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"UKRAINIAN MEDICAL STOMATOLOGICAL ACADEMY"

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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 №2	Anomalies and deformation of dento-jaw region.
The theme of the lesson № 9	Vertical malloclussions. Deep bite. Etiology, pathogenesis, prophylaxis. Clinical presentation and diagnostics of deep bite.
Course	IV
Faculty	Preparation of foreign students

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1. The relevance of the topic. Deep bite refers to common malocclusions. Treating it effectively carried out during physiological lifting height of occlusion. Treatment at other times is quite complex and lengthy. Therefore, knowledge of the factors that lead to a development of deep bite, its pathogenesis, and features of diagnostics, clinics, treatment and prevention are important in preparation of dentist-orthodontist.

2. Specific objectives:

To determine the causes those leads or contribute to the deep bite development;
 To know the advantages and disadvantages of deep malocclusion different classification;
 Classification of deep malocclusion' forms according to different classifications, their advantages and disadvantages;
 Diagnosing the various forms of deep bite;
 To make an etiological part of diagnosis for the deep malocclusion.

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

Name of previous disciplines	Skills
1. Anatomy	To determine the period of the child development, the proportionality of body parts during this period of child development. To determine the places of muscles attachment, their functions, degree of functional disorders.
2. Roentgenology	Based on the lateral cephalometric analysis to determine the form of deep occlusion.

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. Vertical plane	The vertical plane is parallel to the plane of the forehead and in this plane describe the pattern of closure of the cutting ages along the vertical contact, the depth of the teeth overlap or lack of contact.
2. Deep occlusion	Deep bite is characterized by a deeper covering of the cutting ages. The overlap of the upper incisors to the lower 1/2 of the height of the crown is considered a normal variant. However, if there is pathological abrasion of the teeth and developing TMJ dysfunction is an indication for early orthodontic treatment.

3. X-ray forms of malocclusion	Gnathic, dento-alveolar, mixed forms.
4. Proportion of the face	Shortening, lengthening or constant size of the lower face part.

4.2. Theoretical questions to the lesson:

1. Guidelines of malocclusion describing in a vertical plane.
2. The definition of "deep forms of the bite".
3. Factors contributing to the development of deep bite various forms.
4. What various forms of deep bite do you know?
5. What facial features of deep bite do you know?
6. What intraoral features of deep bite do you know?
7. What X-ray forms of deep bite do you know?
8. What X-ray features of deep bite do you know?

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

1. To make a diagnosis of the deep bite according to different classification;
2. To make an etiological part of diagnosis for the deep malocclusion;
3. To make a clinical examination of patients with deep bite;
4. To determine the etiological factor of deep occlusion formation;
5. To describe a pathogenesis of deep occlusion formation;
6. To make a clinical examination of patients with deep bite;
7. To describe an intraoral features of patients with deep bite;
8. To decode an X-ray of patients with deep bite;
9. To make a final diagnosis for patients with deep bite.

The content of the topic:

Deep bite is referred to vertical occlusion anomalies. Its frequency comprises from 20 to 38%. Deep bite is characterized by different terms: "traumatic occlusion", "deep frontal or incisors overbite".

The term "descending occlusion" reflects a dynamic progressive process, at which the incisors of one jaw lose support on the dental tubercles of the teeth-antagonists and glide to the gingival margin.

The term "traumatic occlusion" testifies to the fact that the frontal teeth of one jaw at dental arches closure bear against the mucous tunic of the gums or alveolar process of the opposite side.

Deep bite is such a form of closure, at which the cutting edges of the lower frontal teeth are settled on the clivus of the dental tubercles of similar teeth. If the lower frontal teeth get over the tuberculum dentale of the upper teeth, deep bite forms.

Deep bite is the initial form of pathological occlusion formation.

According to Angle's classification, deep bite is referred to the 1st class –

"deviation from the norm in the frontal part while jaws location is in mesiodistal harmony".

According to Betelrnan's occlusions classification deep bite is a pathological occlusion belonging to vertical anomalies.

A.Y. Katz includes deep bite to the 1st group – the deformation is localized in the frontal part, "functional pathology declares itself by considerable predominance of articulation movements of the lower jaw, insufficiency of all mastication muscles".

Deep bite may be viewed as supraocclusion of the frontal teeth and infraocclusion of the lateral teeth (according to Betelrnan's classification of individual teeth position anomalies and Angle's classification of individual teeth position anomalies).

