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Submitted: April 19, 2021 • **Revised and accepted:** May 12, 2021

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FACIAL SCANNERS ARE AN ACCURATE TOOL FOR FACIAL ASSESSMENT

Three-dimensional imaging techniques are changing healthcare, including orthodontics. Initially, 3D technology was used to create classic orthodontic models, but recently 3D images of the face have attracted attention. They offer diagnostic possibilities beyond those that can be achieved with photographic images in two dimensions (2D). However, there are not any studies assessing the reliability of 3D facial images. Therefore, Italian researchers developed a study¹ to compare the degree of precision that can be achieved using two different facial scanners: Face Hunter[®] and Dental Pro[®]. Measurements were taken on 25 patients, both manually and with the scanner. Six reference

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points were used, and a digital-measurement software was used to calculate the distances (Fig 1). Three-dimensional facial surface scans proved to be an excellent analytical tool for clinical assessment. Manual measurement and the Face Hunter® facial scanner were accurate, and did not differ from each other.

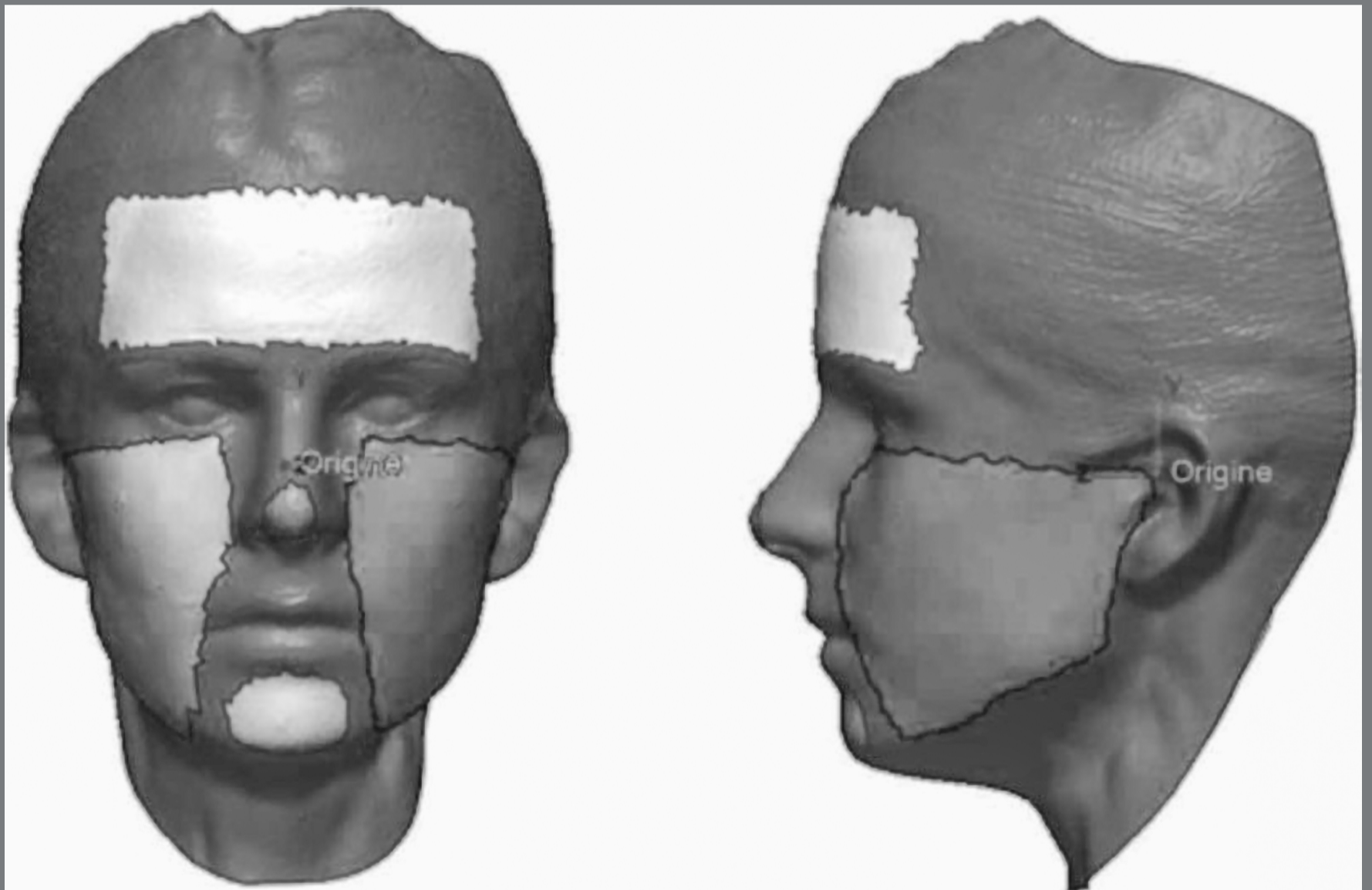


Figure 1: Areas superimposed on the images: right and left cheeks, forehead, tip of nose and chin. Source: Pellitteri et al.¹, 2021.

WHATSAPP IS AN IMPORTANT TOOL TO INCREASE PATIENTS' AWARENESS OF FLOSSING

Optimal oral hygiene requires complete and clear professional instructions, proper tools, and patient motivation. Social media and instant messaging apps can be allies in motivating patients to perform correct oral hygiene. Text messages have been used with satisfactory results in nursing and medicine. Brazilian researchers asked whether sending text messages using WhatsApp would influence patients' awareness of the need to maintain good oral hygiene and increase the frequency of flossing.² They selected a sample of 44 patients (mean age, 14.3 years) in use of fixed orthodontic appliance. The patients were divided into two groups of 22 individuals. Patients in one of the groups received daily text messages via WhatsApp for 30 days, to remind them of the need for flossing; those in the other group did not receive the text messages. The Plaque Index (PI) and Gingival Bleeding Index (GBI) were evaluated, and halitosis was assessed, at baseline and after 30 days. The authors found that the daily text messages increased patients' awareness of maintaining good oral hygiene through the use of dental floss.

