

Modern Understanding of the Occurrence of Dental Deformities in Patients of Different Ages

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Relevance. One of the risk factors for the spread of dental deformities in patients of different ages is the improper development of the muscles of the maxillofacial region, as well as one of the pathologies of early childhood. Retention apparatus is used to prevent relapses and maintain results after orthodontic treatment of dental deformities in patients of different ages. It is necessary to maintain the intercuspal height between the jaws, to control the vertical blockade of the incisors, that is, to carry out actions against the main pathogenetic mechanisms of the development of incisor pathologies. A common method of fixing the result of orthodontic treatment of vertical incisor blockage after treatment during a permanent bite is the joint use of non-removable flex-retainers and dental plates to control vertical incisor blockage, ensuring the preservation of a new state of teeth in the dentition.

The strategy of orthodontic treatment of dental deformities and the choice of orthodontic devices in patients of different ages depends on the etiological and pathogenetic components of pathologies of a particular dental apparatus. In addition, the correct selection of an orthodontic device depends on the condition of the patient's oral cavity (gastrointestinal tract), the capabilities of the orthodontic laboratory and the professional abilities of the orthodontist.

The exchange is carried out during the bite with the help of orthodontic devices that are purchased and not used in orthodontic treatment. The removable orthodontic device has a variable effect and is characterized by a stage of a calm state of the jaws, which appears regularly, causing not a complete movement of the teeth, but an oblique-circular movement, which often leads to the absence of the desired effect of treatment or a rapid relapse. According to the research work of Domenyuk, Karslieva and Nigmatova, these devices are large, take up a lot of space in the dentition, worsen diction, can cause allergic reactions to plastic and, affecting the mental state of the child, require cooperation with a doctor and parents [1.3.5].

Modern fixed orthodontic devices affect the teeth due to weak constant efforts, causing both oblique rotation and movement of the body of the teeth, which is one of the effective methods of treatment, leading to a faster and more stable result.

Indications for the use of orthodontic devices at the stage of orthodontic treatment of dental deformities:

- distal occlusion (subclasses 1 and 2;
- congestion of the reverse incision (dysocclusion) – The form of the dentofacial joint in mesial congestion;
- premature removal of temporary teeth, the presence of extra teeth, incorrect position of



individual teeth as a result of injury;

- Grade II anomalies at an angle when permanent teeth removal is not planned.

Necessary conditions to be observed when using orthodontic devices during orthodontic treatment of dental deformities

- ✓ the age of the patient ranges from 7 to 9 years, that is, when the 4 upper permanent teeth and the first molars erupt; this age is optimal for early treatment with solid orthodontic devices;
- ✓ formation of 2/3 of the root length when the incisor reaches a sufficient length of the clinical crown and the bracket can be fixed;
- ✓ healthy tooth enamel;
- ✓ compliance with the rules of oral hygiene by the patient;
- ✓ adequate cooperation between the child and his parents.

Orthodontic treatment of dental deformities advantages of using an orthodontic device:

- accelerated movement of teeth;
- the use of constant weak efforts when moving teeth.

Disadvantages of using an orthodontic device in the orthodontic treatment of dental deformities:

- the risk of enamel demineralization due to its insufficient mineralization at this age.

Thus, most orthodontists conditionally distinguish 2 stages of orthodontic treatment:

1. early treatment,
2. correction of malocclusion anomalies during the period of permanent occlusion.

At the first stage of orthodontic treatment of dental deformities, most dental disorders are corrected, leading to serious complications if they are not treated with appropriate treatment methods. Phase 2 of treatment includes the final and detailed correction of the bite [2.4.6].

Patients need to install orthodontic devices. At the same time, with the practical use of braces, patients note limitations in the movements of the lower jaw, which makes it difficult to chew, which, in turn, leads to a decrease in the choice of food consumed.

Complications identified after orthodontic treatment in children, according to various literature sources, reach 50%, with an average duration of treatment from 1 to 2.5 years [8].

Various indicators were proposed for an objective assessment of the need for orthodontic treatment of dental deformities, a differentiated approach to classification and treatment, as well as planning preventive measures depending on the occurrence of a dental anomaly. The most commonly used index of dental aesthetics is the dei (Dental aesthetic index), the DUI treatment priority index (treatment priority index), the level of complexity of dental anomalies, treatment results and the mnei index of assessment of the need for orthodontic care (index of complexity, result and need). The Orthodontic Treatment Needs Index (ODEI) is widely used, it combines dental and aesthetic components and allows you to quickly determine the presence and severity of dental anomalies during a clinical examination of a patient.

