

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

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METHODICAL RECOMMENDATION
for independent work of students during the preparation
to practical lessons and the lessons

Academic discipline	Orthodontics
Module №2	Anomalies and deformation of dento-jaw region
The theme of the lesson №12	Methods of treatment and prophylaxis of open bite.
Course	IV
Faculty	Preparation of foreign students

Poltava 2017

1. The relevance of the topic.

Open bite is a type of vertical malocclusion. Normally frontal teeth of upper jaw overlap the teeth of the lower no more than 1/3 of size of the tooth crown.

2. Specific objectives:

To explain basic principles of diagnosis and prevention of open bite;

To classify forms of open bite.

To explain features of treatment of different forms of open bite in a temporal, mixed and permanent bite.

To explain appliances which are used for treatment of different forms of open bite.

To determine degree of complication of morphological and functional violations at treatment of forms of open bite.

To explain features of treatment period of different forms of open bite.

To determine prognosis of treatment of open bite forms.

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

Name of previous disciplines	Skills
1. Anatomy	to define the period of development of the child, proportionality of parts of a body in the given period of development of the child.
2. Normal physiology	to describe the physiological act of a mastication, swallowing, speaking, breathing
3. Prophylaxis of stomatological diseases	to write down the tooth formula (clinical, anatomic, by WHO), determine bite period and dental age
4. Propedeutics of a therapeutic odontology	to define teeth according to the bite: temporary or constant occlusion

4. Tasks for independent work during preparation to the lesson and 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. Myo-functional balance	Equal force between muscles that surround the dental arch (m. buccinator and m. orbicularis oris from outside and tongue muscles – from internal side)
2. Supraocclusion of teeth	Position of teeth, when they are above the occlusion plane
3. Infraocclusion	Position of teeth, when they are below

	the occlusion plane
4. Height of the bite	Distance between the alveolar crests of upper and lower alveolar process that fixed with antagonist teeth
5. Occlusal biting plane	Should cover all the premolars and molars to prevent their over-eruption
6. Physiological occlusion height elevation.	There are singled out 4 stages of the physiological elevation of occlusion height: <ul style="list-style-type: none"> - the 1st on 2-2.5 years, eruption of milky molars; - the 2nd at 6 years, i.e. the time of 1st permanent molars eruption; - the 3rd – 12-13 years, eruption of canines and 2nd molars; - the 4th – 18-25 years, i.e. as a result of the eruption and regular articulation of the 3rd molars

4.2. Theoretical questions to the lesson:

1. What are of periods of the physiology getting up of height of bite?
2. What are the features of treatment of open bite in the milky bite?
3. What are the features of treatment of open bite in a mixed bite?
4. What are the features of treatment of open bite in a permanent bite?
5. Description of constructions of appliances which apply for treatment of different forms of open bite.
6. What for we use occlusal biting plane?
7. What surgical method we use for treatment of open bite?

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

1. To work on the modern stomatological equipment with the use of the proper tool.
2. To apply the rules of medical etiquette and during work with children and their parents.
3. To diagnose the different forms of open bite.
4. To make the plan of treatment of different forms of open bite.
5. To choose rational construction of appliances for treatment of different forms of open bite.
6. To choose rational construction of appliances.
7. To determine the prognosis of treatment of open bite forms.
8. To fill the current document of doctor.

The content of the topic:

The treatment of the open bite plans taking into account the age of the patient, the degree of the morphologic, aesthetic and functional disturbances with

others anomalies of the bite in transversal and sagittal planes, anomalies of the allocation of the single teeth and dentitions.

The treatment of the different forms of the open bite consist of:

- The elimination of the factors, which leads to development of the open bite;
- The stimulation of the growth or the increasing of the dento-alveolar height in the frontal part one or two jaws;
- The delay of the vertical growth or the dento-alveolar contraction in the lateral parts of the jaws;
- The rebuilding of the muscles' action and the function of the oral cavity;
- The decreasing of the tongue' size and the increasing of the volume of the oral cavity.

