

Matheus Melo **PITHON**^{1,2} ✉

 <https://orcid.org/0000-0002-8418-4139>

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✉ matheuspithon@gmail.com

RAPID MAXILLARY EXPANSION IMPROVES CHILDREN'S QUALITY OF LIFE

For many years, orthodontics was considered a specialty of dentistry concerned solely with correcting misaligned teeth. However, thanks to scientific advances in orthodontics, this is no longer the case. Orthodontics now plays a greater role in people's lives. Improved masticatory function and esthetics when smiling affect the lives of people who undergo treatment, by influencing how they are seen by society. Recently, a group of Brazilian researchers developed a study¹ to assess patients' quality of life before, during, and after the correction of transverse deficiency with a Hyrax-type expander. In this study, 80 participants aged 8–10 years with transverse maxillary deficiency and a bilateral posterior crossbite were randomly assigned to two groups: one group was treated with rapid maxillary expansion using a Hyrax appliance, and the other group was untreated. Quality of life was assessed by administering a questionnaire four times: before expansion,

(1) Universidade Estadual do Sudoeste da Bahia, Departamento de Saúde I (Jequié/BA, Brazil). (2) Universidade Federal do Rio de Janeiro, Programa de pós-graduação em Odontopediatria e Ortodontia (Rio de Janeiro/RJ, Brazil).

during expansion, immediately after expansion, and one month after removing the expander appliance. The results revealed that correcting transverse maxillary deficiencies in children aged 8–10 years improves their quality of life. However, the authors also found a temporary deterioration in quality of life during treatment.

TREATMENT WITH INVISALIGN TAKES LONGER THAN FIXED APPLIANCES TO OBTAIN THE SAME RESULTS

Invisalign, an orthodontic aligner used to treat malocclusions, is the new “star” in orthodontics worldwide. Its aesthetic appeal and easy removal for eating and dental hygiene contribute to the aligners’ popularity. However, it is uncertain if an aligner can obtain a good dental occlusion as efficiently as traditional fixed appliances. To answer this question, a group of American researchers developed a study² comparing the occlusions obtained by users of Invisalign and conventional fixed orthodontic appliances. Researchers recruited 66 patients with Class I malocclusion with a mean age of 26.7 years. Patients were randomly assigned to two groups. Pretreatment occlusion was assessed using the ABO Discrepancy Index. Posttreatment (T_1) and 6-month retention (T_2) occlusions were quantified using the ABO Objective Grading System (OGS) scores. The results revealed that patients with simple Class I malocclusions treated with Invisalign and attachments required an additional 4.8 months of treatment, compared to patients treated with fixed appliances.

REINSERTION OF MINI-IMPLANTS AFFECTS THEIR STABILITY

Since their appearance in the mid-1990s, orthodontic mini-implants have become popular, becoming the first choice when absolute anchorage is desired. In certain clinical situations, replacing the mini-implant is necessary either due to the specifics of the case or a loss of stability during ongoing treatment. In such clinical situations, it is unclear whether an orthodontist should reuse the mini-implant. To answer this question, Chilean researchers developed a study³ comparing the primary stability of mini-implants after repeated insertion cycles, by measuring insertion torque (IT) and conducting a resonance frequency analysis (RFA). Sixty titanium mini-implants were divided into two groups according to the insertion protocol: one with pre-drilled sites and another that was self-perforating. Each group had three reinsertion cycles. After each insertion, insertion torque and resonance frequency were evaluated, and the mini-implants were evaluated in a scanning electron microscope (Fig 1). Based on the results, the authors concluded that reinserting mini-implants deteriorates the integrity of the tip and threads. The authors stressed that reinsertion should be discouraged, especially when insertion sites are not pre-drilled.

