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THE USE OF ACETAMINOPHEN, BITE WAX OR ACRYLIC BITE DOES NOT ALTER THE LEVEL OF DISCOMFORT WHEN DEBONDING ORTHODONTIC BRACKETS

The step of debonding a fixed orthodontic appliance is undoubtedly the most desired by the patients. Being free of orthodontic brackets means improving aesthetics at smiling, increasing tooth brushing and facilitating flossing. Despite this desire inherent to most patients, this step is also linked to the patient's fear of discomfort when removing orthodontic accessories. Aiming to minimize this discomfort, clinical orthodontists modify debonding techniques in order to provide patients with greater comfort, among which the use of pre-debonding analgesics, bite wax or acrylic plates should be highlighted. Although their idealizers and followers evaluate these techniques as effective to minimize discomforts, there is a lack of studies proving their efficiency. In order to fill this gap, Turkish researchers have developed a clinical study¹ that aimed to assess the pain levels of patients during four different debonding procedures. The null hypothesis was that the pain perception of the patients submitted to the four different modes of debonding would not be statistically different. For this purpose, 120 orthodontic patients undergoing orthodontic treatment were included in this study. The patients were randomly divided into four groups, according to the technique used for debonding (Fig 1): Group 1 - conventional debonding; Group 2 - medication (acetaminophen administered 1 hour prior to debonding); Group 3 - bite wax; and Group 4 - soft acrylic bite wafer. The results showed that the groups did not statistically differ from each other; i.e., the auxiliary methods did not reduce discomfort when the brackets were removed.

