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MODERN METHODS OF TREATMENT OF PATIENTS IN ORTHODONTICS WITH VARIOUS DENTAL PATHOLOGIES

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Annotation

Modern orthodontics is characterized by the active introduction of innovative technologies aimed at improving the effectiveness of treatment, reducing its duration and improving aesthetic and functional results. The development of digital diagnostic methods, the emergence of new orthodontic devices and biomechanical approaches have significantly expanded the possibilities of correcting dental anomalies in patients of various age groups. This article discusses the main modern methods of orthodontic treatment, their clinical features, advantages and limitations, as well as prospects for further development of orthodontics.

Keywords

orthodontics, dental anomalies, braces, aligners, digital orthodontics, orthodontic treatment.

Dental anomalies are one of the most common dental pathologies and affect not only the aesthetics of the face, but also the functions of chewing, speech and breathing. Modern orthodontics is focused on an integrated approach to treatment, including early diagnosis, individual planning and the use of high-tech therapeutic agents. The development of materials science and digital technologies has significantly changed the traditional understanding of orthodontic treatment.

Accurate diagnosis is a key step in orthodontic treatment. Digital methods are widely used in modern practice, including computed tomography, three-dimensional modeling of jaws and virtual planning of tooth movement. These technologies make it possible to more accurately assess the condition of the dental system, predict treatment results and reduce the risk of complications.

New generation braces systems

Non-removable orthodontic devices remain the main method of correcting complex forms of dental anomalies. Modern braces are characterized by reduced dimensions, improved aesthetics, and optimized biomechanics. Metal, ceramic, and sapphire braces are used, as well as self-ligating systems to reduce friction and accelerate tooth movement. Customized arches and braces made using digital technologies enhance the accuracy of treatment and patient comfort.

Using aligners

Removable transparent aligners are one of the most sought-after methods of orthodontic treatment, especially among adult patients. Their main advantages are high aesthetics, ease of use, and the possibility of predictable step-by-step tooth movement. Aligners are effective in the treatment of mild and moderate malocclusion, but they have limitations in complex clinical cases.

Orthodontic treatment in children and adolescents

Early orthodontic intervention can influence the growth and development of the jaws, preventing the formation of severe abnormalities in the future. Functional devices, removable plates and myofunctional devices are actively used in pediatric orthodontics. Modern methods are aimed not only at aligning teeth, but also at normalizing muscle balance and functions of the maxillofacial region.

Digital orthodontics and an interdisciplinary approach

Digital orthodontics combines scanning, virtual modeling, and automated manufacturing of orthodontic devices. Interdisciplinary interaction of an orthodontist with an orthopedist, surgeon

and periodontist allows achieving stable functional and aesthetic results, especially in the treatment of complex clinical cases.

Conclusions.

1. Modern methods of orthodontic treatment are based on an individual approach and the use of innovative technologies.
2. Digital diagnostics and planning significantly improve the accuracy and predictability of treatment outcomes.
3. New generation braces and aligners expand the possibilities of correction of dental anomalies in patients of different age groups.
4. Early orthodontic treatment in children helps to prevent severe forms of pathology in the future.
5. Interdisciplinary and digital approaches are promising areas for the development of modern orthodontics.

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