

DISTAL BITE IN CHILDREN: RELEVANCE OF THE PROBLEM, CAUSES, DIAGNOSIS AND TREATMENT

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The relevance of the problem

Distal bite, or malocclusion of the jaws with the upper jaw protruding forward, is one of the most common anomalies of the dental system in children. According to epidemiological studies, this pathology occurs in 15-30% of the child population. Distal bite not only affects the aesthetic appearance of the child's face, but can also cause functional disorders, such as difficulty chewing, speech impairment, and breathing problems. The importance of early diagnosis and timely treatment is due to the possibility of preventing complications and forming a correct bite.

Causes of development of distal bite

The etiology of distal occlusion is multifactorial and includes:

1. Genetic factors :

- Hereditary predisposition to jaw growth anomalies.
- Genetically determined size and shape of dental arches.

2. Anatomical features :

- Hypoplasia (underdevelopment) of the lower jaw.
- Hyperplasia of the maxilla.
- Shortening of the lower facial height.

3. Functional factors :

- Thumb sucking habit, prolonged use of a pacifier.
- Incorrect position of the tongue during swallowing.
- Mouth breathing associated with chronic diseases of the ENT organs (eg, adenoids).

4. Environmental and behavioral factors :

- Improper nutrition leading to insufficient chewing load.
- Lack of early control over the dental system.

Diagnostics of distal bite

1. Clinical examination :

- Evaluation of facial symmetry, severity of nasolabial folds, profile.
- Determination of the nature of the closure of teeth in a state of central occlusion.

2. Instrumental methods :

- Panoramic X-ray (orthopantomogram) to assess the position of the teeth.

o Teleradiography of the head (TRG) for analysis of the position of the jaws relative to the base of the skull.

o 3D scanning and modeling of the dental system.

3. Functional diagnostics :

o Analysis of the functions of chewing, swallowing and breathing.

o Evaluation of the tone of the masticatory muscles and the symmetry of their work.

Methods of treating distal occlusion

Treatment of distal bite depends on the age of the child, the severity of the anomaly and the reason for its development.

Treatment at an early age (3-6 years):

1. Functional devices :

o Trainers (eg Myobrace) for gentle correction of teeth position and stimulation of correct jaw growth.

o Plate devices with functional elements for eliminating habits and normalizing occlusion.

2. Correction of bad habits :

o Teaching correct swallowing technique.

o Formation of nasal breathing through the elimination of ENT pathologies .

Treatment for ages 7–12:

1. Removable orthodontic appliances :

o Plates with active elements.

o Functional devices such as monoblocks, Frenkel device.

2. Fixed systems :

o Use of arch structures to stimulate the growth of the lower jaw.

Adolescence and young adulthood (12–18 years):

1. Braces systems :

o Elimination of dental and skeletal anomalies.

o Combination of braces with elastic bands to correct jaw alignment.

2. Surgical treatment :

o In complex cases, orthognathic intervention may be possible to change the position of the jaws.

Prevention. Regular check-ups with a dentist and orthodontist starting at 2–3 years of age.

1. Controlling bad habits (thumb sucking, putting tongue between teeth).

2. Proper nutrition that provides sufficient chewing load.

3. Elimination of ENT diseases that contribute to mouth breathing.

Conclusion. Distal bite in children is a pathology that requires early detection and comprehensive treatment. Regular visits to the dentist, the use of modern diagnostic technologies and an individual approach to treatment allow us to effectively cope with this problem and ensure the harmonious development of the child's dental system.