The treatment of malocclusions in vertical plane it is advisable in stages of physiological occlusion height elevation.

There are singled out 4 stages of the physiological elevation of occlusion height:

- the 1st falls on 2-2.5 years, i.e. the moment of all temporary teeth emption completion;
- the 2nd is marked at the age of 6 years, i.e. the time of 1st permanent molars emption;
- the 3rd – 12-13 years, after the complete replacement of temporary teeth with permanent, due to the vertical growth of the alveolar process, full value emption and regular reciprocal arrangement of other permanent molars;
- the 4th – 18-25 years, i.e. as a result of the emption and regular articulation of the 3rd molars; if they are absent, occlusion height elevation occurs at the expense of dento-alveolar lengthening. At all stages, as occlusion height increases dynamically the frontal overbite depth decreases, and dentitions correlation becomes orthognathic.

In the period **of milk occlusion** the main task of treatment is:

- pernicious habits elimination;
- normalization of tongue position in the quiescence and during functioning;
- obtaining nasal breathing, lips closure, regular swallowing and speech sounds pronunciation.

By indications the plastic surgery of the shortened tongue frenulum is conducted Kraus' vestibular plate.

Dento-gnathic functions are normalized by means of exercises with a logopedist and curative gymnastics. To break the child of the habit to suck fingers, lips, different objects, functional acting vestibular or vestibule-oral devices are used: individual Kraus' and standard Schonher's vestibular plates, and also domestic pre-orthodontic trainers. To break the child of the habit to suck tongue and swallow incorrectly, Kraus' vestibular plate is used.

The vestibule-oral plate is applied for the treatment of open bite in combination with posterior occlusion, developed because of tongue sucking or irregular swallowing. The plate is indicated for the treatment of posterior occlusion at the initial stage of its development.

In the process of treatment it is important to attend to the correct position of the patient's head during sleep (it cannot be thrown back); the orbicular muscle of mouth is to be trained with the help of curative gymnastics. Exercises with support are beneficial, including exercises with the vestibular plate, Dass' activator.

In the period of transitional dentition varieties of two-jaw functionally acting devices are used to normalize jaw growth and open bite treatment. They are particularly indicated in the final period of temporary occlusion and initial period of transitional dentition, i.e. at the age of 5.5-9 years.

Klamt's open activator is made taking into account the main variety of occlusion anomaly (distal or mesial). The tongue is pulled aside from the teeth with the help of wire loops, located in the region of the vertical fissure between the incisors.

Baiters' bionator of the 2nd type is intended for the treatment of open bite. This bionator differs from the basic one: there is a plastic shield in its anterior part, which pulls the tongue apex aside from the dental arches and hampers the pernicious habit of pressing frontal teeth with the tongue.

Muelleman's propulsor and Andresen-Haupl's activator and other functionally acting devices with occlusive side plates in the region of contacting teeth and without them are used in the process of treating distal open bite. These devices' action is expected to change the tone of the mastication muscles, and also

the muscles of the tongue, lips and cheeks, to normalize the position of the tongue and its functions.

Because of such tasks each of the mentioned devices has a support for the tongue in the anterior or (by indications) lateral part, i.e. in the part of disjoined teeth.

For the treatment of open bite the function regulator FR-4 (with occlusive side plates) is used, for the treatment of open bite in combination with posterior occlusion – FR-I and FR-II, for the treatment of mesial occlusion – FR-III.

If at open bite only the last (temporary) molars close, and the rest of

teeth are disjoined, at normal tongue size it is possible to regrind these teeth tubercles selectively. The earlier open bite orthodontic treatment is begun, the shorter the term and the more favorable prognosis are. In the period of temporary occlusion formation vertical jaw growth prevails, in which connection there are more possibilities for its normalization.

During the treatment of open bite, conditioned by dento-alveolar lengthening in the region of lateral teeth, vertical extra-oral pull bearing on the parietal part of the head and the lower part of the lower jaw body is used. With this purpose a hat and a chin sling are used.