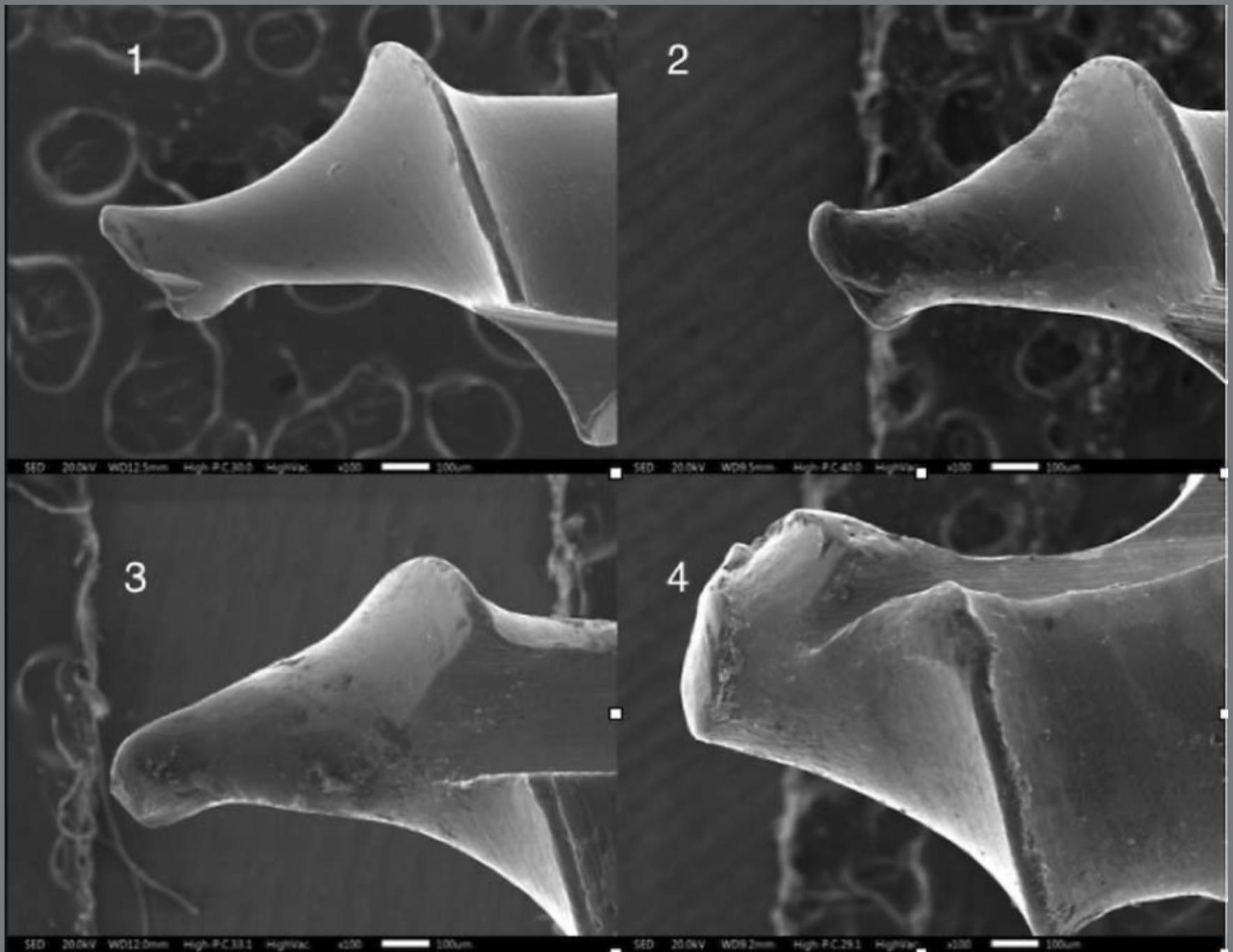


Figure 1: Examples of the score assigned to the miniscrews according to the structural surface evaluation of their tips and threads, under scanning electron microscope (100x). Source: Nenen et al.³, 2021.

INSTAGRAM: A TOOL USED IN FAVOR OF THE ORTHODONTIC RETENTION PHASE

The emergence of the Internet has changed how people interact. Social media such as YouTube and Twitter play a considerable role in facilitating communication and information sharing. Moreover, companies use these media to advertise products and services. Social media also play a role in health care, informing and announcing services to patients. However, health information on the Internet is not regulated. Thus, the information may not be accurate or based on evidence. A group of Australian researchers developed a study⁴ to evaluate information posted on Instagram by patients and orthodontists about orthodontic retention. For this evaluation, researchers searched Instagram for six terms related to orthodontic retention, preceded by a “#” (“hashtag”). The selected posts were evaluated by applying nine questions related to the term “retention”. The patients’ posts were also qualitatively evaluated, coded into themes using discourse analysis. The results revealed that orthodontists use Instagram more often than patients to post information related to orthodontic retention. The authors stressed the need for orthodontists to ensure that the content of their Instagram posts is relevant to the concerns patients post about.

BOTULINUM TOXIN-A: AN ALLY IN IMPROVING FACIAL ESTHETICS

The face is important for communication and appearance. Changes in the face affect people's self-perception and self-esteem. Common cosmetic complaints concerning the face are wrinkles and a gummy smile. Although surgical solutions to these problems are well-established, they are invasive and may not be accepted by some patients. However, one non-invasive technique currently used is injecting a neurotoxic protein called botulinum toxin-A. Despite being widely used, the literature is inconclusive about its potential effects and risks. Thus, researchers from New Zealand developed a study⁵ to assess the efficacy and safety of botulinum toxin-A in improving the esthetics of the facial complex. They also sought to correlate these improvements with dosage and side effects, through a systematic review. To this end, researchers conducted a systematic search in the PubMed, Medline, Web of Sciences, and Scopus databases. Effectiveness was analyzed using the rate of improvement and size of effects. The authors concluded that botulinum toxin-A efficiently and safely improves facial esthetics at all recommended dosages. However, they found that undesirable adverse muscle effects around the eyes were more prevalent when treating the glabellar region. The authors emphasized that increasing the dosage does not increase the effectiveness of the therapy.

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