed for:

acting on both jaws  
acting on the upper jaw  
acting on the lower jaw  
acting on palatal suture  
acting on the threshold of the oral cavity

15. Orthodontic appliances designed Andersen-Haupple represents:  
base plates for the upper and lower jaws connected into a single appliance at the line of occlusion  
appliances with a vestibular arch, U-shaped pusher fan-shaped screw  
appliance on the lower jaw with vestibular arch, with a screw and an inclined plane  
appliance on the upper jaw with occlusal biting plane, loops by Rudolph and fan-shaped screw  
appliance on the lower jaw with occlusal biting plane and loops of Rudolph

16. The purpose of the crown by Katz is:  
treatment appliance  
preventive appliance  
retention appliance  
treatment and prevention  
diagnostic

17. Appliance by Korkhaus used for treat the following malocclusions:  
diastema  
vestibular position of teeth  
palatal position of teeth  
crowding  
oral position of teeth

18. The appliances by Pozdnyakova represents by following elements:  
crown on the canine and welded crown on the second premolar and the first molar with a ravine or hooks to the rod  
crowns on the canines with the ravine or hooks to the rod  
crowns on first permanent molars with a ravine or hooks to the rod  
crown on the canine and welded crown on the second premolar and the first premolar with a ravine or hooks to the rod  
crowns of the incisor and the first molar with a ravine or hooks to pull

19. The appliance for determining of the bracket location on the tooth is called:  
positioner  
simmetry  
caliper  
anthropometr  
rhinopneumometr

20. The indication for surgical correction of the tongue frenulum with a violation of lingual-palatal sounds pronunciation at the age use:

3-7 years  
up to 3 years  
7-9 years  
after 9 years  
in 2 years

21. Surgical correction of the upper lip frenulum is advantageously carried out at the age of:

6-8 years  
up to 1 year  
1-3 years  
3-6 years  
after 8 years

22. Absolutely indication for plastic of upper lip frenulum is:  
violation of the lips closing with free nasal breathing  
diastema  
the existence of anomalies of frenulum of the upper lip  
missing of central incisors  
multiple spacing

23. Abnormality of the lower lip frenulum attachment often:  
the local periodontitis  
to the defect of speech  
the flattening of the lower jaw frontal segment  
violation of the jaws relationship  
to the fan-shaped divergence of the teeth

24. Plastic of the oral cavity vestibule at the age use:  
7-9 years  
up to 3 years  
3-7 years  
9-12 years  
12-15 years

25. While what of these defects may need newborn emergency orthopedic care:

cleft of the palate  
malformation of the upper lip  
anomaly frenulum of the tongue  
cleft of the lip  
fistula on the lip

26. Direct indication for extraction of the supernumerary tooth is:

delayed eruption or dystopia of the complete tooth  
definition of availability by radiography  
the mismatch in the shape of supernumerary tooth crown to group affiliation  
the mismatch of degree of formation of the tooth the age of the child  
premature complete eruption of milk tooth

27. In which case, plastic surgery of the upper lip frenulum with compactosteotomy use:

when the diastema bigger than 2 mm and divergence of the roots  
always in the presence of diastema  
when expressed fibrous strands  
the diastemas in the upper and lower jaws  
in the early stage of the diastema formation

28. The most rational indication for plastic surgery of the oral cavity vestibule in children is:

the presence of gingivitis and small vestibule of the oral cavity  
a small vestibule of the oral cavity as a risk factor for pathology  
short frenulum of the lower lip  
presence of malocclusion  
at the children are not indicated

29. The indication for sequential extraction of teeth by Hotz is:

discrepancy between tooth size and jaw  
narrowing of the dentition  
shortening of the dentition  
true progeny  
presence of supernumerary teeth

30. Decisive in the determination of orthodontic indications for extraction of teeth is:

narrowing of apical basis  
magnitude of the space lack  
changing of the dentition shape  
degree of the dentition narrowing  
reduce of the anterior segment length

31. Removable dentures in the permanent dentition to be replaced:

2-3 years  
in 1-1,5 years  
after 6 months  
after 8-10 months  
each year

32. In the case of an early loss of the first temporary molar it is necessary to use:

- fixed prosthesis-maintainer
- complete removable dentures
- bridges
- partial removable dentures
- partial removable appliances

33. Sample preparation of temporary canines' cusps without malocclusion is:

- preventive method of treatment
- prosthetic method of treatment
- biological method of treatment
- combined methods of treatment
- apparatus method of treatment

34. Corrective myogymnastics refers to:

- biological method of treatment
- prosthetic method of treatment
- combined methods of treatment
- apparatus method of treatment
- surgical method of treatment

35. Prosthetics in childhood refers to:

- prosthetic method of treatment
- apparatus method of treatment
- biological method of treatment
- combined methods of treatment
- preventive method of treatment

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