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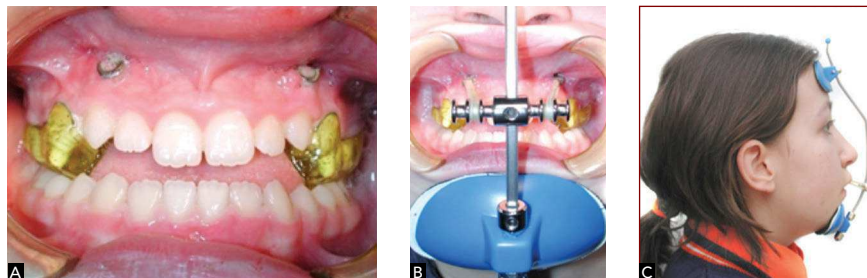
### **SKELTAL ANCHORAGE IS A GOOD ALI ON THE EARLY TREATMENT OF CLASS III MALOCCLUSION**

The early treatment of Class III malocclusion is a challenge for orthodontists around the world. The challenges imposed by Biology are associated with the difficulty to obtain patient's adhesion to traditional methods of treatment: maxillary disjunction followed by maxillary protraction with facial masks. The search for alternatives to conventional treatment methods suggests that this malocclusion be corrected with intermaxillary elastics supported by skeletal anchoring plates. Despite being widely diffused in the orthodontic literature, this method requires further scientific evidence. Thus, Turkish researchers developed a clinical<sup>1</sup> study to evaluate the dental and skeletal effects of Class III malocclusion treatment performed by means of elastics placed in Class III orientation supported by intraoral miniplates (Fig 1), and the use of a facial mask associated with maxillary miniplates (Fig 2). Their results revealed

that both protocols are a good treatment option for severe Class III malocclusion. According to the authors, treatment performed with facial mask associated with miniplate is preferable for patients with severe maxillary retrusion and vertical growth pattern. However, for patients with normal growth pattern and retroclined lower incisors, miniplates associated with elastics placed in Class III orientation is a good treatment option. The authors conclude by emphasizing that, in these cases, treatment must be precisely chosen.

### **PROTOTYPED ORTHODONTIC MODELS: A GOOD OPTION FOR DIAGNOSIS AND FABRICATION OF ORTHODONTIC APPLIANCES**

The lack of space for storage, the high costs and the need for special care are the reasons why orthodontic plaster models are being substituted by digital models. Despite this tendency, some orthodontists still prefer the physical to the digital ones. The prototyping technique arose in this context.



**Figure 1** - Frontal intraoral view of miniplates; **B)** Frontal extraoral view of facial mask associated with miniplates; and **C)** Patient's profile view with the use of a facial mask. (Source: Sar et al,<sup>1</sup> 2014).



**Figure 2** - Intraoral view of elastics placed in Class III orientation and miniplates placed on the symphysis and the expander appliance. (Source: Sar et al,<sup>1</sup> 2014).

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It allows digital models to be printed by 3D printers, which results in the fabrication of physical models. However, would these models have the same dimensions of real models? Would it be possible to use them for mensuration, diagnosis and fabrication of orthodontic appliances? To answer these questions, Dutch researchers developed a study<sup>2</sup> to evaluate the precision and reproducibility of three different prototyping methods: Digital light processing, jetted photopolymer and 3-dimensional printing (Fig 3). Their results revealed that orthodontic models rebuilt by means of the prototyping technique are clinically acceptable in Orthodontics. These data is of paramount importance for orthodontists, given that they encourage them to store the digital models and print the physical ones whenever necessary and without further alternations. In the near future, when 3D printers become commercially accessible, orthodontists will be able to carry out this process at their own clinical offices.

### EXTRACTION OF DECIDUOUS CANINE IS AN EFFECTIVE METHOD FOR INTERCEPTION OF PALATALLY DISPLACED PERMANENT CANINES

Impacted canines are an issue for the orthodontic practice. Orthodontic maneuvers must be performed to allow their eruption, given that intraosseous maintenance could cause problems, such as root resorption, to adjacent teeth. Finding a new way to intercept this problem minimizes major orthodontic issues. In this context, Swedish researchers conducted a randomized<sup>3</sup> controlled clinical trial in which patients with bilateral canines palatally displaced had a deciduous canine extracted on one side, with its counterpart functioning as control. Their results revealed that extraction of a deciduous canine is an efficient method in cases of palatally impacted canines. According to the authors, this procedure must be performed in younger patients. The authors emphasize the need for space maintenance on the upper arch during the observation period.

### ECTOPIC CANINES ARE MORE PERIODONTALLY COMPROMISED AFTER ORTHODONTIC MOVEMENT

As mentioned before, the interception of canine impaction prevents several orthodontic problems.

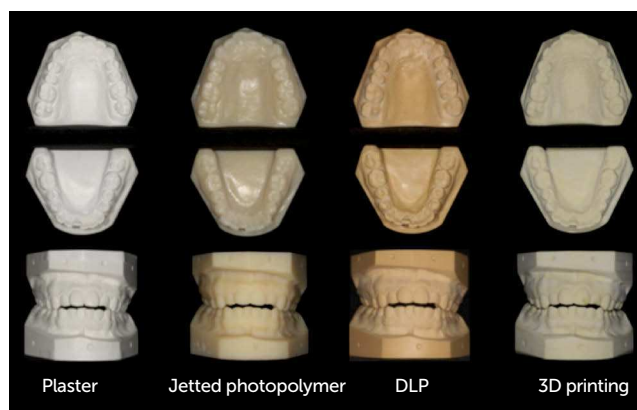


Figure 3 - Plaster model and its corresponding replicas in occlusal and frontal view. (Source: Hazeveld et al,<sup>2</sup> 2014).

When not intercepted at a young age, treatment is only possible by extrusion with future orthodontic movement. However, what would be the periodontal and endodontic implications of this procedure? To answer this question, Turkish researchers conducted a clinical<sup>4</sup> trial in which they evaluated the periodontal health and pulp vitality of buccal and palatal ectopic canines. Their results revealed increased bacterial plaque as well as increased gingival bleeding index, pocket depth and crown length of ectopic canines. Reduction in bone level and attached gingiva were also observed. With regard to the endodontic implications, electrical tests revealed an increased threshold. Their results reinforce the need for early interception of ectopic canines, which results in better periodontal health.

### TOOTH ENAMEL COLOR CHANGES AFTER ORTHODONTIC TREATMENT

Orthodontists often have patients asking whether the color of their teeth will change after orthodontic treatment. Many patients even emphasize the question: “Doctor, will teeth bleaching be necessary after treatment?” These doubts hang in the air. What is the truth? Could we control such an undesirable effect? To answer these questions, Turkish researchers conducted a laboratory<sup>5</sup> study to test different types of bonding material associated with two different methods employed to remove remaining adhesive. Their results were, in a certain way,

frightening, given that, according to them, orthodontic treatment changes the original color of tooth enamel. Both adhesive systems and both methods used to remove them were responsible for changing

the original color of tooth enamel. It is worth emphasizing that these findings were obtained with gold-standard bonding material, therefore, extra care is necessary when using any other type of material.

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