

## ELECTRIC TOOTHBRUSH PROMOTES BETTER CLEANING FOR PATIENTS WITH FIXED ORTHODONTIC APPLIANCE

Patients with fixed orthodontic appliance find it much more difficult to clean their teeth. The presence of brackets, wires, elastics, buttons and other accessories promote greater plaque retention, favoring the appearance of white spot lesions, dental caries and periodontal disease. Daily, orthodontists see patients with dirty teeth. What must be done in these situations? There are various devices and resources available for cleaning these patients' teeth. Among these, manual and electric toothbrushes are very important. Would electric toothbrushes be more effective in cleaning compared with the manual type? To answer these questions, German and American researchers conducted a clinical study<sup>1</sup> in which they evaluated the effectiveness of manual, conventional electric, and orthodontic electric toothbrushes (Fig 1) in cleaning the teeth of patients using fixed orthodontic appliances. The authors were able to verify that electric brushes performed better cleaning when compared with the manual type. In the comparison between electric brushes, the specific type for orthodontic use, promoted greater cleanliness. The findings of this study are relevant and important, because orthodontists have gained proof of a new ally in the maintenance of their patients' oral health.

## SEALANT REDUCES THE APPEARANCE OF WHITE SPOT LESIONS IN ORTHODONTIC PATIENTS

As mentioned in the previous article, there is constant concern about the hygiene of orthodontic patients all over the world. Development of a material that reduces the appearance of caries lesions in these patients is a dream we all share. Day by day, material industries launch new products for this purpose, including sealants. These material are indicated for application on the enamel around brackets, with the intention of preventing the appearance and progression of caries lesions dur-



**Figure 1** - Brushes evaluated in the study conducted by Erbe et al<sup>1</sup>: A) electric with orthodontic head; B) electric with conventional head; C) manual.

ing the period the fixed orthodontic appliance is in use. However, there has been little scientific proof reported regarding these materials. The industry that develops these products is frequently satisfied only with launching them on the market, backed by laboratory studies, without conducting clinical trials. With the purpose of obtaining these clinical results, Porto Rican and American researchers developed a multi-centric study evaluating the effectiveness of these sealants in patients using orthodontic appliances.<sup>2</sup> The results found in this study demonstrated that the studied sealant presented the capacity of preventing the appearance of white spot lesions. However, the authors pointed out that the sealant does not prevent all lesions, nor does it provide protection throughout the period of experimentation. Nevertheless, the results present good future perspectives.

## TOOTH EXTRACTIONS DO NOT COMPROMISE THE NASOPHARYNGEAL AIRSPACE

Over the years, orthodontics has increasingly adopted a multidisciplinary approach for patient treatment. For a long time, occlusion remained the main focus of the

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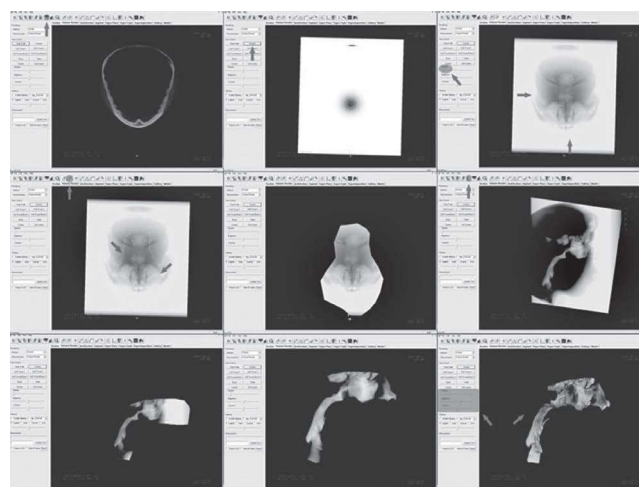
orthodontic world, sharing space with facial analysis and the inter-relations with the airways. Would orthodontic treatment be related to changes in these structures? Nowadays, it is known that improvements are achieved when orthodontic treatment is accompanied by surgical procedures, such as mandibular advancement for the correction of Class II malocclusion. However, little is known with respect to what the behavior of these structures would be in the face of the simplest and most common procedures for the orthodontist, such as for example, the extraction of permanent teeth. To elucidate this question, researchers of Turkish and American universities evaluated the effect of tooth extractions on the nasopharyngeal airspace.<sup>3</sup> Tomographic images were obtained from patients who underwent extraction of the four first premolars. The results proved there was no reduction in the airway space with the extractions (Fig 2). These results demystified the idea that extractions influence the tongue by positioning it posteriorly, making air passage difficult, as a consequence of reduction in arch length.

### OVERWEIGHT PATIENTS ARE LESS COOPERATIVE WITH ORTHODONTIC TREATMENT

As a severe public health problem, obesity figures among one of the greatest epidemics of the century. Excess weight compromises the individual socially and physically (cardiac, metabolic and osteoarticular alterations), frequently generating irreversible problems in patients. But, how could our orthodontic treatment be affected by this problem? German researchers developed a study seeking answers to these questions.<sup>4</sup> They evaluated the cooperation, oral hygiene, care of orthodontic devices and time of treatment among patients with a normal body mass index (BMI) and individuals with increased BMI. The authors concluded that patients with an increase in body mass index did not cooperate as well during treatment, leading to the total treatment time of these individuals being longer than that of adolescents with normal BMI. The authors themselves pointed out that new studies need to be conducted to evaluate the reason for this association. Would it be due to social alterations? Or as a result of physical alterations?

### FEMALE ADOLESCENTS REPORT MORE PAIN DURING ORTHODONTIC TREATMENT

A frequent complaint among patients, after orthodontic appointments, is post-activation pain. Without any doubt,



**Figure 2** - Obtaining the image of the pharyngeal airway space (Source: Stefanovic et al.<sup>3</sup> 2013).

this is one of the reasons that affects the most the patient motivation to begin with an orthodontic treatment. We all believe that orthodontic movement functions by means of a mechanism of inflammation, a process that always involves pain. Identifying the group of patients most sensitive to pain is important, in order to adjust measures that minimize this process. Starting with this premise, in the present study the authors' proposal was to evaluate, with the use of questionnaires, the interaction between orthodontic post-activation pain and the adolescents gender.<sup>5</sup> It was concluded that girls in the 14 to 17 year age group presented higher levels of pain compared with boys. The results showed the need to perform activations with lighter forces in this group of patients, thereby avoiding greater complaints with respect to the treatment being performed, and obtain better cooperation.

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