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SPIRAL-WIRE FIXED RETAINER ELICITS LESS DETRIMENTAL PERIODONTAL RESPONSE THAN FIBER-REINFORCED COMPOSITE RETAINER

Orthodontic treatment stability is a major concern for the orthodontist. Which orthodontist has never had the displeasure of assessing a case over the retention phase and finding out that formerly well-positioned teeth are now rotated or have diastema? In the attempt to prevent relapse, the orthodontic literature recommends that retention, whether removable or fixed, be used for a certain period of time. Fixed retainers installed in all teeth are advantageous because they do not rely on patient's compliance. On the other hand, they favor bacterial plaque which, in turn, may lead to tooth caries and periodontal damage. They might be spiral-wire or fiber-reinforced retainers. In this context, the following question arises: Which fixed retainer elicits less detrimental periodontal response? Iranian researchers¹ conducted a study to assess the periodontal effects of two different retainers: spiral-wire and fiber-reinforced. Results revealed that spiral-wire retainers elicit less detrimental periodontal response than fiber-reinforced ones within a short period of 6 months.

The authors highlight that radiographic assessment of both retainers did not reveal statistically significant and conclusive differences.

HALITOSIS AND PERIODONTAL CONDITIONS ARE THE SAME FOR CONVENTIONAL AND SELF-LIGATING BRACKETS

Orthodontic brackets unsurprisingly cause bacterial plaque which, in turn, potentially leads to periodontal damage and halitosis due to food decomposition and the presence of bacteria. A lot of information has been thrown into the orthodontic world with regards to greater hygiene promoted by self-ligating brackets despite lack of scientific evidence. For this reason, considerable doubt has been cast about the periodontal conditions and halitosis of patients using this type of bracket. With a view to searching for evidence on which bracket promotes less periodontal damage and halitosis, Turkish researchers conducted a clinical trial² of which outcomes reveal no differences between patients using conventional and self-ligating brackets. The authors emphasize that tongue coating is more likely to cause halitosis than brackets promoting.

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MALOCCLUSION PATIENTS HAVE GREATER DIFFICULTY IN FINDING A JOB

Many patients with orthodontic needs seek treatment with a view to improving dental esthetics instead of masticatory function. In modern society, people are more valued for what they look than for what they really are. Esthetics may provide various benefits, among which personal and social advantages are highlighted. In this context, the following question arises: Would individuals with normal occlusion have greater benefits when looking for a job? In the attempt to answer this question, Brazilian researchers conducted a study³ to assess the influence of malocclusion in finding a job. People liable for hiring staff for commercial companies were interviewed. Interviewees were questioned about the likelihood of individuals with and without malocclusion being hired. They were also asked to assess patients' photographs (Fig 1) with regards to intelligence, honesty and efficiency. Results reveal that people with an ideal smile were assessed as superior with respect to intelligence and likelihood of being hired when compared to nonideal smile. Thus, orthodontic treatment would provide social in addition to esthetic and functional benefits.

IS THERE AN EFFECTIVE METHOD TO ACCELERATE ORTHODONTIC TOOTH MOVEMENT?

Whenever a patient is referred to orthodontic treatment, one of the first questions that arises is "How long will treatment take?". We all know that treatment time varies considerably, since it is related to the severity of the case, patient's compliance and biological response. Severity cannot be changed and compliance relies on the patient, but how about biological response? The literature describes several protocols capable of accelerating orthodontic tooth movement, all of which hypothetically enhance biological response. Nevertheless, in view of numerous methods, which one would be really effective? In the attempt to answer to this question, Swiss and Greek researchers⁴ conducted a systematic review aiming at finding evidence on the methods capable of accelerating orthodontic tooth movement. Results revealed strong evidence on low-intensity laser and corticotomy, both of which seem effective in accelerating tooth movement. Conversely, they found poor



Figure 1 - Photographs used during the research, Groups A and B.
*Negative control; **Positive control (Source: Pithon et al,³ 2014).

evidence about interseptal bone reduction and scarce evidence on photobiomodulation and pulsed electromagnetic fields. The authors assert that further investigation is required, given the small number, quality and heterogeneity of studies included in the research.

