TECHNIQUE CLINIC

A Quick and Inexpensive Method for Immediate Pontic Fabrication

Restorative options for an ankylosed central incisor include extraction and prosthodontic replacement, substitution of a lateral incisor,[1] autogenous premolar transplantation,[2] prosthodontic crown buildup and gingival recontouring, luxation and traction,[3] decoronation,[4] dento-osseous osteotomy and distraction,[5] and reuse of the ankylosed tooth as a pontic.[6] The treatment plan generally depends on the patient's age, periodontal health, root length, facial profile, malocclusion, and financial limitations.

This article describes a cost-effective technique for immediate fabrication of a resin pontic prior to extraction of an ankylosed central incisor.

Procedure

1. Before extracting the ankylosed incisor, apply Regisil* Rigid fast-setting bite registration material directly over the tooth (Fig. 1).
2. Remove the material from the mouth, and fill the impression with a composite resin such as Transbond** XT, or with cold-cure acylic (Fig. 2A). If desired, a primer such as Transbond Plus Self Etching Primer can be applied to the facial surface of

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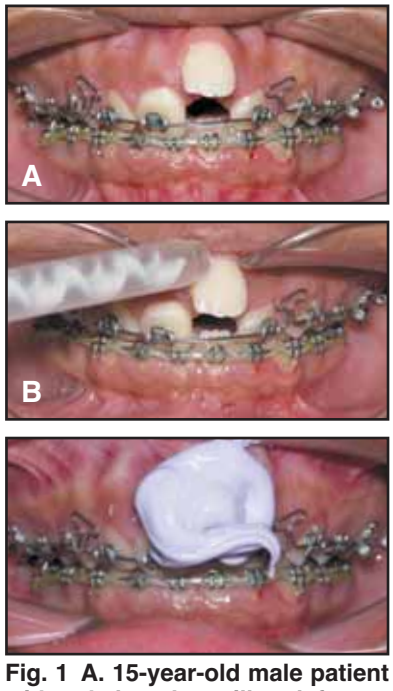

Fig. 1 A. 15-year-old male patient with ankylosed maxillary left central incisor due to traumatic fall. B. Fast-setting bite registration material applied over ankylosed tooth.

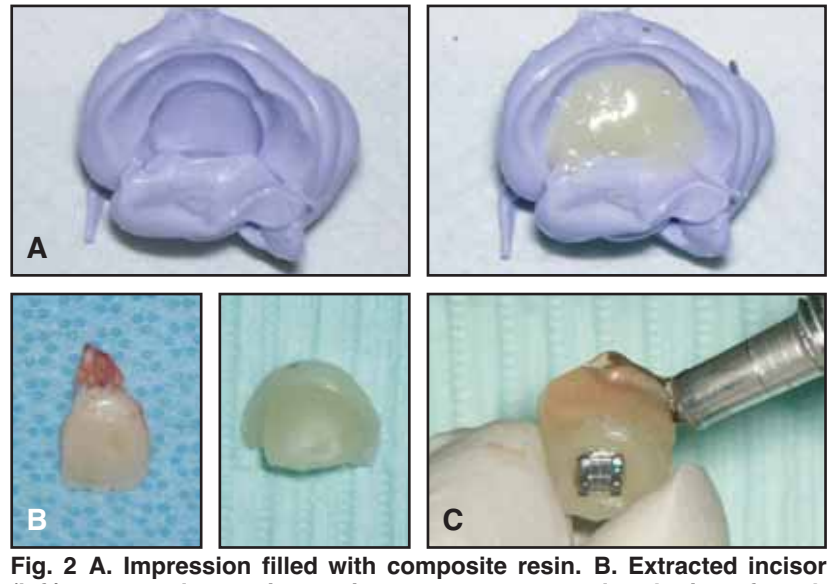

Fig. 2 A. Impression filled with composite resin. B. Extracted incisor (left) compared to resin pontic; note accuracy and esthetics of tooth shape, size, translucency, incisal edge, and gingival margin. C. Acrylic gel added to create gingival collar and emergence profile.

the impression before filling to reduce the viscosity of the composite.
3. Light-cure the composite for 40 seconds. Remove the resin pontic, apply a coat of primer to fill any porosities and create a natural sheen, and cure for an additional 20 seconds (Fig. 2B).
4. Attach the bracket directly to the composite surface; there is no need to etch the pontic.
5. Apply pink Triad* acrylic gel to create a gingival border and an emergence profile (Fig. 2C). Light-cure the bracket and acrylic gel for 40 seconds.
6. Contour the lingual and interproximal edges with an acrylic or high-speed bur, and ligate the pontic to the archwire (Fig. 3).

Discussion

Taking an impression of the patient's own tooth allows the orthodontist to create a pontic with accurate anatomy, size, and esthetics. The total time for the procedure described above is less than five minutes.

An impression of the extracted tooth could be made outside the mouth, but we do not recommend this approach for several reasons:
• An ankylosed tooth—particularly one with sustained pulpal necrosis due to traumatic intrusion—may fracture during extraction.
• An intraoral impression will capture the gingival margin.
• A tooth with severely resorbed roots can be cumbersome to manipulate.
• The extracted tooth may be inadvertently discarded before the impression is taken.

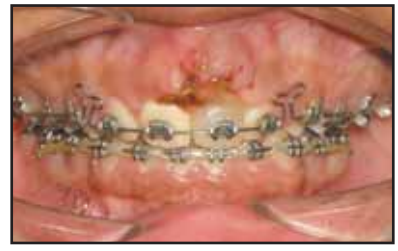

Fig. 3 Patient after pontic delivery.

If a tooth has been previously lost or extracted, the clinician can use an adjacent or contralateral tooth to make the impression mold. A missing second premolar can be replaced with the first or second premolar from the opposite side; a first molar can be replaced with a second molar; a missing or impacted canine can be replaced with a first premolar or the contralateral canine. If a central incisor is missing, the adjacent central incisor should be used for accurate size and characterization, with minor interproximal recontouring as needed to improve the shape of the tooth and create proper transition lines.

A single-tooth pontic will tend to rotate on a round archwire. To prevent this, the clinician can either place a rectangular archwire or cantilever the pontic lingually to the adjacent tooth, using a twisted ligature, a wire segment, or fiber-reinforced composite.

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