Occlusion elevation on a device with occlusive side plates for the influence on the teeth and alveolar process in the lateral parts and extra-oral pull usage accelerate treatment.

Occlusal bite planes and tongue guard with vertical chin cup



Treatment – Skeletal Open Bites

▪ Growing patients

• High-pull Headgear on maxillary 1st molars



Posterior Bite Block
(impede lower molars extrusion)

In the initial period of transitional dentition the same treatment measures are resorted to as in the period of temporary occlusion. To eliminate the pernicious habit of laying the tongue between dental arches in the part of the defect and sucking it there is made a device for the upper jaw with wire supports for the tongue. Dento-alveolar lengthening is achieved with the help of removable devices with different springs, levers, vestibular or lingual arches for teeth transfer.

A removable one-jaw orthodontic device for the treatment of open bite has special actively influencing elastic wire elements in the form of vestibular arches or springs, and also lock elements on the transferred teeth. The latter are fixed to the teeth with the help of glue composite materials, also they may be welded or soldered to the rings on the transferred teeth. Hooks, tubes-grooves, Malyhin's fixing element may be used as lock elements. They may be applied on the upper or lower jaw, and by indications — on both simultaneously (Khoroshilkina).

Steel rings or plastic gum shields with lock elements are fixed on teeth with movable orthodontic appliance is introduced into the oral cavity, and vertically acting springs, previously activated, are introduced into the lock elements, in such a way exerting dosed pressure onto the transferred teeth and creating vertical pulling and drawing of the frontal teeth. The anterior part of the device, which is adjacent to the palate, is tightly pressed to it and significantly improves device fixation. The posterior part of the device promotes lateral teeth intrusion via occlusive side plates and clasps. The springs are periodically activated (unbent once in a fortnight).

Fixed appliances are also used in the treatment of open bite. For the transfer of the teeth of one jaw there may be used an extra-coronal vestibular arch, fixed in tubes, soldered or welded to the rings on the support temporary or 1st permanent molars. In the region of non-contacting teeth the arch is bent U-like. There are often fixed rings with hooks on the transferred teeth. Dento-gnathic lengthening is achieved with the help of rubber recoil.

At dento-alveolar shortening in the region of both upper and lower teeth fixed devices with interdental pull are used. With this purpose there are made rings on the teeth subject to transfer, soldering hooks, buttons and other appliances from their vestibular and oral side, or bracket system are used.

In the initial period of permanent occlusion the enumerated methods of treatment and appliances are used. With age dental arches narrowing at open bite increases, in which connection the first stage of treating it is dental arches dilation, especially of the upper one. For this purpose a dilating device with a screw and support for the tongue is used – to break the patient of the habit to lay the tongue between the dental arches.

Angle's devices and bracket system are used for dental arches dilation and dento-gnathic lengthening, which is achieved with the help of inter-maxillary rubber recoil. Every arch in Angle's device is bent in such a way that it is located by cutting edges. Then they are set at the level of the interdental gingival papillae apices and fixed to the transferred teeth with the help of lock appliances, ligature wire. At that, the elastic wire arches tend to take the initial position and transfer pulling to the teeth fixed with a head-chin strap and an extra-oral pull to them. By means of using Angle's apparatus it is possible to normalize individual teeth position, dilate or narrow the dental arches, correct open bite. Teeth are to be transferred gradually not to damage their periodontium and neurovascular fascicles, not to cause support teeth displacement.

With the purpose of alveolar shortening in the region of lateral teeth the action of Angle's apparatus is combined with extra-oral pulling.

At indications to dento-gnathic shortening in the region of lateral teeth and simultaneous lengthening in the region of upper frontal teeth Herbst-Kozhokaru's device is used. Also there are applied Johnson's devices, bracket system, including the one with inter-maxillary pulling.

The treatment is accelerated, might be more effective, and its results – more persistent if during orthodontic treatment different methods of orthodontic treatment stimulation are used.

