A simplified custom impression technique

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The use of a custom impression tray has long been recommended for improved accuracy of elastomeric impression materials.[1-3] Finger[4] noted that a thick layer of addition-polymerizing silicone causes distortion of the impression material because of the relatively high thermal coefficient. Eames et al[5] evaluated the effect of bulk on accuracy and demonstrated that the interface space of 2 mm produced the most accurate impressions when compared with larger spaces.

Autopolymerizing acrylic resin, thermoplastic resin, and light-polymerized acrylic resins have all been used to fabricate custom impression trays to limit the bulk of impression material. The 2-step, 2-mm relief space putty-wash impression technique was also shown to be an accurate alternative method for fabricating stone dies.[6] However, these techniques require additional materials and expense. Clear plastic matrices are routinely fabricated in preparation for fixed prosthodontic treatment. In fact, Preston[7] described the multiple benefits of using a polypropylene matrix, which included guides for esthetic control, waxing, preparation, and both the trial and definitive restoration. This article describes the use of such a matrix to modify a stock tray, precluding the need for a custom tray or putty-wash system.

PROCEDURE

1. Make a vacuum-formed, 0.20-inch-thick, clear template (Buffalo Dental Mfg Co, Syosset, NY) on the diagnostic cast using the vacuum adapter (Vacuum Forming Machine #101; Keystone Industries, Myerstown, Pa).
2. Cut the template at the interproximal junction of the tooth or teeth to be prepared, leaving 3 mm of matrix beyond the cervical finish line on the buccal and lingual surfaces, for correct seating.
3. After syringing the wash impression material (Star VPS; Danville Engineering, San Ramon, Calif) on the preparation(s), fill the internal portion of the adapted template with higher-viscosity impression material and seat over the preparation(s) (Fig. 1).
4. Fill the stock tray with higher-viscosity impression material and seat intraorally.
5. Allow the material to polymerize according to the manufacturer's recommendations (Fig. 2).

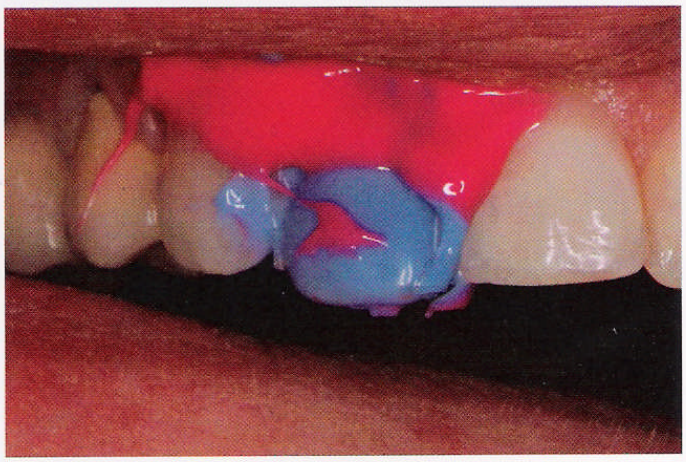

Fig. 1. Adapted vacuum-formed template placed only over preparation, filled with higher-viscosity impression material.

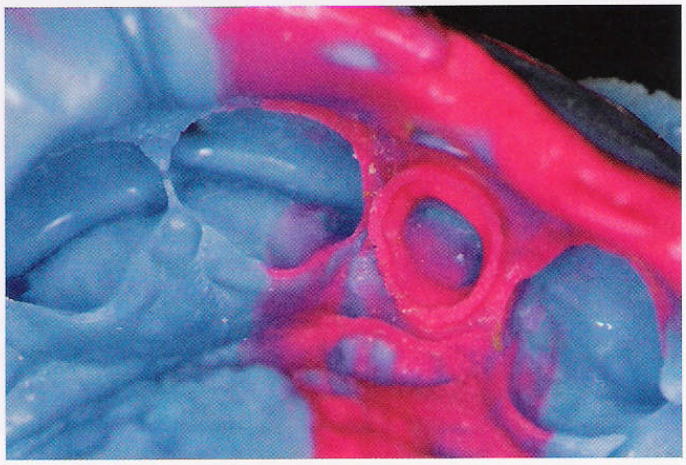

Fig. 2. Definitive impression.

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J Prosthet Dent 2005;94:468-9.

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0022-3913/$30.00

doi:10.1016/j.prosdent.2005.09.009