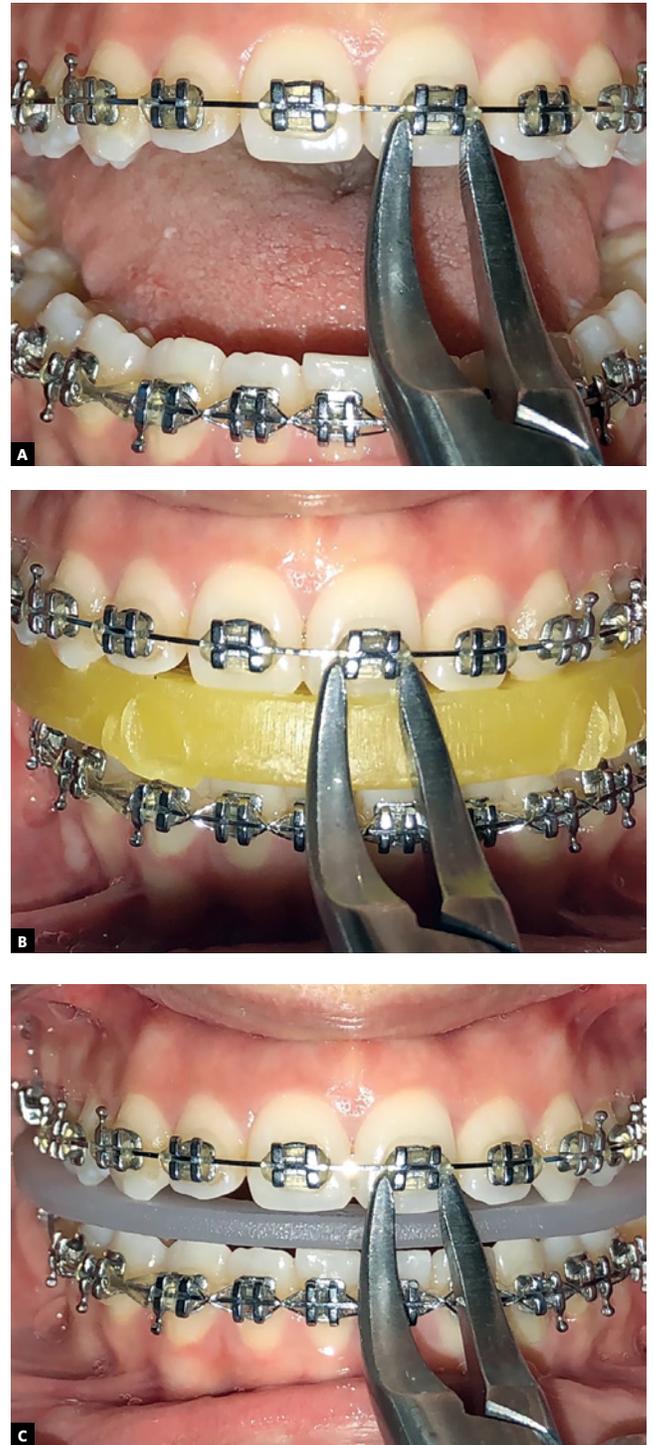


Figure 1 - Methods for brackets debonding: A) Conventional debonding; B) Bite wax and C) Soft acrylic bite wafer. Source: Kilinc et al.¹, 2019.

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BONDING BRACKETS WITH GLASS IONOMER CEMENT DOES NOT REDUCE THE OCCURRENCE OF WHITE SPOT LESIONS IN ORTHODONTIC PATIENTS

The difficulty in correctly sanitizing the teeth in the presence of fixed orthodontic appliances is not new to anyone. Poor hygiene in patients with fixed orthodontic appliances favors the appearance of undesirable white spots on the enamel. For a long time, the use of resin-reinforced glass ionomer cements for orthodontic bonding has been indicated for the purpose of avoiding these spots. However, no methodologically robust study had been published in the literature with the proposal of comparing the incidence of new demineralized lesions and bonding failures between two groups of patients using brackets bonded with orthodontic composite or resin-modified glass ionomer cement. To meet this need, a group of British researchers led by researcher Philip Benson developed a clinical, controlled, randomized and blind study² with this proposal. Therefore, patients were recruited from six centers, including two school hospitals and four orthodontic practices. The results from this study revealed that there is no evidence that the use of resin-modified glass ionomer cement reduces the incidence of new white spot lesions. It was also found that there was no difference in rates of bonding failure between composites and glass ionomer.

THE USE OF ALIGNER REDUCES THE INCIDENCE OF WHITE SPOT LESIONS AT THE END OF THE ORTHODONTIC TREATMENT

Once again, we return with the issue on white spots, given their negative aesthetic repercussion. The question now is: will patients wearing aligners have a lower incidence of white spot lesions at the end of treatment? This hypothesis seems obvious given that these devices are mobile, facilitating dental hygiene. However, it is necessary to apply methodological rigor to reach certain conclusions that will assist the clinicians in their clinical routine. To heal this doubt, a group of American researchers led by the

great researcher Peter Buschang developed a study³ consisting of 244 patients using aligner and 206 patients treated with conventional fixed orthodontic appliances. The initial and final photographs of these patients were evaluated by two calibrated researchers. Results obtained after data processing revealed that patients treated with aligners were less likely to develop white spot lesions than patients treated with traditional fixed orthodontic appliances. Therewith, another good indication for the use of aligners was found.

HYRAX EXPANDER ASSOCIATED WITH SKELETAL ANCHORAGE IS THE BEST OPTION FOR MAXILLARY PROTRACTION IN VERTICAL CLASS III PATIENTS

When it comes to Class III malocclusion, uncertainties are still present, especially with regard to the prognosis of the cases. Despite these uncertainties, there are many already well-established certainties on these malocclusions with maxillary deficiency, like starting the treatment as soon as possible and using rapid maxillary expansion followed by protraction. Although it is simple to plan, it is very difficult to convince patients to wear facemasks these days. The aesthetic appeal of adult society has cascaded over to our children. However, a light at the end of the tunnel appeared with the emergence of skeletal anchoring devices. However, it is necessary to evaluate their effects compared to traditional devices. Recently, a study⁴ was published by German researchers comparing the skeletal and dental effects of two systems (Fig 2) used for reverse traction of the maxilla initially expanded with Hybrid-Hyrax expanders (associated with mini-implants on the palate) followed by traction with a facemask or with the use of elastics connected to Mentoplastes. The results from this study revealed that both treatments reached comparable rates of maxillary protraction without dental-alveolar side effects. The skeletal anchorage with Mentoplastes provided a greater vertical control and can be the treatment of choice in patients with a high mandibular plane.

