

PERIODONTIUM REPAIRS ITSELF AFTER BEING TRAUMATIZED BY THE MINI-IMPLANT

Orthodontic anchorage has been cause of concern to orthodontists since the specialty beginnings. It is no exaggeration to say that its control is a determining factor regarding the success or failure of orthodontically treated cases. With the advent and popularization of orthodontic mini-implants, anchorage problems were minimized and, often, eliminated. The popularization of mini-implants occurred due to favorable characteristics such as: effectiveness, facility for insertion and removal, reduced size, low cost, etc. However, despite many positive aspects, complications may occur when using it. The possibility of root injury is specially mentioned. However, what would be the real repercussions of these lesions on the healthiness of the injured teeth? In search of an answer to this question, Brazilian researchers¹ developed a systematic review aiming at assessing root repair after contact of the mini-implant with the root of adjacent teeth. The results revealed that the quality of root repair depends on the damage caused during mini-implant insertion. According to the authors, when the root injury is limited to the dentin and cement area, complete periodontal repair can occur. It is worth emphasizing that, although the results are favorable to repair, we must be careful to avoid injuries to the periodontium, considering the lack of long term studies.

INTRAORAL SCANNER PRESENTS LOW ACCURACY FOR PRODUCTION OF VIRTUAL MODELS

As any branch of Science, Orthodontics evolves daily. At each new discovery, Orthodontics becomes better. Today, the scanning of orthodontic models

has been much discussed. The high costs and difficulties on obtaining a good orthodontic model, associated to the lack of space for storage, have stimulated this process. Despite incipient, the scanning of models is a tendency that will hardly stop occurring. It is a matter of time. With no doubts, in the very near future, digital models will supplant physical models made of plaster. When thinking of obtaining digital models, nowadays, the main methods are: scanning of the plaster cast, obtained from traditional impression; or scanning of the patient's mouth, using a digital scanner. However, which one would be the most accurate method? In search of this answer, German researchers² developed a study in which they assessed the accuracy of the scanning directly in the mouth and of the model (Fig 1). The results showed low accuracy for the intraoral scanning performed by the iTero scanner (Align Technology, USA).

The authors claim that the imprecision occurred due to the presence of saliva and to the reduced intraoral space. High accuracy was found on the scanning of models. Despite these results, the authors emphasize that virtual models, from intraoral scanning, can be used for elaboration of treatment plan and for production of tooth-supported appliances.

BRONCHIAL ASTHMA IS A DETERMINING FACTOR FOR REDUCTION OF AIRWAYS

Every day, the treatment with a multidisciplinary approach receives more emphasis. Orthodontics, as Health specialty, cannot escape this commitment. The treatment of patients with respiratory problems became a routine in orthodontic offices, and the professional must be prepared for the diagnosis and installation of therapeutic actions for its correction or control.

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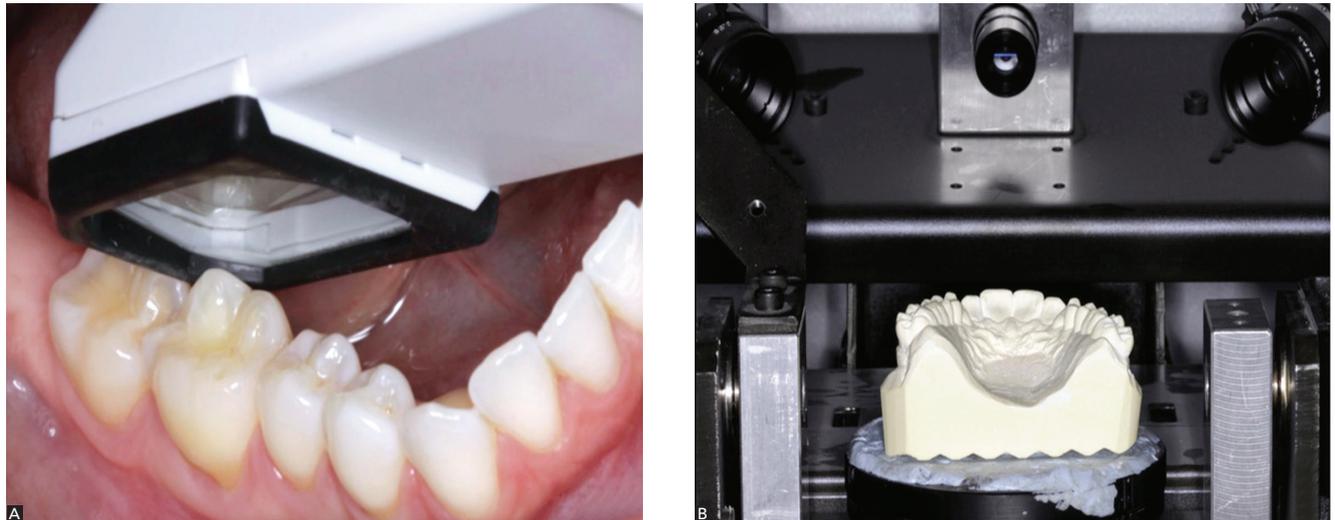