Covering occlusion may be of two types:

- 1) narrow – with vestibular location of the 2nd upper incisors;
- 2) wide – with regular location of the upper frontal teeth in the dental arch, but with different inclination in the lingual direction.

D.A. Kalvelis viewed deep bite as: - covering (opisthognathic); - combined with prognathism (roof-shaped). F.Y. Khoroshilkina divides deep bite into three degrees of deep overbite, which are detected by the height of the central incisors crowns:

- the 1st – from 1/3 to 2/3 of their height;
- the 2nd – from 2/3 to 3/3;
- the 3rd – more than crowns height.

Besides, the author evaluates the three degrees of deep overbite in millimeters:

- the 1st – less than 5 mm;
- the 2nd – from 6 to 9 mm;
- the 3rd – more than 9 mm.

L.V. Ilyina-Markosian singles out:

- A. deep bite without lower jaw displacement;
- B. deep bite with lower jaw displacement;
- C. combined type.

In group A, in its turn, there are differentiated general deep bite and frontal deep overbite. General deep overbite is characterized by dento-gnathic lengthening in the anterior part of both jaws. There is dento-gnathic shortening in the region of lateral teeth. Frontal deep overbite differs from general deep overbite by the absence of changes in the region of lateral teeth.

According to the WHO classification deep bite is referred to dental arches correlation anomalies:

- A) excessive overbite;
- B) excessive covering occlusion.

Golovko N.V. with splat. proposed working scheme for clinical forms of deep bite:

- 1 form – dento-alveolar elongation in the anterior maxilla part;

- 2 form – dento-alveolar elongation in the anterior mandible part;
- 3 form – dento-alveolar elongation in the anterior upper and lower jaws;
- 4 form – dento-alveolar shortening in the lateral parts of jaws;
- 5 form – dento-alveolar elongation in the anterior maxilla in combination with dento-alveolar shortened in the lateral portions;
- 6 form – dento-alveolar elongation in the anterior mandible in combination with dento-alveolar shortening in the lateral portions;
- 7 form – dento-alveolar lengthening in the frontal portion of both jaws, in combination with dento-alveolar shortening in the lateral portions.

Thus, deep bite is such a dental arches correlation in the frontal parts of the upper and lower jaws, at which the upper central incisors cover the lower ones by more than 1/3 of the tooth crown at the absence of cutting-tubercular contact.

Deep bite formation is conditioned by:

- heredity;
- different prenatal pathologies (toxicosis of pregnancy, injuries, infectious diseases during pregnancy, avitaminosis, etc.);
- infancy diseases;
- incorrect artificial feeding, which leads to the predominance of the muscles amplifying the lower jaw over the muscles protruding the lower jaw;
- considerable break in the terms of upper and lower incisors coming out;
- inter-maxillary bones overgrowth;
- carious or no carious affection of the lateral teeth hard tissues, including their inhomogeneous wearing out;
- premature loss of temporary molars, 1st permanent molars or 2nd lateral teeth;
- pernicious habits – sucking and biting fingers, different objects provoke frontal teeth deviation, violation of proximal contacts and contacts with opposing teeth, which leads to the decrease of occlusion height, 1st permanent molars establishment at irregular occlusion level and alveolar processes underdevelopment in the lateral parts. Violation of contacts between frontal teeth conditions dento-gnathic lengthening in this part;
- changes of the frontal teeth location, their support loss, which causes dento-gnathic lengthening;
- the same results may be caused by one dental arch enlargement at the presence of a supplemental tooth, diastems, temporary retained molars, at individual macrodontia or dental arch decrease at retention or adentia of individual teeth (more often of the 2nd premolars), microdontia on one jaw, violation of the sequence of upper and lower teeth transitional dentition or the terms of permanent teeth eruption.

Vertical alveolar processes growth violation causes other pathologic occlusions (mesial, distal, cross), which complicate deep overbite and lead to a combined pathology.

Deep bite clinical presentation depends on its combination with distal or mesial occlusion, cross bite, dental arches anomalies, and individual teeth

anomalies.

Facial signs may be in the form of supramental sulcus deepening, lower lip thickening and concomitant violations, characteristic of distal or mesial occlusion.

