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 Finger4 noted that a thick layer of addition-polymerizing silicone causes distortion of the impression material because of the relatively high thermal coefficient. Eames et al5 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, Preston7 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 finishing 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).

REFERENCES

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