Figure 1 - A) Intraoral scanning using iTero scanner. B) Model scanning using the D250 scanner (Source: Flugge et al,² 2013).

Among the several respiratory problems that can result in development of malocclusion, bronchial asthma arouses special attention, since this disease affects about 300 million people worldwide. When reading this text, you might ask yourself, but how? Wouldn't the asthma be related only with the lower airways? There are studies, available in literature, which contradict this statement. However, these studies use two-dimensional images for these assessments. In the search of more reliable answers, Brazilian researchers³ developed a study using computed tomography (Fig 2) in order to assess the upper air space, in individuals with asthma. The results showed that patients with bronchial asthma present significant reduction of the airway dimensions. It is a result of great clinical importance, since, more than never, a multidisciplinary interaction will be necessary to solve this problem for the orthodontic patient.

PRIOR APPLICATION OF SODIUM HYPOCHLORITE INCREASES THE ADHESION OF BRACKETS BONDED WITH GLASS IONOMER CEMENT

Bonding of orthodontic accessories directly to the enamel provided one of the greatest leaps in Orthodontics during the last decades. Today, we count on materials that present good resistance, biocompatibility and color stability. Despite all these achievements, one characteristic still lacks for an ideal bonding material: continuous release of fluoride during orthodontic treatment. Not rarely, we find, at the end of treatment, white spot lesions around the brackets.



Figure 2- Total volume of the upper airways obtained by the Dolphin program. (Source: Bandeira et al,³ 2013)

According to current knowledge, the material that best performs this role, of retaining and releasing fluoride, is the glass ionomer cement. However, these materials still lack improvements in their mechanical properties, to make them as resistant to masticatory effort and to orthodontic mechanics as the composites. Much has been suggested in the literature to improve the adhesion of this material, such as enamel deproteinization before bonding, when using these materials. The creators of this technique had in mind that using deproteinizing agents before the acid conditioning, would provide better removal of organic

substances, improving adhesion. Attempting to prove the effectiveness of this technique, when bonding with glass ionomer cement, Brazilian researchers⁴ developed a laboratory study in teeth with and without previous enamel deproteinization. An increase on bonding resistance was observed, both with conventional glass ionomer cement and with composite. New clinical studies must be performed in order to prove the results obtained in laboratory.

LINGUAL BRACKETS PRESENT GREATER PLAQUE RETENTION, GINGIVAL INFLAMMATION AND STREPTOCOCCUS MUTANS THAN BUCCAL BRACKETS

The search for esthetic orthodontic appliances is a constant, nowadays. The increase of adult patients in orthodontic offices has stimulated the search for treatments with increasingly less visible appliances. Among the appliances with this purpose, there is the

ceramic and plastic brackets, thermoplastic plates and lingual appliances. These latter have gained many followers, recently, because they are located in the less visible area. However, many are the doubts regarding these devices, for instance, if they would be more hygienic or not than the conventional buccal brackets.

In order to elucidate this clinical questioning, Italian and Turkish researchers⁵ developed a clinical study in which they assessed the plaque index, gingival bleeding index, salivary flow rate, saliva buffer capacity, salivary pH and amount of *Streptococcus Mutans* and of *Lactobacillus*. The results showed that lingual brackets had greater plaque retention in the first eight weeks after bonding, as well as greater gingival bleeding and number of *Streptococcus Mutans*. These results must be considered when choosing the type of appliance, especially when the patient already presents poor hygiene, before starting orthodontic treatment.

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