In the oral cavity there are observed changes in the form of the increase of the upper frontal teeth covering the lower ones by more than 1/3 at the absence of cutting-tubercular contact, dental arches flattening, the alveolar processes in the region of frontal teeth are high and overgrown, and in the lateral – low. At most evident violations (deep traumatic overbite) the lower frontal teeth bear with their cutting edges against the hard palate mucosa, repeating its form; sometimes the upper frontal teeth injure small interdental gingival papillae from the vestibular side of lower teeth and promote their desquamation.

At posterior occlusion, combined with upper frontal teeth protrusion, lower incisors not infrequently injure the mucous tunic of the palate, more rarely they do not touch it. At posterior occlusion, combined with upper frontal teeth retrusion, the dental arches are usually shortened; deep overbite at such a violation is called blocking, hampering lower jaw growth. Lower jaw protrusion becomes limited, which shows on the mastication muscles function.

At mesial occlusion and inverse overbite the dental arches form depends on the development degree of jaws basis and alveolar processes, teeth location, lower jaw displacement. Overbite depth also depends on the value of the basal and gonial angles.

Functional violations at deep bite declare themselves in the decrease of mastication efficacy, frontal teeth periodontal overload, and not infrequently – mucous tunic injuring, which promotes appearance and development of periodontal diseases. Mouth breathing, irregular swallowing and speech disturbance promote dental arches narrowing, upper teeth location strengthening and overbite deepening. At deep occlusion there is observed high tongue position, which causes palatine vault enlargement (roof-shaped deep overbite). Inter-occlusal space between the frontal and lateral teeth at the lower jaw being in quiescence (especially at bruxism in adults) is absent; in some cases at most evident Spee's curve the distance between the dental arches in quiescence reaches 9 mm (average norm is 2 mm), which testifies to considerable violation of the mastication muscles function.

F.Y. Khoroshilkina and L.P. Zubkova noted: if at a narrow face the total width of upper incisors crowns makes more than 33 mm, it may be the reason for upper dental arch oval increase and overbite deepening.

N.H. Snahina and co-authors analyzed the data of studying jaw models of 100 patients with marginal periodontal diseases, most of whom had deep overbite. The authors found out that the dental arches width in the region of the 1st upper premolars was less by 3,99 mm on average, lower – by 3,85 mm, in the region of the 1st upper permanent molars – by 4,77 mm, lower – by 3,93 mm. At incisors retrusion the length of the anterior part of the upper dental arch was less by 2,36 mm on average, lower – by 2,94 mm. In all the patients there was found the narrowing of upper dental arch apical basis by 4,61 mm on average, lower – by

4,87 mm.

Lower dental arch and its apical basis narrowing in patients with deep overbite should be taken into account when planning treatment. It is not sufficient to find out the dental arches width and their anterior parts length at deep overbite. The data of Bjork, Schwarz, and Van der Linden concerning mesial dislocation of the lateral teeth during life prove the importance of measuring their sagittal dimensions. This promotes dental arches length decrease, may hamper the obtaining of constant results of treating deep overbite, influence the location of frontal teeth and dental arches form.

F.Y. Khoroshilkina noted that the center of the incisor papilla practically does not change its position in the process of upper jaw growth; therefore it may be used for the study of frontal and lateral teeth position in the sagittal direction. There was not found such a stable reference point in the region of the lower dental arch.

To diagnose deep bite varieties there is studied the crown width of the upper and lower incisors and their age location (correct position, protrusion, retrusion), the evidence of the upper incisors dental tubercles, contacts between the frontal teeth, bilateral correlation of the canine teeth and 1st permanent molars in the sagittal direction at the dental arches, closed in normal occlusion, early destruction or loss of temporary and permanent lateral teeth, diminution or mesial inclination of the upper and lower teeth to the place of destroyed or extracted ones, the evidence of morphological and functional disorders by the method of Zibert-Malyhin and complications of eliminating them with the help of Malyhin-Bilyi's method.

To diagnose deep bite one must measure and take into account:

1. the mesiodistal dimensions of the crowns of upper (SI) and lower (Si) incisors, their total;
2. the correspondence of the totals of the mesiodistal dimensions of the upper and lower incisors crowns by Tonn's index (1.35 mm);
3. the overbite depth;
4. the size of the sagittal fissure between the upper and lower central incisors;
5. the length of the anterior part of dental arches by Korkhaus;
6. dental arches width by Pont (with Lider and Harth's corrections).