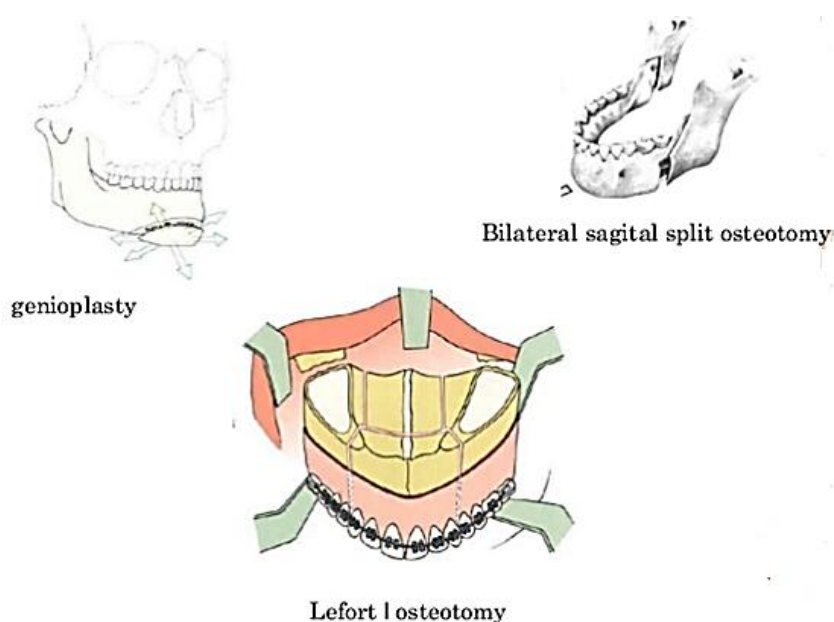
Open bite treatment, especially in teenagers and adults, must be complex including:

- 1)surgical procedures (plastic surgery of the shortened frenula of tongue, lips);
- 2)learning from a logopedist correct tongue articulation with surrounding tissues in the quiescence and during speaking;
- 3)resorting to curative gymnastics for the normalization of breathing and swallowing functions;
- 4) using intraoral orthodontic appliances with a rest for the tongue, devices

for dento-gnathic lengthening in the region of open bite and by indications – dento-gnathic shortening in the region of lateral teeth, applying vertical extra-oral pulling for the vertical transfer of teeth; prophylactic measures – restoration of the teeth crowns at their carious destruction, enamel hypoplasia and teeth replacement with prostheses after their

In some cases open bite in adults may be treated with the help of prosthetics. It is indicated at sufficient length of the upper lip, moderate size of the mandibular angles, and insignificant elongation of the lower part of face.

In patients older than 18 years, in cases when with the help of orthodontic and complex methods of treatment there is no possibility to eliminate open bite at the most evident dental arches deformation, it is eliminated by means of a surgical method. The method of surgical treatment is chosen, taking into consideration the place and deformation degree of jaw parts.



6 - Partial Glossectomy in patients with *true macroglossia* or increased tongue size .



Orthodontic treatment duration depends on the degree of open bite manifestation, the period of its formation, variety, possibility of eliminating functional disorders, the degree of orthodontic treatment complexity.

In the period of temporary occlusion the complex treatment of the dento-alveolar form of open bite is the most effective if patients begin using orthodontic appliances in the period of 1st permanent molars coming out.

In the period of permanent occlusion with the purpose of eliminating dental arches and jaws deformations there are applied methods of orthodontic treatment stimulation, which considerably accelerates treatment and constant results obtaining.

The prognosis of treating the dento-alveolar form of open bite is more favorable than of the gnathic form. The result also depends on the age of treatment beginning. If functional disorders are not completely eliminated in the process of orthodontic and complex treatment, anomaly recurrence may appear. The prognosis of treating the gnathic form of open bite depends on the degree of its manifestation and jaws deformation. At considerable increase of the basal angle (40° and more) and macroglossia esthetic prognosis of treatment is unfavorable.

