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### **ANTIMICROBIAL ADDITION DOES NOT INTERFERE IN ORTHODONTIC COMPOSITES' RESISTANCE**

The aesthetic, functional and social benefits achieved with orthodontic correction have already been well discussed and documented in the literature. To this end, modern Orthodontics uses accessories attached to the teeth to be moved. Despite all the benefits mentioned above, drawbacks still exist regarding the use of fixed orthodontic appliances, such as cleaning difficulties. The lack of proper hygiene can lead to the appearance of white spot lesions on the tooth enamel, which may progress to greater loss of tooth structure. Nevertheless, what could be done to alleviate such a trivial problem? There are several options, such as topical application of fluoride and sealants. But what could be effective, practical, and not requiring greater clinical time? From this perspective, studies arise in the literature in which antimicrobials are added to bonding agents in order to solve these problems. However, a certain doubt comes with it: does the addition of these antimicrobial agents compromise the resistance of these materials? Aiming to answer this question, Brazilian researchers developed a meta-analysis<sup>1</sup> which evaluated several studies available in the literature. The results demonstrated that the addition of antimicrobial agents does not alter the bonding strength of materials. The authors pointed out that it cannot be said which antimicrobial should

be best associated, since this was not the purpose of the study.

### **LOW-POWER LASER APPLICATION SPEEDS REPAIR UP AFTER JAW EXPANSION, THEREBY REDUCING RETENTION TIME**

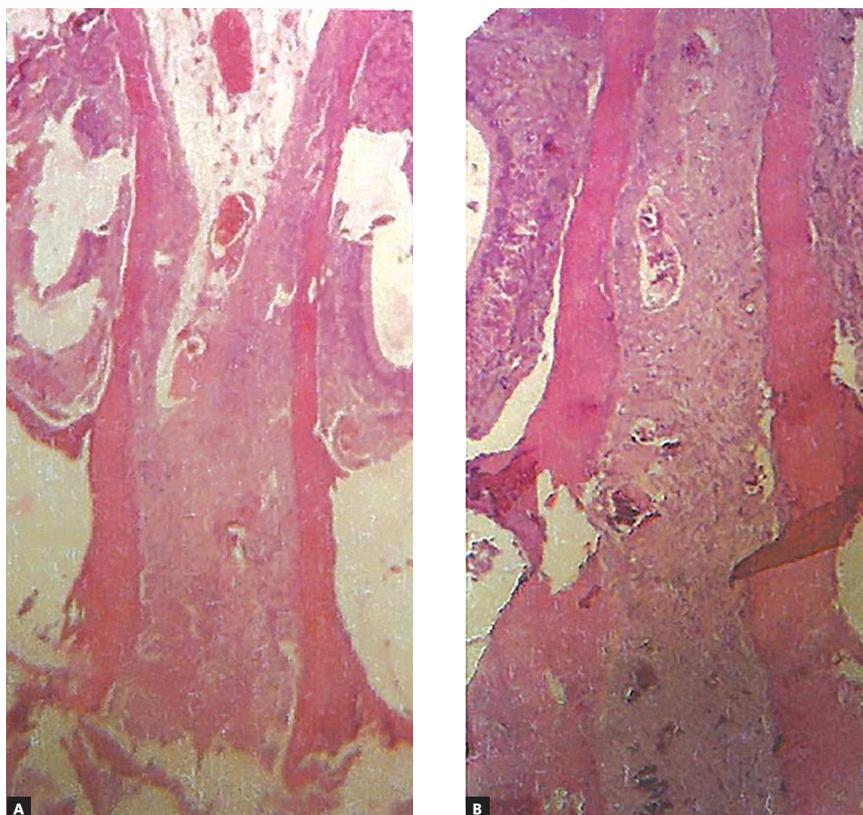
Rapid palatal expansion, also known as palatal disjunction, is an orthopedic procedure well described and well grounded in global scientific literature. It is indicated in cases of maxillary atresia in which purely orthodontic correction is contraindicated. The need for retention after performing expansion is well known among orthodontists, since new bone formation is needed at the site where bones have been removed. Authors disagree about the required retention time; however, there is something with which they all agree: if time were reduced, patient care would be sped up. From this perspective, the following question arises: is it possible to speed bone regeneration up in the palatine suture? Iranian researchers developed a study on mice<sup>2</sup> which received laser application in the suture region after its orthopedic separation (Fig 1). They found revealing and encouraging results, once low-power laser irradiation increases and accelerates bone regeneration in the area of the sutures after expansion, thereby reducing retention time. It is noteworthy that these results are preliminary and require confirmation by methodologically well-designed clinical studies.