The diagnose is put on the basis of clinical examination, the study of diagnostic models of jaws and measuring them, anthropometric study of face photographs of face and in profile, and also of lateral cephalometric of head (according to Schwarz, at deep overbite there is observed basal angle decrease, MT1 plane position is almost horizontal, the decrease of jaw height in the region of incisors and increase in the region of molars, vertical position of the upper incisors crowns, deep glenoid fossa of the TMJ), the evaluation of orthopantomographic jaws investigation data.

Facial signs of deep bite depends on its combination with sagittal anomalies of the bite, severity of pathology and age of the patient. They can manifest as:

1. Shortening of the lower face part.
2. The deepening of the lip-chin fold.
3. Eversion of lower lip.
4. Change the size of the angle of the mandible.

Inside the mouth symptoms are characterized by the following:

1. The increase in the cutting ages depth overlapping (stage 1 – from 1/3 to 2/3 of the height of crowns of the lower incisors, to 5 mm; stage 2 – from 2/3 to full coverage, from 6 to 9 mm; stage 3 – overlapping of more than the height of the crown of the lower incisor is 9 mm).
2. The retrusion of the frontal teeth.
3. In the presence of retrusion may be a shortening of the dental arches and, accordingly, crowding of the frontal teeth.
4. The changing shape of the occlusal plane in the frontal lengthening and shortening in the lateral portions.
5. The ratio first permanent molars can be neutral, distal (most common) and mesial.

When dento-alveolar form of a deep bite occurs:

- 1) front upper teeth with the protrusion of the alveolar process;
- 2) the rear location of the lower dentition with retrusion of alveolar bone;
- 3) the rear position of the upper and lower front teeth.

Gnathic form is frequently observed in the distal ratio dentitions, and is usually associated with a decrease in the mandibular angle and the front of the upper jaw. Symptoms of this form the following:

- 1) the basal angle is reduced;
- 2) the lower contour of the mandibular body is nearly horizontal;
- 3) the chin protrudes forward considerably, due to a decrease of the basal angle and angles of lower jaw;
- 4) the height of the jaws in the region of the cutters is increased and the area of lateral teeth reduced;
- 5) the upper incisors are upright, their crowns are below the occlusal and is dominated by the nomination of the lower jaw;
- 6) depression TMJ usually deep with a steep slope of the articular tubercle.

Gnathic form of deep occlusion is often combined with dento-alveolar form.

Materials for self-control:

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

1. To draw the types of deep occlusion.
2. To draw the types of deep occlusion according to different classifications.
3. To decode an X-ray of patients with deep bite.

B. Tasks for self-control:

1. Deep bite is pathology in a plane:

vertical

sagittal

horizontal

transversal

Frankfurt'

2. By Angle' classification deep bite referred to this class:

II-2

I

II-1

III

III-1

3. How many forms of deep bite are there in Kalvelis' classification?

two forms of deep bite

one form of a deep bite

three forms of deep bite

four forms of deep bite

five forms of deep bite

4. What kinds of deep bite are distinguished in Kalvelis' classification?

covering deep and roof-shaped

deep distal and neutral

deep mesial and neutral

deep incisive overlap

deep incisive overlap and neutral

5. According to WHO classification deep bite is referred to:

anomalies of the dental arches correlation

anomalies of jaw size

anomalies in the jaws location relative to the plane of the skull base

anomalies of the teeth

anomalies of the teeth size

6. What differs are between deep bite and deep incisal overlap:

absence of edge to cusp incisor contact

presence of edge to cusp incisor contact

the presence of sagittal gap

depth of incisal overlap

the presence of vertical gap

7. In a deep bite relation of frontal teeth is as follows:

depth of incisal overlap more than $\frac{1}{3}$ of the lower incisors crown
vertical gap of different sizes
the presence of sagittal gap of various sizes
reverse incisal overlap
depth of incisal overlap on $\frac{1}{3}$ of the lower incisors crown

8. The reason of deep bite development is:
heredity, early removal of temporary or permanent molars, reduction of the
mandibular branch, increasing of temporal muscles tone
early removal of temporary or permanent molars
reduction of the mandibular branch
increasing of temporal muscles tone
heredity

9. The degree of deep incisal overlap is determined by:
in millimeters or in relation to the dimension of the lower incisors crowns overlap
in millimeters or in relation to the size of upper incisors crowns
in millimeters, or in relation to the height of the canines
in millimeters, or in relation to the height of the first permanent molars
in millimeters, or in relation to the height of the second permanent molars