MEDICATION CAN AFFECT ORTHODONTIC RELAPSE

Successful orthodontic interventions rest on three fundamental pillars: aesthetics, function and stability. Unfortunately, teeth may begin to shift from their corrected position immediately after brackets are removed, in an attempt to achieve a new balance. Studies have indicated that drugs and biological factors can modulate this process. However, the evidence diverges and requires systematic evaluation to be useful in clinical decision-making. Researchers from Dubai and Greece conducted a systematic review of studies in animal models that investigated the effect of medication and biological factors on the recurrence rate after orthodontic tooth movement.³ They searched eight databases for studies published up to April 2020, and also conducted a manual search. They concluded that the relapse rate after orthodontic treatment can be affected by the consumption or administration of certain substances. They pointed out that these results are from animal studies, but serve as a warning to clinicians to use caution in planning treatments.

RETAINERS MADE WITH CAD/CAM TECHNOLOGY ARE ASSOCIATED WITH FEWER IMAGING ARTIFACTS THAN CONVENTIONAL WIRE RETAINERS

A group of German researchers studied the quality of magnetic resonance imaging (MRI) obtained in the presence of different types of orthodontic retainers made with the CAD/CAM system.⁴ This technology has been widely used in contemporary orthodontics, bringing the possibility of using different types of materials, and reducing the orthodontist's laboratory time. However, the diagnosis of oral and maxillofacial diseases can be seriously hampered by image artifacts caused by metallic components, since the region of interest is close to the orthodontic appliance. It is especially important to evaluate the imaging risk posed by fixed orthodontic retainers, as typically they are installed for life. In this study, three retainers made using CAD/CAM technology and a conventional stainless-steel retainer made of Twistflex wire were evaluated (Fig 2). The authors found that all of the CAD/CAM retainers produced substantially smaller numbers of artifacts in the MRI images than the retainer made with Twistflex wire. The artifact volumes were lowest with titanium and nickel-titanium CAD/CAM retainers.