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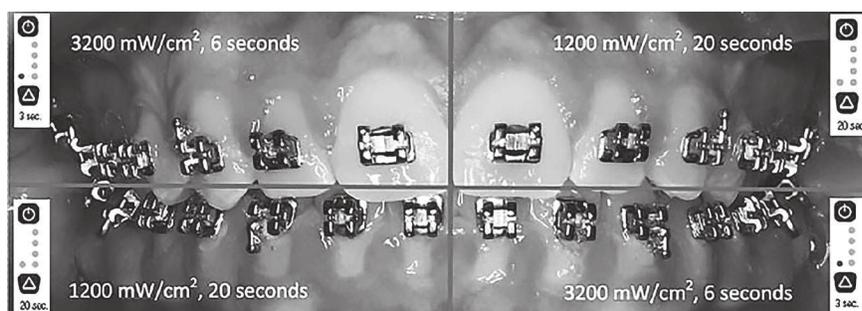


**Figure 1** - Histological image of the medium palatine suture 7 days after expansion (A) without laser application; and (B) with laser application. Source: Amini et al.,<sup>2</sup> 2015.

### HIGH-INTENSITY LED IS EFFECTIVE FOR ORTHODONTIC COMPOSITES' PHOTOACTIVATION

Lack of time is a common theme in conversations worldwide. Never has time been so precious as today. Coming to think of it, is time passing faster? Probably not, what happens is that our lives have become increasingly burdened, especially after the media's development. Lack of time also arrived at our dental offices, thereby triggering the creation of strategies in order to optimize clinical time. Following this logic, devices have arisen with promises of improving clinical care, namely: high-intensity dental curing lights.

Nonetheless, with the emergence of these devices, a question arises: does higher photoactivation speed occur at the expense of less bonding resistance? With a view to answering this question, North American researchers developed a split-mouth design study<sup>3</sup> (Fig 2), in which bond strength of brackets light-cured with conventional and high-intensity LEDs was assessed. The results proved surprising, since composites light-cured by high-intensity LEDs show the same resistance of composites light-cured by conventional LEDs. The authors also point out that high-intensity LED has the advantage of reducing clinical time.



**Figure 2** - Split-mouth study design. Source: Ward et al.,<sup>3</sup> 2015.

## SURGEON'S EXPERIENCE IS THE MAIN FACTOR INFLUENCING SUCCESS IN DENTAL TRANSPLANTATION

The loss of a tooth affects not only the aesthetics of the individual, but it also affects patients functionally and psychologically. Although restorative techniques have evolved extensively in recent times, they do not even come close to the natural tooth. Thus, achieving success of dental transplantation techniques is a desire to all of us. However, there is no consensus, considering failure reports, on which factors influence the success of this technique. Due to such a conclusion, Swiss researchers conducted a retrospective analysis<sup>4</sup> of 59 subjects subject to dental transplantation. The authors concluded with this study that molar transplantation is not as successful as premolar transplantation, and that success rates vary according to the experience of the professional. They also claim that the use of enamel matrix proteins as well as root development stage, the recipient area and apex width did not successfully show significant associations with success in tooth transplantation.

## CORTICOTOMY INCREASES CANINE MOVEMENT IN 20% DURING RETRACTION

Performing high quality orthodontic treatment within a short period of time is the dream of every orthodontic community and their patients. Who never got concerned when asked by the patient when the braces will be removed? In the presence of treatment involving dental extractions, these questions stand out, since the patient desires anxiously for the spaces to be closed. In such a situation, how could we increase tooth movement? A technique that is gaining fans and notoriety is corticotomy. Still, what is the quantitative benefit of performing this technique with canine retraction? In pursuit of this response, Turkish researchers developed a clinical study<sup>5</sup> with teenagers who had premolars extracted and canines retracted after corticotomy (Fig 3). The results showed that the duration of canine retraction was reduced by 20% with corticotomy. They also pointed out that the largest translation movement was achieved with the teeth to which corticotomy was performed previously to retraction.



**Figure 3** - Clinical image of the side where corticotomy, followed by spring retraction, was performed.  
Source: Uzuner et al.<sup>5</sup>, 2015.

## REFERENCES

1. Altmann AS, Collares FM, Leitune VC, Samuel SM. The effect of antimicrobial agents on bond strength of orthodontic adhesives: a meta-analysis of in vitro studies. *Orthodon Craniofac Res.* 2015 [Access in: 2015 Aug 30] 10 Aug. Available from: URL: <http://onlinelibrary.wiley.com/doi/10.1111/ocr.12100/epdf>.
2. Amini F, Najaf Abadi MP, Mollaei M. Evaluating the effect of laser irradiation on bone regeneration in midpalatal suture concurrent to rapid palatal expansion in rats. *J Orthod Sci.* 2015 July-Sept;4(3):65-71.
3. Ward JD, Wolf BJ, Leite LP, Zhou J. Clinical effect of reducing curing times with high-intensity LED lights. *Angle Orthod.* 2015 Nov;85(6):1064-9.
4. Ronchetti MF, Valdec S, Pandis N, Locher M, van Waes H. A retrospective analysis of factors influencing the success of autotransplanted posterior teeth. *Prog Orthod.* 2015;16:42.
5. Uzuner FD, Yücel E, Göfteci BAG. The effect of corticotomy on tooth movements during canine retraction. *J Orthod Res.* 2015;3:181-7.