



No one likes to remove orthodontic brackets in the middle of treatment, but that can be necessary if a patient needs magnetic resonance imaging (MRI). This Pearl describes the use of a single intraoral scan for both an Essix* temporary retainer to hold the teeth and an indirect rebonding transfer tray to replace the brackets in the same positions.

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Indirect Rebonding Transfer Tray Following Magnetic Resonance Imaging

Stainless steel brackets and wires cause distortion and artifacts during an MRI of the head and neck, resulting in images of poor diagnostic quality.¹ Therefore, any fixed appliances are usually removed prior to an MRI study.¹

Debonding and rebonding of orthodontic brackets during active treatment is time-consuming.² Moreover, if the initial bonding required a setup, or if the treatment phase involved finishing bends, the previous bracket positions must be precisely reproduced.

Further treatment delays can be avoided by delivering a temporary Essix retainer to be worn until the rebonding appointment. This Pearl demonstrates how a single intraoral scan can be utilized for both the Essix retainer and an indirect rebonding transfer tray. The retainer prevents tooth movements with nightly wear, and the transfer tray enables rebonding of the same brackets in unaltered positions.

Technique

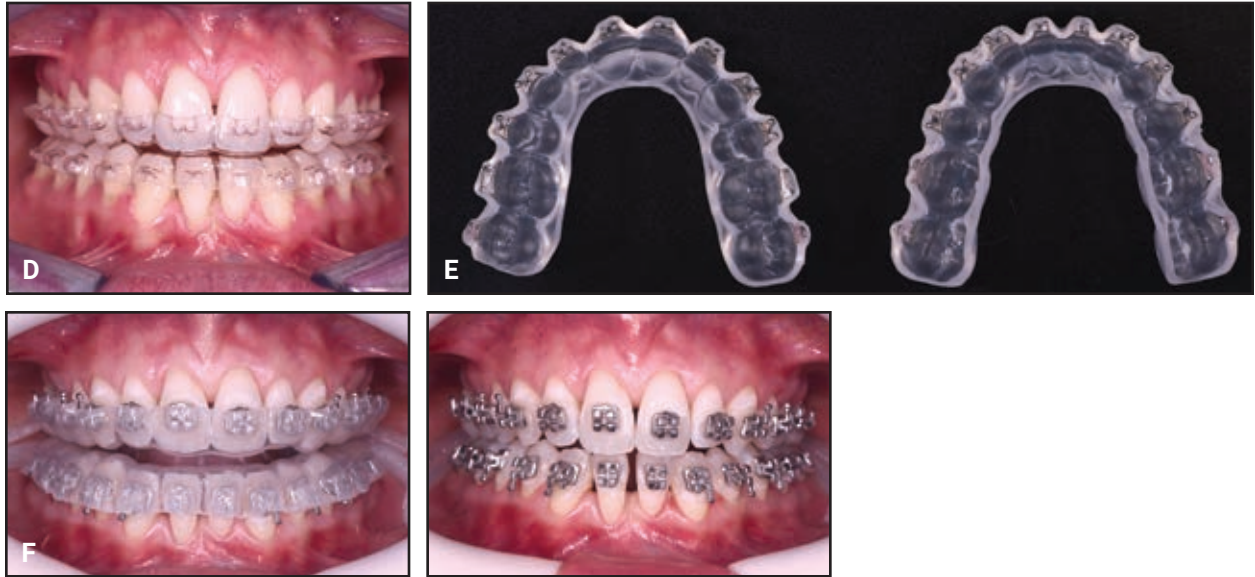
The technique is illustrated on a 26-year-old female patient with agenesis of the lower central incisors (A). The treatment plan included extraction of the upper second premolars and lower deciduous incisors. Space closure was almost complete, but fixed appliances were still needed to manage anterior torque and to achieve a good posterior occlusion in conjunction with elastics. At this point, the patient was referred for an MRI of the head and neck area.

After the archwires were removed, an intraoral scan was performed using a scanning spray** (B), which is designed to avoid the inaccuracies that can be caused by reflections on metal, as well as to make the tooth surfaces more easily scannable (C).³ The virtual models were then used for

*Registered trademark of Dentsply Sirona Orthodontics Inc., Sarasota, FL; www.essix.com.

**Trademark of VITA Powder Scan Spray, VITA Zahnfabrik, Bad Säckingen, Germany; www.vita-zahnfabrik.com.





fabrication of both a 1mm Zendura*** Essix temporary retainer (D) and a 2mm indirect rebonding transfer tray† (E).

The comfortable Essix retainer preserved the tooth positions while the fixed appliances were off. Because the digital scan was most distorted in the area of the bracket hooks, the transfer tray was designed to be cut off at the level of the gingival bracket wings. After the bracket bases were sandblasted, the indirect rebonding was performed under dry-field conditions to obtain a perfect adhesion (F).

***Trademark of Bay Materials LLC, Fremont, CA; www.zendura-dental.com.

†Bioplast, trademark of Scheu-Dental GmbH, Iserlohn, Germany; www.scheu-dental.com.

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