10. The first degree of deep incisal overlap corresponds to:
overlap from $\frac{1}{3}$ to $\frac{2}{3}$ the height of the lower incisors crown
overlap from $\frac{2}{3}$ to $\frac{3}{3}$ the height of the lower incisors crown
overlap from $\frac{1}{3}$ to $\frac{1}{2}$ height of lower incisors crown
overlap from $\frac{1}{4}$ to $\frac{2}{3}$ the height of lower incisors crowns
there is no correct answer

11. The second degree of deep incisal overlap corresponds to:
overlap from $\frac{2}{3}$ to $\frac{3}{3}$ the height of the lower incisors crown
overlap from $\frac{1}{3}$ to $\frac{2}{3}$ the height of the lower incisors crown
overlap from $\frac{1}{2}$ to $\frac{2}{3}$ the height of the lower incisors crown
overlap by more than $\frac{1}{3}$ the height of the lower incisors crown
there is no correct answer

12. The third degree of deep incisal overlap corresponds to:
overlap by more than $\frac{3}{3}$ the height of the lower incisors crown
overlap from $\frac{2}{3}$ to $\frac{3}{3}$ the height of the lower incisors crown
overlap from $\frac{1}{3}$ to $\frac{2}{3}$ the height of the lower incisors crown
overlap from $\frac{1}{2}$ to $\frac{2}{3}$ the height of the lower incisors crown
overlap from $\frac{2}{3}$ to $\frac{3}{4}$ the height of the lower incisors crown

13. I degree of deep incisal overlap in millimeters is:
up to 5 mm

from 6 to 7 mm
from 7 to 9 mm
more than 9 mm
there is no correct answer

14. II degree of deep incisal overlap is:
from 6 to 9 mm
from 7 to 9 mm
up to 5 mm
more than 9 mm
there is no correct answer

15. Third degree of deep incisal overlap is:
more than 9 mm
up to 5 mm
from 7 to 9 mm
from 6 to 7 mm
from 6 to 8 mm

16. 1 st physiological bite height lift due to:
eruption of temporary molars
eruption of temporary incisors
eruption of temporary canines
eruption of temporary incisors and canines
eruption of temporary incisors, 2-nd molars and canines

17. II physiological bite height lift due to:
eruption of the first permanent molars
eruption of permanent second molars
eruption third permanent molars
eruption of first and second permanent molars
premolars eruption

18. III physiological bite height lift due to:
eruption of permanent second molars and canines
eruption of the first permanent molars
first premolars eruption
eruption of the third permanent molars
second premolars eruption

19. IV physiological bite height lift due to:
eruption of permanent third molars
eruption of the first permanent molars
first premolars eruption

eruption of the second permanent molars
second premolars eruption

20. A deep bite can be caused by such morphological features:
dento-alveolar elongation in frontal areas or dento-alveolar shortening in lateral areas of jaws
dento-alveolar shortening in the frontal areas of the upper jaws
dento-alveolar elongation in the lateral areas of the jaws
dento-alveolar shortening in the frontal areas and dento-alveolar elongation in the lateral areas of the jaws
dento-alveolar shortening in the frontal areas of the lower jaws

21. Facial features of different forms of deep bite are due to:
shortening of the lower face part, deepening labial-chin folds, shortening of the mandibular branch, protruding lower lip
deepening labial-chin folds
shortening of the mandibular branch
protruding lower lip
shortening of the lower face part

22. In a deep neutral occlusion intraoral symptoms are characterized by:
flattening of the dental arches of upper and lower jaws, crowded anterior teeth
varying degrees, deep incisal overlap, the right balance of first permanent molars
crowded anterior teeth varying degrees
deep incisal overlap
the right balance of first permanent molars
flattening of the dental arches of upper and lower jaws

23. In a deep prognathic distal occlusion intraoral symptoms are characterized by:
same name cusp contact on the first permanent molars, deep incisal overlap, protrusion of upper incisors, retrusion of lower incisors
deep incisal overlap
protrusion of upper incisors
retrusion of lower incisors
same name cusp contact on the first permanent molars

24. The final diagnosis of deep bite is determined on the data basis: clinical examination, biometric models of the jaws, lateral cephalometric, anthropogenic and photometry
biometric models of the jaws
lateral cephalometric
anthropogenic and photometry
clinical examination