The duration of retention period partially depends on the treatment method. After correcting occlusion with functionally acting devices (vestibular plate, Muelleman's propulsor, Andresen-Haupl's activator, Klamt's open activator, Baiters' bionator, Frankel's function regulator, etc.) there is no need in the elimination of retention apparatus functional disorders. After the usage of mechanically acting devices with one-jaw or inter-maxillary pull retention period equals the period of treatment or more than 6-8 months on average. The patient must gradually get out of the habit of using dento-alveolar traction and use the pull only during sleep.

The following errors might take place during open bite treatment:

1. During open bite elimination in the anterior part of dental arches attention is paid to dento-alveolar lengthening in this part, without diagnosing dento-alveolar lengthening in the region of the upper lateral teeth. If no measures are taken concerning dento-alveolar shortening in the region of upper molars, after obtaining contacts between frontal teeth the face form remains disturbed. A smile exposes not only crowns of teeth, but also alveolar processes, which disharmonizes facial features.

2. Applying big force during teeth transfer may cause teeth painfulness, loosening, crowns color change as a result of hemorrhages in the pulp.

Teeth traction is erroneous if they are densely located. Preliminary the dental arches must be dilated, or dense teeth location is to be eliminated by means of extracting some of them.

Materials for self-control:

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

1. To draw in albums dento-alveolar forms of cross bite.
2. To draw in albums the Spee curve in open bite.
3. To draw in albums appliances for treatment of dento-alveolar forms of open bite.
4. To draw in albums appliances for treatment of skeletal forms of open bit

B. Tasks for self-control:

1. A 12-year-old female patient was diagnosed with open bite and dentoalveolar elongation of lateral part of mandible. What construction of appliance is required?

- a) upper jaw appliance with occlusal biting plane
- b) extraoral face bow
- c) Angle's sliding face bow
- d) Herbst appliance
- e) upper jaw appliance with a face bow

2. A 3-year-old child's parents turned to a doctor complaining of vertical gap between the central incisors, during speaking a tongue is placed between the tooth rows, swallowing is a symptom of "lemon peel". What preventive measures should be to avoid progression of disease?

- a) plastic frenulum of the tongue
- b) appointment of appliance treatment
- c) plastic frenulum of the upper lip
- d) miogymnastic, sessions with a speech therapist
- e) miogymnastic

3. What appliance is used in treatment of open bite caused by habit of tongue sucking?

- a) vestibular - oral shield
- b) Dass' activator
- c) labial equilibrator
- d) vestibular shield
- e) spatula horn

4. What appliances are used to treat open bite in the period of permanent occlusion?

- a) bracket system
- b) a device on the upper jaw with an inclined plane in the frontal part
- c) Bruckl's device
- d) preorthodontic trainer
- e) Andresen-Houpl's device

5. Parents of 8-year-old child come to a hospital with complaints of aesthetic defect. Objectively: smoothed nasolabial and chin folds, lips not closed in the quiescence (elongated lower part of face). During the intraoral examination you can see vertical gap between teeth and dental arches closure which appeared as a result of pernicious habits of sucking fingers and tongue. What appliances would you to wean a child bad habits?

- a) preorthodontic trainer
- b) RF- I
- c) Angel's alliances
- d) bracket system

- e) appliances with Rudolph loops

6. Parents of 8 year-old girl complains of spaces between the frontal teeth. Clinically: vertical gap between the dental arches, caused by bad habits. What is your recommendation?

- a) myogymnastics, bad habits elimination
- b) no treatment is required
- c) instrument treatment
- d) surgical treatment
- e) not to eat hard food

7. A 5-year-old boy complaints of deformation of the face. During extraoral examination was revealed smoothing of the nasolabial and a chin folds, closing of lips with stress. Type of swallowing - infantile. What are your recommendation in this case?

- a) normalization of function and use individual Kraus appliances
- b) Andersen- Houpl
- c) Balters alliances
- d) FR I
- e) FR II

8. 5 year-old girl complaints of the aesthetic defect. During intraoral examination was revealed the open bite. What type of the myogymnastics exercises is recommended for the treatment of open bite at this age?

