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## THE USE OF ANALGESICS INTERFERE IN THE ORTHODONTIC MOVEMENT

Orthodontic patients often describe an feeling of discomfort or pain associated with certain orthodontic procedures, such as placing elastic separators, replacement of orthodontic archwires and activation of appliances. Because of this, the use of painkillers by patients is not novelty. However, since such drugs can affect the biochemical process involved in the orthodontic dental movement, a comprehensive understanding of its effects is necessary. There is an infinity of studies that evaluated the interaction between movement orthodontic and analgesics; however, this is a topic that still lacks consensus. For this reason, Arab researchers developed a systematic review<sup>1</sup> that aimed at investigating, in animal studies, the quality of latest available evidence on the effect of painkillers in the rate of tooth movement. The results of this study revealed that the use of specific painkillers by few days can influence the speed of orthodontic dental movement. The authors point out that orthodontists should be aware of the implications of using these substances, and be able to identify those substances that may or may not interfere with orthodontic treatment.

## ALOE VERA GEL PREVENTS TRAUMATIC ULCERS IN ORTHODONTIC PATIENTS

Traumatic mouth ulceration is one of the most common side effects of orthodontic treatments (Fig. 1). After installation of the orthodontic appliance, it is not unusual patients complaining of discomfort caused by traumatic injuries, erroneously called canker sores. Develop a product that prevents or minimizes such problems is among the wishes of the scientific community. Following this trend, Spanish researchers developed a randomized controlled clinical trial<sup>2</sup> that compared efficacy clinic of an 80% *Aloe vera* gel and a 0.12% chlorhexidine gel for the prevention of traumatic ulcers in users of fixed orthodontic appliances. Patients with 12 years or older, with permanent dentition and about to start orthodontic treatment were randomly allocated

to use *Aloe vera* or chlorhexidine gel. Evaluations were made at pre-treatment and 1 month after installation of orthodontic appliance. The study results revealed that the administration of *Aloe vera* gel in patients with orthodontic appliances effectively prevents the appearance of traumatic ulcers in the mouth.

## FIXED RETAINERS DO NOT REPRESENT RISK TO PERIODONTAL HEALTH

The etiology of post-treatment recurrence is complex and multifactorial; factors such as tension of the periodontal fibers, final occlusion obtained, soft tissue pressure, growth and aging are the most commonly described. Because of this, the need to retain teeth after orthodontic treatment completion is a consensus. It is known, nowadays, that to maintain teeth well aligned for life it is necessary to permanently use retainers, especially when it comes to the mandibular arch. However, doubts arise about how harmful to periodontal tissues may be the presence of retainers in the long run. To answer this question, Swiss and Greek researchers developed a review systematic review of the literature<sup>3</sup> in which they evaluated the databases Medline, EMBASE, Cochrane Oral Health Group's Trials Register, CENTRAL, ClinicalTrials.gov, National Research Register, Pro-Quest Dissertation Abstracts and Thesis. The authors were able to conclude that fixed retainers are devices compatible with periodontal health and do



**Figure 1** - Typical presentation of traumatic ulcer after bonding of orthodontic band with bracket. Source: Leiva-Cala et al.<sup>2</sup>, 2020.

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not cause serious harmful effects to the periodontium. However, the authors emphasize the need for further methodologically well executed clinical trials, comparing different types of fixed retainers after long periods of follow-up, so that definitive conclusions can be reached about the topic.

### **FIXED APPLIANCE PRESENTS BETTER COST-BENEFIT IN TREATING THE ANTERIOR CROSSBITE IN CHILDREN**

Anterior crossbite is a prevalent problem in the child population. Its presence may be associated with a series of complications, such as gingival recession, mobility and TMJ disorders, as well as dental and facial disharmonies. Therefore, it is highly recommended to correct it as soon as possible, to allow for a normal development of occlusion and jaws. Until now, various treatment modalities have been proposed to correct the anterior crossbite, but none was based in high-quality evidence. With the propose to fill this gap, Arab researchers developed a systematic literature review<sup>4</sup> in order to investigate the effectiveness of the upper removable appliance in treating anterior crossbite, in terms of quality of life, effectiveness, treatment time, long-term stability and cost. For this, a search was carried out in the databases Cochrane Central Register of Controlled Trials (CENTRAL), PubMed, ScienceDirect, Scopus and Ebsco. All potential articles were independently checked regarding inclusion criteria. The risk of bias of studies eligible to be included in the analysis was evaluated by two authors, independently, using the Cochrane risk of bias tool. The authors concluded that the fixed appliance proved to be more economical in anterior crossbite correction than the removable appliance. There was no significant difference between the two appliances regarding quality of life, pain intensity or long-term stability.

### **THERE ARE NO EVIDENCES THAT PROVE THE EFFECTIVENESS OF DENTAL WHITENING AS THERAPEUTIC TO RELAX AND/OR TREAT WHITE-SPOT LESIONS**

The presence of orthodontic accessories directly attached to the dental surface promotes the accumulation of dental biofilm. The presence of biofilm for a long time leads to the appearance of white-spot lesions. The white-spots lesions are common and undesirable side effects in patients using fixed orthodontic appliance and

with poor oral hygiene. Resolving this problem includes from microabrasion to restoration of the compromised area. In recent years, another modality of treatment has been suggested, that is, masking —that would be the performance of tooth whitening with the proposal of masking white-spot lesions. However, there is, to date, no strong evidence to validate this therapy. Therefore, Greek and Danish researchers developed a study<sup>5</sup> that aimed to evaluate the literature, looking for evidence of the efficacy of whitening as a method to treat or soften enamel white spots after orthodontic treatment on permanent teeth. To this end, search strategies were created for different types of studies, including clinical trials randomized or nonrandomized, prospective and retrospective studies, as well as *in vitro* studies. The authors concluded that there is insufficient strong evidence to support or contraindicate whitening as an effective method for treating white spot lesions. The authors point out that most studies in this area is *in vitro*, thus requiring further prospective *in vivo* studies.

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