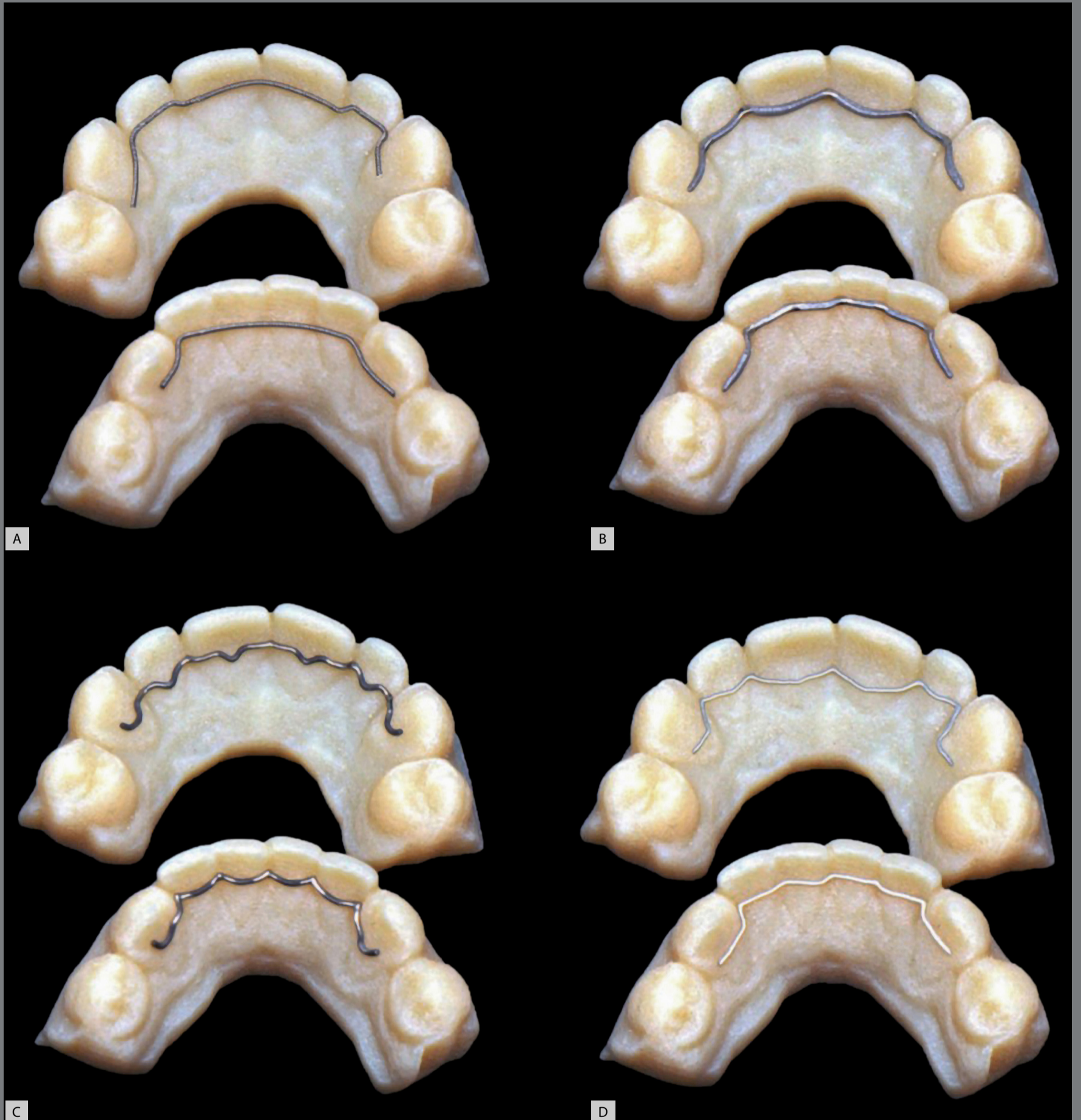


Figure 2: Photographs of the retainers evaluated in the study: **A)** Twistflex (folded); **B)** cobalt-chrome (CAD / CAM); **C)** grade 5 titanium (CAD / CAM); **D)** nickel-titanium (CAD / CAM). Source: Roser et al.⁴, 2021.

WHITENING TOOTHPASTES ARE CYTOTOXIC

White teeth are considered synonymous with beauty and empowerment, and consumers are increasingly eager to improve the appearance of their teeth. The oral care industry launches new products every day to satisfy this demand, including whitening gels, mouthwashes, and whitening toothpastes. However, these products must be used with care to maintain the integrity of the oral tissues. A group of Brazilian researchers evaluated the biocompatibility and abrasiveness of conventional and whitening toothpastes,⁵ which were tested for cell toxicity, and enamel roughness was evaluated before and after application. Some of the whitening toothpastes exhibited significant cytotoxicity, and the conventional toothpastes produced significant superficial changes in the tooth enamel. The authors highlight the need for additional *in vivo* studies, to assess interactions between toothpastes and other factors.

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