- a) for orbicular muscle of the mouth
- b) for muscle of chin
- c) only for chewing muscles
- d) for zygotic muscle
- e) for the tongue muscle

9. Parents of an 8-year-old child complain of the child's irregular frontal teeth position, vertical gap between them, complicated bite of food and swallowing. To treat the pathology one can recommend?

- a) FR VI
- b) FR II
- c) FR III
- d) FR IV
- e) FR I

10. For treatment of open bite in the period of the temporary bite are used orthodontic appliances?

- a) vestibular-oral shield
- b) headgear
- c) occipital pull chin cup
- d) appliance with biting plane

- e) partial removable apparatus

11. What appliance should be used for the treatment of open bite in 6-year-old child in the presence of symptom of "lemon peel"?

- a) Krause appliance
- b) Frankel II appliance
- c) Frankel type I appliance
- d) Frankel type IV appliance
- e) Frankel type III appliance

12. What devices are not used in the temporary occlusion for the treatment of open bite?

- a) Katz guide crowns
- b) vestibular-oral shield of Krause
- c) open Klamt activator
- d) appliance with Rudolf loops
- e) Shonher vestibular plate

13. What appliance can be used for elimination of bad habit of tongue biting?

- a) appliance with Rudolph loops
- b) Dass activator
- c) appliance with screw
- d) vestibular shield
- e) Mulleman propulsor

14. When should start treatment of open bite?

- a) with detection of malocclusion
- b) in the first half of the mixed occlusion
- c) during the period of temporary occlusion
- d) permanent dentition period
- e) in the second half of the mixed occlusion

15. Which appliance is not used for the treatment of open bite?

- a) Ainsword appliance
- b) vestibular-oral shield
- c) appliance with loops Rudolph
- d) Klamt open activator
- e) Andresen appliance

16. For open bite treatment in the permanent dentition period can be used?

- a) compactosteotomy
- b) myogymnastics
- c) plastic of lip frenulum
- d) speech therapy treatment

- e) plastic frenulum of the tongue

17. The use of apparatus effective for the treatment of open bite in the stage of eruption of first permanent molars

- a) dental cap for milk molars
- b) Mulleman propulsor
- c) appliance with loops of Rudolph
- d) vestibular shield
- e) frontal biting plate by Katz

18. Appliance for treatment of open bite consists of?

- a) occlusal biting plane
- b) flat frontal biting plane
- c) inclined plane in the frontal portion
- d) inclined plane in the lateral region
- e) screw or Coffin spring

19. Loop Rudolph used to treat?

- a) frontal tongue thrusting
- b) cross bite
- c) anomalous position of individual teeth
- d) distal occlusion
- e) deep bite

20. What is the direction of pull for chin cup is used for treatment of open bite?

- a) vertical
- b) horizontal
- c) oblique
- d) side
- e) sagittal

21. Patient N., 12 years. The diagnose-open bite, dento-alveolar elongation of the lateral area of the mandible. Select the required design of the appliance for the treatment?

- a) appliance on the upper jaw with occlusal biting plane
- b) external facial bow
- c) sliding arc by Angle
- d) Herbst appliance
- e) appliance on the upper jaw with facial bow

22. Patient M., 9 years during prophylactic examination revealed: in the anterior teeth are not in contact, the presence of the vertical gap up to 2 mm, correct ratio of milky molars. Is defined bad habit – sucking tongue. What appliance should be used in this case?

- a) appliance for the upper jaw with loops Rudolph
- b) appliance on the lower jaw with the screw
- c) vestibular shield
- d) appliance on the upper jaw with the inclined plane
- e) appliance for the upper jaw with a screw

23. The parents of the 8 year old boy turned to the orthodontist with complaints of the child's bad habits sucking tongue. Objectively: the lower part of the face is elongated, there is a symptom of "thimble", the mixed bite, between the front teeth noted a vertical gap- 5 mm, a short tongue frenulum, during speech the tip of tongue is located between the teeth. Formed open bite. What should be the tactics of the doctor for patient's management?

