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IMAGE OF PANORAMIC RADIOGRAPHS CAN PREDICT MINI-IMPLANTS THAT WILL HAVE GREATER STABILITY

The patient's collaboration regarding the use of extra-oral appliances is a practically impossible task nowadays. With the advent of absolute anchorage using mini-implants, the anchorage problems were solved, favoring greater predictability for orthodontic treatment. The popularization of mini-implants was due not only to its effectiveness in maintaining the anchorage, but also due to its insertion ease, small size and low cost. Despite all the positive aspects, mini-implants may fail, and their main failures are stability within the bone tissue in which they are inserted. Insertion and removal torque, ultrasound, and pull-out tests are tools used at laboratory level with the purpose of evaluating the stability of mini-implants. However, how can one clinically predict the stability of mini-implants? Is there a relationship between the radiographic image of the inserted mini-implants and their stability? In order to answer this question, Korean researchers developed a study¹ (Fig 1) in which they used panoramic radiographs to evaluate the factors that influence the success rate of orthodontic mini-implants in orthodontic patients with good periodontal state (29 men, 51 women, mean age 17.95 years old), who underwent bilateral insertion of mini-implants (n=160) in the maxillary oral alveolar bone. Their results suggested that the success of mini-implants' stability is related to a more apical positioning and with

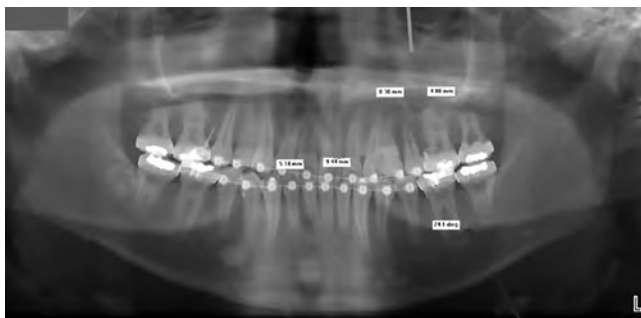


Figure 1 - Panoramic radiography incorporated in the V-Ceph Image software (Osstem, Seoul, Korea). Source: Park et al.¹, 2018.

lower angulation. The authors also concluded that the success rate of mini-implants is significantly higher among adults than in adolescents.

LINGUAL FIXED RETAINERS AND HAWLEY RETAINERS PRESENT GREATER SURVIVAL RATES THAN OTHER TYPES

There is already consensus among orthodontists around the world regarding the importance of retaining teeth after corrective orthodontic treatment. There are several retention options described in the literature and used by orthodontists around the world. These options range from fixed to mobile retainers — the latter can be made with chemically activated or thermoplasticized acrylic resin. The use of retainers by the patient is still a challenge in this stage of treatment either because of factors inherent to the type of retainer or factors inherent to the patient. From this perspective, rises a question: which type of retainer presents the greatest survival time? In the search for a response to this clinical doubt, New Zealand researchers developed a study² evaluating retainers survival rate. A total of 591 retainers of 309 patients (installed between the years 2003 and 2014) were included in the study: Hawley retainers (n=199), thermoplastic retainers (n=34), lingual fixed retainers (n=278) and COMBO (two different retainers types in the same arch, n=80). The results obtained with the study revealed that lingual fixed and Hawley retainers had the longest survival times, followed by COMBO and vacuum-plasticized retainers. The reasons for failure were mainly mechanical (debond and fracture) and patient-related (loss).

TOOTHPASTE WITH BLEACHING AGENTS REDUCES THE STRENGTH OF ELASTOMERIC CHAINS

A frequent questioning by orthodontic patients is that their teeth have darkened with the use of a fixed appliance. Whether or not this is true, the fact is that many patients resort to methods that can soften this “darkening” during orthodontic treatment. The use of toothpastes has become frequent among fixed appliance users. In this context, a question arises: would these toothpastes

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be able to decrease the strength of the elastomeric chains? With the proposal of elucidating this question, Iranian researchers developed an *in vitro* study³ where they compared for 28 days the force released by elastomeric chains when brushed with conventional toothpastes and with bleaching agents. The authors conclude from this study that toothpastes with bleaching agents led to a greater reduction in the strength of the elastomeric chains, when compared to conventional toothpaste (Fig 2). The findings of this study lights a warning to those cases where the movement rate is lower than expected when space closure after dental extractions is performed.