The main goal of any treatment is to achieve the maximum effect of treatment and improve the quality of life of the patient, to study his individual characteristics.

The program of medical and socio-psychological rehabilitation of children with disabilities since childhood shows the need for a comprehensive solution to the problems of children with disabilities, creating conditions for their full life. This causes a negative reaction not only from parents, but also from people around them. Thus, the treatment of children with dental deformities goes beyond the medical problem and also has a social aspect. Only if there is a comprehensive rehabilitation program, it is possible to complete social adaptation.



Comprehensive treatment of children with dental deformities is necessary from the moment of birth and lasts up to 17 years and older. The optimal result of treatment can be obtained in the presence of highly qualified specialists in the management of the dispensary (facial surgeon, orthodontist, pediatrician, otolaryngologist, speech therapist, ophthalmologist, neuropsychiatrist, geneticist, psychologist).

An important stage in the treatment of children with dental deformities are preoperative procedures of early orthodontic treatment, which help to normalize the process of nursing and feeding newborns, limiting the development of secondary changes and deformities.

It is important to use early orthodontic methods of treatment in the complex treatment of children with dental deformities. Specialists in the treatment of pathology in children often use their tablets. When eliminating diastasis between the alveolar processes, modified forming devices are used to correct the anomaly of the arches of the upper jaw.

The author noted three forms, including the size of the interosseous bone and the relative location of the fragments of the alveolar process of the upper jaw: oval shape (pronounced narrowing of the protrusion of the lower jaw and lateral fragments), round shape (interosseous process in the central position), round shape of the alveolar process of the lower jaw. the interosseous process is displaced in the transverse plane [9.11.13.15]

For each patient with diseases of the teeth and jaws, an individual examination plan is drawn up to choose the optimal treatment method.

Early orthodontic treatment creates conditions for surgical removal of the maxillary anomaly, normalizes the condition of the soft tissues of the upper lip after surgery, and also prevents secondary deformation of the wings and the tip of the nose. Early orthodontic correction of patients in the preoperative period facilitates the work of the surgeon, shortens the operation time, and also reduces the risk of failure after surgery. Early orthodontic correction of the upper jaw in patients with dental disorders allows timely operations to eliminate the cleft lip and palate, as well as timely normalize dental, speech and chewing movements. Examination of patients who did not undergo orthodontic correction in time will reveal incorrect teeth, speech disorders and chewing. Karnitsky et al. in combination with drugs for surgical treatment, it allows to normalize the feeding process, correct the sucking reflex [16].

To prevent the development of secondary deformities, Kolerov's specialists and others recommend adjusting the proportions of the jaws in advance of the operation. It also prevents the development of secondary deformities that develop during growth and require long-term multi-stage complex treatment to eliminate them [12].

A comprehensive system of treatment of children with dental diseases requires multi-stage interdisciplinary interaction of specialists. Medical care is provided by a group of specialists: maxillofacial doctors, orthopedic dentists, orthodontists, orthopedic dentists are required to be under the supervision of specialists of the relevant specialties (pediatrician, pediatric cardiologist, otolaryngologist, geneticist).

The use of information about the child's body weight when using removable orthodontic devices, the localization of the anomaly, the degree of protrusion of bone fragments in 3 planes. Specialists choose the type of device according to the type of anomaly and the physiological data of the child, and it is located on the front panel of the device. It has been proven that this guarantees the return of fragments to their normal state and stimulates their development. At the first stage of treatment, nutrition, chewing condition are normalized and secondary deformities are prevented. After uranoplasty, removable plate devices (Frenkel apparatus), Persin apparatus, Andresen-Goypl apparatus, etc.) and Postnikov apparatus, edgewise technique, etc. are used. The orthodontic stage of treatment of children with dental-jaw anomalies lasts for a long time, begins with the manufacture of lamellar instruments and ends with the use of stationary equipment. Optimal aesthetic and functional results are provided by early orthopedic treatment and serve as a criterion



of its effectiveness. This helps to reduce the crack of the palate by 1.5 - 2 times, the crack becomes a rupture defect, which reduces the severity of subsequent surgical interventions. Many researchers believe that the coordinator of this work should be the face - jaw, and the treatment is carried out by an orthodontist. For a long time, the practice of manufacturing a "floating" kezh obturator dominated the treatment of congenital cleft palate in local orthopedic practice. It was a plate that was firmly attached to the lower part of the hard palate and nasal cavity and covered the defect. Also, the use of a floating obturator does not eliminate the defect, but only closes it, and the work of the muscles of the soft palate is not normalized. When the muscles of the soft palate contract, the closure increases. The base of the obturator, made of plastic, irritates the edges of the crack, can cause chronic inflammation on the mucous membrane [10.14.16].