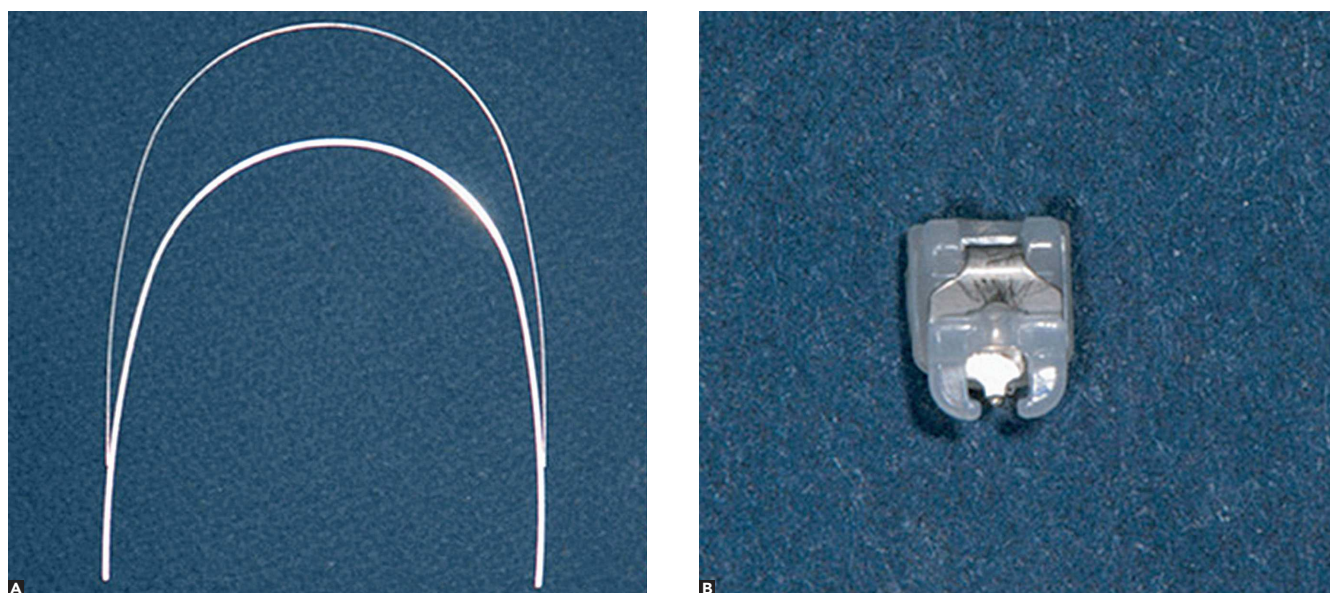


Figure 2 - A) Coated and uncoated wires. B) Esthetic self-ligating bracket (Source: Kim et al, ⁵ 2014).

USING ESTHETIC ORTHODONTIC COATED WIRES IN SELF-LIGATING BRACKETS INCREASES FRICTIONAL FORCES

Every day, new products are launched on the market in the attempt to enhance orthodontic treatment and increase patients' acceptance and satisfaction particularly with regard to esthetic and orthodontic accessories. Esthetic self-ligating brackets arose in this context. It has been proved that they promote less frictional force with conventional orthodontic wires in comparison to esthetic conventional brackets. With a view to further enhancing esthetics, esthetic orthodontic coated wires were developed. Nevertheless, despite

improved esthetics, esthetic wires lack improvements in physical properties and handling when compared to uncoated wires. Thus, the following question arises: Do esthetic self-ligating brackets keep low frictional force when esthetic coated wires are used? In the attempt to answer this question, Korean researchers conducted an *in vitro* study⁵ to assess frictional forces exerted by esthetic self-ligating brackets with conventional and coated wires (Fig 2). Results revealed increased frictional force between esthetic self-ligating brackets and coated wires. The authors conclude the study by emphasizing the need for further clinical trials of which results establish future clinical implications.

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