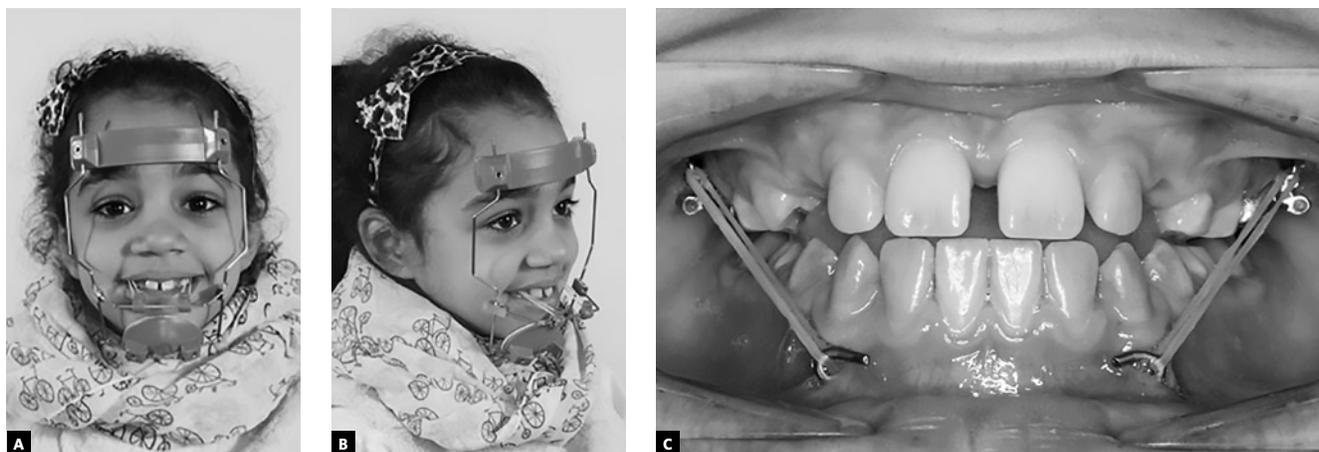


Figure 2 - Devices used for maxillary traction. A, B) Facemask and C) Elastics attached to Mentoplastes. Source: Willmann et al.⁴, 2018.

THERE IS NO DIFFERENCE IN PERIODONTAL DAMAGE AFTER RAPID AND SLOW MAXILLARY EXPANSION

Maxillary expansion is undoubtedly an unanimity among orthodontists in the presence of maxillary constriction associated or not with posterior crossbite. Several devices and protocols aiming at this objective are described in the literature. Some authors report that when a greater orthopedic effect is desired, rapid expansion is indicated; and when a greater dental effect is desired, slow expansion is indicated. Nevertheless, the literature emphatically states that both expansion protocols may cause lateral flexion of the alveolar processes and can, thus, change the inclination of the anchorage teeth. Faced with this issue, a question arises: in the face of these side effects, which of the two protocols affects the periodontal tissues less? Looking for evidence to justify this clinical uncertainty, Brazilian researchers, headed by David Normando and Lucianne Cople Maia, developed a systematic review⁵ using the databases of PubMed (MEDLINE), Cochrane Library, Scopus, Web of Science, Virtual Health Library, Google Scholar, and OpenGrey, without time and language restrictions. The results revealed that there were no significant differences to allow a solid conclusion about which type of maxillary expansion has fewer periodontal collateral effects.

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