Scientific studies have shown that the McNeil method is often mentioned, which, according to Shvekendik, is recommended for use in children with penetrating unilateral or bilateral cracks in combination with two-stage surgical intervention. According to the McNeil method, the purpose of orthodontic treatment is to stimulate the growth of the upper jaw along the edges of the crack, narrow it, close the defect of the palate with a plate on the upper jaw.

They proposed a new direction in the orthodontic method of treating children with dental disorders, starting from the first hours of the child's life in the maternity hospital with the help of orthodontic devices, they began to provide special assistance. A team consisting of an orthodontist and a nurse will conduct this treatment in a maternity hospital. The task of early orthodontic treatment is to separate the oral cavity and nose, normalize the feeding process and prevent the development of secondary deformities. Sharova suggests installing an individual orthodontic device or a pre-prepared standardized plate. The use of the device is combined with an elastic pressure bandage, which is attached to a helmet cap. It is recommended to adapt the device to the baby before the first feeding. The newborn uses the device for a month, after which the new device is prepared individually. A specially folding device with a mechanical drive was proposed, which allows the formation of bone arches by moving it from a vertical position to a horizontal one [8].

The treatment of children with diseases of the teeth and jaws is a special problem. The clinical picture of a double crack is determined by the degree of protrusion of the upper jaw, the location and degree of hypertrophy of the coulter, the degree of deviation of the defect of the palate into the nasal cavity. The choice of orthodontic device design depends on the degree of protrusion of the upper jaw and its deviation from the axis of symmetry. Ball revealed a six-stage protrusion of the anterior jaw, a five-stage hypertrophy of the coulter and four variants of its location, and to provide urgent orthodontic care to children with such a defect, the author suggested using a pre-prepared standard plate in combination with an elastic band. First, it is necessary to bring it to the axis of symmetry of the upper jaw, after which it must be lowered into the alveolar arch. Instrumental reduction of the lower jaw is performed in children from 25 days to 6-8 months and depends on the age, the degree of protrusion of the lower jaw and the size of the defect in the alveolar processes. After changing the position of the upper jaw, the device is removed from the oral cavity [9].

Postoperative indicators in different age groups, as well as the severity of the situation in the postoperative period, do not depend on the time of the operation. Taking into account morphological, functional and aesthetic disorders in the oral cavity in patients with various types of birth defects is the choice of treatment method. Thus, the most urgent medical and social problems are dental diseases, which are an important problem for the health of the population, which makes them important from a diagnostic point of view.

The results of the work of the above authors on the topic under study have made a significant contribution to the development of specialized dental surgery and orthodontic medical care for children with dental disorders. At the same time, the topic is not completed, there is very little literature on the state of the problem of dental disorders in the republics of Central Asia, discussions continue in scientific and professional communities on improving the rehabilitation of children with ta.



Thus, the analysis of modern literature has shown that there are controversial issues concerning the study of treatment results at the stages of development of anomalies of the dental systemis, new approaches to treatment, equipment for early treatment and the need to develop algorithms for their use. Early treatment can prevent irreversible changes in tissues, allow it to be used when the growth and destruction of teeth dominate, as well as stop pathological development until large replacement deformities occur, which are more difficult to treat, and preserve the results of treatment, unlike primary anomalies. Thanks to early treatment, positive changes in the facial skeleton can be achieved until the bone sutures become morphologically mature [4].

Premature removal or retentation of lateral teeth, dental defects and their pathological resorption, changes in the deviation of the upper jaw teeth, parafunction of the maxillofacial muscles lead to anomalies and serious deformities in CTCT. The constant formed in most studies is referred to as belonging to the bite. With these anomalies, the specificity of the symptoms of pathology in children and adolescents in different periods of the formation of anomalies of the dental systemis not sufficiently described. The age limits of the growth of violations remain uncertain. anomalies of the dental systemis diagnostic algorithms are general in nature, necessary to provide detailed coverage of the examination of existing patients. The analysis of modern literature has shown the need to study the results of treatment and its stagnation in different age periods, to develop modern approaches to the algorithms of the devices and their use [6].

Conclusion. Early diagnosis of dental anomalies and deformities the number of studied indicators in the dental system has not been determined, which will serve as the basis for choosing a method for correcting orthodontic abnormalities and predicting its development. All this became the motivation to identify the problem and find ways to solve it. One of the most urgent problems is a number of issues that determine the diagnosis of patients at the stages of temporary, alternating and permanent bite, planning orthodontic care and assessing its quality, requiring modern approaches to tactics and management of the treatment process.

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