25. Deep bite has the following muscle signs:
predominantly vertical movement of the mandible, abnormal lateral movements of the mandible
predominantly sagittal movement of the mandible, abnormal lateral movements of the mandible
predominantly transversal movement of the mandible, abnormal sagittal movements of the lower jaw
predominantly horizontal movement of the mandible
there is no correct answer

26. Deep bite often leads to the following complications:
TMJ and periodontal disease in the lower anterior teeth
development of caries and its complications
periodontal disease in the lateral parts of the jaws and TMJ arthritis
TMJ dysfunction and gum recession on the upper jaw in the frontal area
TMJ and periodontal disease in the upper anterior teeth

27. To determine the diagnosis of deep bite is necessary to determine such biometric data:
the dental arches width in the premolars and molars areas, the length of the anterior segment of the dental arch of jaws, sizes' sum of upper and lower incisors and their proportionality, parameters of the apical base
the length of the anterior segment of the dental arch of jaws
sum of upper and lower incisors sizes and their proportionality
parameters of the apical base
the dental arches width in the premolars and molars areas

28. According to the Betelman classification distinguish the following types of deep bite:
deep bite with undevelopment of muscle that impose mandible to forward
distal deep, neutral and blocking
the deep mesial, neutral and overlapping
deep overlapping
deep frontal, lateral and neutral

29. Analysis of a 10-year-old boy's jaw models revealed that occlusal plane of the frontal maxillary teeth was of concave form, its lateral parts were convex. Form of the alveolar process also represents deformation of dental arches. The upper jaw is of saddle-like form with abrupt narrowing in the region of premolar teeth. What type of bite is it?
deep
distal
open

mesial
cross

30. External examination of a 9-year-old boy revealed strongly expressed nasolabial and labio-mental folds, a shortening of the lower third of face. Examination of the oral cavity revealed late transitional dentition, the upper front teeth completely overbite the lower teeth, the palate exhibits imprints of the lower incisors. What is the most likely diagnosis?

supraocclusion
dento-alveolar maxillary lengthening
distal occlusion
dento-alveolar mandibular lengthening
mesial occlusion

31. Preventive examination of a 6-year-old child revealed temporary teeth bite. Upper and lower dental arches are trapeziformed. Upper incisors overlap lower incisors more than by 2/3. Incisors and second molars are in the same relation. There is no space between frontal teeth. Upper dental arch is bigger than lower dental arch by the cheek tubercle size. Bite abnormality is observed in the following planes:

sagittal and vertical
sagittal and lateral
sagittal and occlusal
sagittal and nasal
sagittal and Frankfurt

32. A 12-year-old patient complains about an aesthetic defect. Objectively: the lower third of face is shortened, upper frontal teeth overbite the lower teeth by 3/3 of height, exhibit oral inclination, lateral parts all along exhibit cusp-to-cusp relationship between the antagonists; Angle's class II malocclusion (joining of the upper permanent molars) is also present. Malocclusion is observed in the following planes:

in sagittal and vertical
in transversal
in transversal and vertical
in vertical
in sagittal

33. A child is 11 years old. Examination of the oral cavity revealed that the front maxillary teeth completely overlap the mandibular ones. Lateral teeth in the sagittal and transversal planes have a normal contact. The child has been diagnosed with a deep overbite. This abnormality is typically accompanied by the dysfunction of:

chewing, biting

breathing, swallowing
swallowing, biting
biting, breathing
speech, chewing

34. Parents of an 8-year-old child have made an appointment with an orthodontist. There are complaints of their child having traumas of oral mucosa. Objectively: decreased height of the face lower part, everted lower lip, deep labio-mental furrow, milk occlusion. The upper incisors fully cover the lower ones; cutting surface of the lower incisors make contact with the anterior third of the palate. Make the diagnosis according to the Kalvelis classification.

deep covering traumatic overbite
deep incisor overbite
deep neutral occlusion
deep prognathic (roof-shaped) occlusion
deep distal occlusion

35. Parents of an 8-year-old girl are concerned that she is chewing food too slowly. Objectively: it is a period of transitional dentition. The first permanent molars have neutral relationship; sagittal fissure is 2 mm wide. The upper frontal teeth cover the lower ones by 2/3. Name the pathology.

deepening of incisor overbite
widening of the sagittal fissure
tooth-alveolar lengthening of the front teeth
tooth-alveolar shortening of the lateral teeth
decrease of the lower face height

Literature

Main:

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