- a) plastic of frenulum of the tongue, correction of open bite, speech articulation, swallowing function
- b) correction of open bite, normalization of swallowing
- c) grinding of cusps of deciduous teeth
- d) normalization of swallowing function, speech
- e) refer to a speech therapist, plastic frenulum of the tongue

24. Vestibular-oral shield is used to treat?

- a) open bite with presence of bad habits of tongue sucking
- b) cross bite
- c) rachitic open bite
- d) palatal location of the incisors
- e) deep bite

25. Which of the following devices is used for the treatment of distal open bite?

- a) Mulleman propulsor
- b) Ainsworth appliance
- c) plate with loops Rudolph
- d) plate on the upper jaw with a screw
- e) vestibular-oral shield

26. A contraindication to orthodontic treatment of open bite are?

- a) inflammation in the TMJ
- b) diastema
- c) secondary adentia
- d) crowding
- e) diseases of the periodontal tissues

27. For the treatment of open bite the appliance consists of?

- a) occlusal flat biting plates
- b) occlusal biting plates with teeth prints
- c) an inclined plane

- d) vestibular arches
- e) flat biting plane in the frontal region

28. Open bite treatment is most effective during the following periods?

- a) the eruption of the first permanent molars, canines and second permanent molars
- b) the eruption of deciduous incisors
- c) eruption of permanent incisors
- d) eruption of temporary canines
- e) the period of stable temporary occlusion

29. For a consultation with the orthodontist asked parents of the patient K., 5 years old with complaints about the lack of occlusion in the anterior. Long time use of nipples. Determined harmful habit - sucking tongue. Infantile type of swallowing. During the inspection of the oral cavity: the period of temporary occlusion between molars have trema, diastema in both jaws, presence of a vertical gap between the incisors and the canines to 5 mm. Diagnosis: traumatic open bite. Select the most optimal orthodontic appliance?

- a) appliance with a focus for tongue
- b) appliance with inclined plane
- c) appliance for the upper jaw with occlusal pads in the posterior teeth
- d) cap and crowns with hooks for vertical thrust
- e) appliance for the upper jaw with a Kofin spring

30. Which appliance is necessary to prescribe for patient with disorder of breathing for M. Orbicularis oris exercise?

- a) Dass activator
- b) Kuznetsov` applicator
- c) Mulleman propulsor
- d) Bynin cap
- e) Hinz appliance

31. The orthodontic appliance consists of the following structural elements: a vestibular shield, ring. The device is intended for struggle with bad habits of mouth breathing, sucking nipples, fingers, lips, cheeks, foreign objects, biting the lips, cheeks, foreign objects. What is the orthodontic appliances?

- a) Hinz appliance
- b) Jaw expander
- c) vestibulooral shield
- d) Bynin cap
- e) Frankle appliance

32. The parents of 9-year-old boy went to the doctor orthodontist with complaints on unclear pronunciation of sounds. The clinical examination: the face narrow, elongated, her mouth open, lips are dry. Defines a wide nasal bridge,

narrow nostrils, fixed wings of the nose. The child is on the account at the ENT. The oral type of breathing. Bite is mixed. There is no contact in the anterior area from canine to canine, the vertical gap 5 mm. The ENT doctor found adenoids 3 degrees. What clinical decision should be taken?

- a) removal of adenoid vegetation with subsequent orthodontic treatment
- b) treatment in the ENT doctor
- c) treatment of the speech therapist
- d) fabrication of tongue shield
- e) chin cap

33. Determine a method of treatment of open bite in a temporary occlusion?

- a) myogymnastics, instrumental method, with combination of myogymnastics with orthodontic appliance
- b) instrumental-surgical, myogymnastics, prosthetic
- c) instrumental and instrumentation-surgical, prosthetic
- d) instrumental, prosthetic, myogymnastics
- e) combination of myogymnastics with orthodontic appliance, surgical, prosthetic

34. The indications for the use of the vestibular plate for myotherapy in children with temporary occlusion is?

- a) lips incompetence
- b) absence of teeth contact in the anterior area
- c) narrowing of the dentition
- d) vestibular inclination of the teeth
- e) oral inclination of the teeth

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