ACUTE OVERJET AFFECTS CHILDREN'S QUALITY OF LIFE

For quite some time, oral health has ceased to be considered an isolated problem. Oral problems, especially occlusal ones, affect the individual as a whole. Self-esteem, aesthetic perception and the quality of life are areas that are much studied today. In what regards quality of life, much has still to be studied. Recently, a study⁴ was published by a group of German researchers whose objective was to evaluate the quality of life of children and adolescents with overbite and marked overjet, compared to individuals with normal parameters. Therefore, they analyzed the occlusion and investigated the quality of life of 748 subjects with age ranging from 9.5 to 15.5 years. When evaluating the quality of life, the questionnaire was divided into “oral symptoms”, “functional limitations”, “emotional well-being” and “social well-being”. The study revealed that children and adolescents with overjet deviation greater than 6 mm compared to the standard are related to a reduction in quality of life. However, exaggerated overbite deviations have little influence on it.

OBESE INDIVIDUALS PRESENT GREATER PAIN AND CONSUMPTION OF ANALGESIC AFTER ORTHODONTIC ACTIVATION

Obesity is a chronic disease, which affects a large number of people all over the world. It is characterized by the accumulation of body fat and can lead to serious health problems and even death. According to IBGE data, Brazil has about 27 million people considered obese. Summing up the total of overweight individuals, the amount reaches almost 75 million. With so many obese people, it is likely

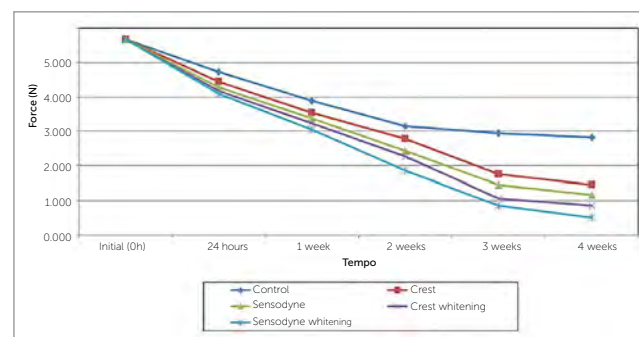


Figure 2 - Gradual reduction in the strength of the elastic chains after being brushed by different toothpastes.

that a significant portion of our patients are in this group. As aforementioned, obesity affects the entire body and why it would thus not affect orthodontic treatment? Following this line of thought, English researchers developed a study⁵ that confirmed that obese individuals presented greater pain sensitivity and greater consumption of analgesics than patients with normal weight, after installation of a fixed orthodontic appliance. To this end, 55 individuals (27 males, 28 females) with a mean age of 15.1 years and mean body mass index of 30.2 for obese and 19.4 kg/m² for normal weight groups were followed by one week after the installation of a fixed orthodontic appliance. The pain evaluation was performed using a 100-mm visual analogue scale. The authors concluded with this study that there is a trend towards increased mean pain and an association with increased consumption of analgesics in obese individuals during the first week after installation of fixed appliances.

REFERENCES

1. Park JH, Chae JM, Bay RC, Kim MJ, Lee KY, Chang NY. Evaluation of factors influencing the success rate of orthodontic microimplants using panoramic radiographs. *Korean J Orthod.* 2018 Jan;48(1):30-8.
2. Jin C, Bennani F, Gray A, Farella M, Mei L. Survival analysis of orthodontic retainers. *Eur J Orthod.* 2018 Jan 24.
3. Behnaz M, Dalaie K, Hosseinpour S, Namvar F, Kazemi L. The effect of toothpastes with bleaching agents on the force decay of elastomeric orthodontic chains. *Eur J Dent.* 2017 Oct-Dec; 11(4): 427-431.
4. Fabian S, Gelbrich B, Hiemisch A, Kiess W, Hirsch C, LIFE Child study team. Impact of overbite and overjet on oral health-related quality of life of children and adolescents. *J Orofac Orthop.* 2018 Jan;79(1):29-38.
5. Saloom HF, Papageorgiou SN, Carpenter GH, Cobourne MT. The effect of obesity on orofacial pain during early orthodontic treatment with fixed appliances: a prospective cohort study. *Eur J Orthod.* 2017 Oct 9.