



ORTHODONTIC TREATMENT USING TRANSPARENT MOUTHGUARDS

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Abstract

In this article we will talk about one of the most modern and promising methods of orthodontic treatment - aligners (transparent mouthguards).¹

Keywords: Dentistry, orthodontics, aligners.

Introduction

Currently, the number of children and adults in need of orthodontic treatment is growing. But only a few decided to take this step. Most people are afraid of financial costs, long-term treatment with orthodontic structures, but they are afraid of the lack of aesthetics and hygiene violations when wearing traditional braces. In this regard, orthodontics is rapidly developing therapeutic techniques using transparent braces. Aligners have precise modeling, they are almost invisible on the teeth and do not violate normal oral hygiene. Aligners first appeared when the Invisalign system was created by Align Technology in 1998. A transparent mouthguard, or aligner, is a monolithic, homogeneous, arched mouthguard with a double chin .1). These devices are made of highly elastic silicone rubber, which is harmless to the body. The aligner can be used as a tool for correcting the bite and position of teeth, as well as as a retainer after preliminary orthodontic treatment with a removable structure [1] 1. Transparent mouth guard (aligner) The principle of operation of the aligner does not differ from the usual orthodontic design. A weak constant force applied to the device leads to bone resorption at the site of pressure on the root of the alveolar wall. Then, bone tissue is formed on the opposite side due to the tension of the periodontal ligament. Thus, the teeth move in a given direction.[3] However, unlike traditional orthodontics, which includes braces, in which bite correction occurs gradually along the plane, simultaneous and multidirectional movements of teeth are organized during the treatment with an aligner. The computer program adjusts the force of the mouth guard on the teeth by changing the thickness of the mouth guard itself and setting the maximum allowable step of tooth movement. The computer program also plans a powerful effect on the teeth. It is only necessary to simulate the "correct" position of the teeth for optimal occlusal contact. Then the mouth guard tightly closes each tooth and moves it in a certain direction with a given force. *The manufacture of aligners 16+ includes the stages of examining the patient, making a diagnosis and drawing up





an orthodontic treatment plan. Take a cast and make a plaster model of the jaw. Or create a virtual impression to print the model on a 3D printer. A virtual model is created and a treatment plan is drawn up 2). Justification and coordination of treatment with patients. Manufacture of individual aligner kits for patients. The clinical stage of patient management . Features of the use of aligners by patients-virtual models in the Invisalign system. In orthodontic treatment using aligners, the patient receives the number and set of mouthguards determined by the treatment plan. Each mouthguard should be worn for two weeks for about 22 hours a day. At the same time, it is possible to increase the wearing time if the patient experiences a feeling of tightness in a particular tooth. Visits to the orthodontist are significantly reduced compared to treatment with a bracket system and amount to about 1-2 times per 1 month. The patient removes the aligner on his own during meals. It is necessary to clean the mouth guard from plaque and carry out individual oral hygiene after each meal. This significantly prolongs the service life of the aligner and reduces the risk of caries and inflammatory periodontal diseases. Advantages of aligners. Easy to use. High aesthetics. Reducing damage to the mucous membranes. The ability to view the course and results of treatment using virtual models. Oral hygiene and diet remain the same. Conclusion. All of the above distinguishes aligners from conventional orthodontic structures, including orthopedic ones, and allows them to become more promising methods of orthodontic treatment.

Basic terms (generated automatically): orthodontic treatment, virtual model, mouthguards, computer program, bite correction, bone tissue, patient. Keywords Dentistry, orthodontics, aligners Similar articles Prevention of troacal complications during endoscopic operations in cats This article describes the prevention of troacal complications in small unproductive animals during endoscopic operations. Recommendations for the choice of a trocar are based on the concept of the introduced "pressure funnel", as a result of surgical treatment of basal cerebrospinal fluid, an increase in the number of operations for plastic surgery of the basal cerebrospinal fistula is observed every year. In the modern literature, there are no clearly formulated indications for the use of various methods of surgical treatment of liquorrhea and the use of management algorithms. Evaluation of the effectiveness of treatment of fractures of the mandible with oral irrigators This article presents a comparative assessment of the effectiveness of using various antiseptic solutions and oral irrigators. Justification of the use of dental transplants in the complex treatment of patients with dental defects (literature review) This review examines the positive aspects of using dental grafts to improve the quality of life of patients in the treatment of partial and complete dentures. The advantages of dental transplantation over





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To conclude: This article presents a comparative analysis of the use of various bone-forming materials in the surgical treatment of root cysts of the jaw, as well as the subsequent treatment of bone regeneration.

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