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### LOW-LEVEL LASER PROVES EFFECTIVE IN PROMOTING ORTHODONTIC TOOTH MOVEMENT AND PAIN CONTROL

Treatment time and pain resulting from orthodontic movement are common concerns reported by patients in need of corrective orthodontic treatment. Reduced treatment time and pain control would greatly satisfy patients. Thus, researchers around the world have devoted themselves towards finding mechanisms to do so. Low-level laser is a potential mechanism and, for this reason, has been on the spotlight of worldwide scientific literature. Nevertheless, the results achieved by studies available remain dubious. For this reason, Brazilian researchers conducted a systematic review<sup>1</sup> to assess the influence of low-level laser on orthodontic movement and pain control in humans. Their results are encouraging as they proved low-level laser effective in increasing the speed of orthodontic movement and controlling pain. The authors further highlight this method as simple, painless and with no side effects.

### HYBRID HYRAX-FACEMASK COMBINATION PROVES EFFECTIVE IN CORRECTING CLASS III MALOCCLUSION

The orthodontic community long for an effective treatment modality to correct Class III malocclusion. Numerous methods for early correction of this type of malocclusion occur as a result of teeth protrusion and do not promote real orthopedic correction. Skeletal anchorage provided new possibilities. Incorporating skeletal anchorage concepts to early Class III malocclusion treatment is a fact. However, within this web of new ideas, some doubt is cast on the following: Is treatment performed by means of these new devices effective? With a view to answering this question, German and Italian researchers conducted a controlled clinical trial<sup>2</sup> to assess the effects of maxillary protraction by means of a hybrid hyrax-facemask supported by molars and mini-implants placed in the anterior region (Fig 1). Their results revealed that the hybrid hyrax-facemask combination was found to be effective for orthopedic treatment in Class III patients. According to the authors, favorable changes were

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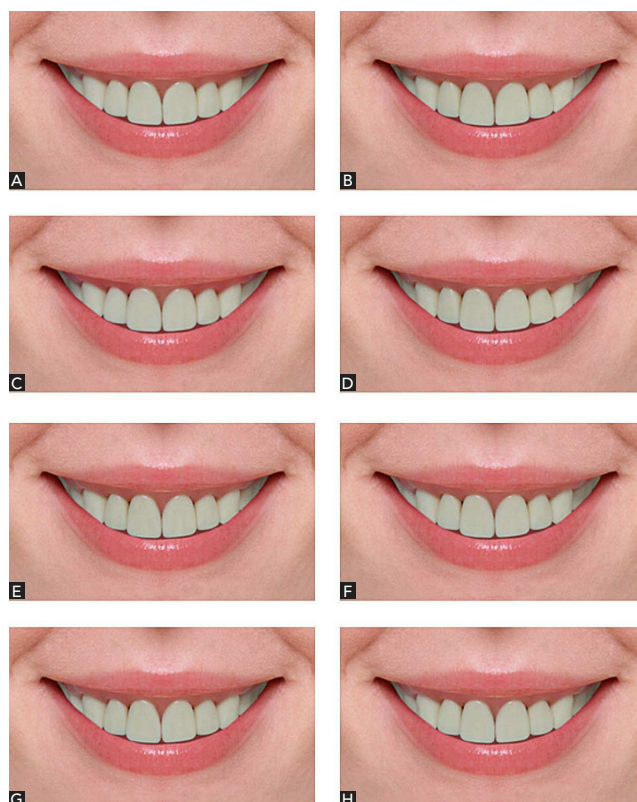


**Figure 1** - Hybrid hyrax appliance.  
Source: Nienkemper et al,<sup>2</sup> 2014.

observed in both upper and lower arches, while no dentoalveolar compensations were found. They concluded their study highlighting that this treatment method does not require invasive procedures, such as those necessary to place skeletal-only devices, which is the case of Hugo De Clerck's plates.

### **BETTER ORTHODONTIC FINISHING DECREASES THE PROBABILITY OF EXTRACTION-SPACE REOPENING**

Not rarely, orthodontists have the displeasure to reassess a case over retention and notice extraction-space reopening. Several theoretical works are found in the literature to justify such an event. Their discussions go from space closure by proclination, instead of translatory movement, and gingival invagination to orthodontic finishing quality. However, some doubt is cast on whether orthodontic finishing influences relapse. With a view to testing this hypothesis, Brazilian researchers<sup>3</sup> assessed patients subject to orthodontic treatment associated with tooth extraction. One group of patients did not have post-treatment reopening of the extraction site, whereas the other group did. Results revealed that better finishing leads to great stability of post-treatment extraction site closure. The authors also highlight the fact that patients with greater initial crowding present better finishing and decreased possibility of post-treatment reopening of the extraction site.



**Figure 2** - Photographs showing different levels of lateral incisors rotation.  
Source: Ma et al,<sup>4</sup> 2014.

### **WHENEVER DEALING WITH CROWDING, ORTHODONTISTS HAVE THE LYNX EYE**

Orthodontists nearly reach compulsion when dealing with teeth crowding. Knowing how teeth should be positioned in normal occlusion renders them really demanding. Nevertheless, would patients have the same perception? With a view to answering this question, American, Chinese and Japanese researchers conducted a study<sup>4</sup> to assess one's esthetic perception of different images showing various levels of anterosuperior teeth misalignment (Fig 2). Their results confirm that orthodontists are more critical when evaluating misalignment of teeth. They also found that central incisors play a major role in comparison to lateral incisors when dealing with dental crowding, and that people are more sensitive to misalignment of

a single tooth than to crowding distributed over multiple teeth. This study proved an important tool when assessing orthodontic cases over the retention period and while making retreatment decisions.

### **FORCE DEGRADATION IN ORTHODONTIC SPRINGS AND ELASTOMERIC CHAIN IS GREATER IN ALCOHOL MOUTHWASH**

Physical and chemical bacterial plaque control is paramount for oral health maintenance. Orthodontic treatment requires constant care with regard to oral hygiene, since orthodontic appliances favor bacterial plaque formation. Using mouthwashes is a welcoming attitude, since

they reach the oral environment at sites hardly reachable by mechanical methods. Nevertheless, as any other chemical agent, mouthwashes react with orthodontic appliances. In this sense, the following doubt arises: Are mouthwashes capable of increasing force degradation of springs and elastomeric chains? With a view to answering this question, Indian researchers<sup>5</sup> assessed the influence of alcohol and alcohol-free mouthwashes over force degradation of NiTi and stainless steel springs, as well as elastomeric chains. Their results reveal that force degradation in alcohol-containing mouthwashes is greater. This study presents a major clinical implication and serves as a warning for clinicians to always recommend alcohol-free mouthwashes.

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