



A MODIFIED ONE-STEP PUTTY-WASH IMPRESSION TECHNIQUE

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Although the literature demonstrates that optimum accuracy can be achieved with custom trays and stock trays,¹⁻⁴ the putty-wash impression technique using an elastomeric impression material is a popular method. Two variations of the putty-wash impression technique are commonly used, the 2-step and 1-step.⁵ With the 2-step technique, a preliminary pre-operative putty impression is made and, subsequently, “washed” with low viscosity material after tooth preparation. In terms of the 2-step putty-wash impression technique, several methods are described for control of the bulk of the wash material,⁶⁻⁸ which is essential for fabricating accurate stone dies. With the 1-step procedure, low viscosity impression material is injected around the prepared tooth or teeth, and then the putty impression material is immediately placed intraorally and the materials polymerize simultaneously.

Accuracy of impressions resulting from the 1-step putty-wash technique is controversial. Some authors found that there was no difference in accuracy between techniques,^{5,9-11} while others criticized several potential disadvantages with this approach. These disadvantages include lack of control of the bulk of wash material and the high risk of capturing portions of the prepared margin in putty material rather than lower viscosity material.¹² Most putty viscosity materials

have inadequate fine detail reproduction for this purpose. This article describes a modified 1-step putty-wash technique using vacuum-formed resin sheets as spacers to control the wash bulk and minimize the chance of unfavorable impression results. Using this technique, the limitations of using 1-step putty-wash impression can be

eliminated.

PROCEDURE

1. Use the original diagnostic cast or cast recovered from an impression of the diagnostic provisional restorations to fabricate the vacuum-formed spacer (Fig. 1, A).



1 A, Cast recovered from impression for provisional restoration on mandibular right first premolar. B, Vacuum-formed spacer fabricated on cast recovered from impression for provisional restoration.

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2. Place the cast and a 5 x 5-inch sheet of 0.08-inch-thick soft clear ethyl vinyl acetate (Pro-Form; Dental Resources Inc, Delano, Minn) on a single-chambered vacuum-forming machine (Stay-Vac; Buffalo Dental, Syosset, NY). Heat until a 0.5-inch droop develops, and then vacuum form the spacer on the cast.

3. Do not prepare occlusal stops because they interfere with the removal of the spacer from the putty. Trim the spacer with scissors and a hot knife to cover approximately 2 to 3 mm of marginal gingiva on the buccal and lingual surfaces of the teeth (Fig. 1, B).

4. Complete essential gingival displacement procedures on prepared

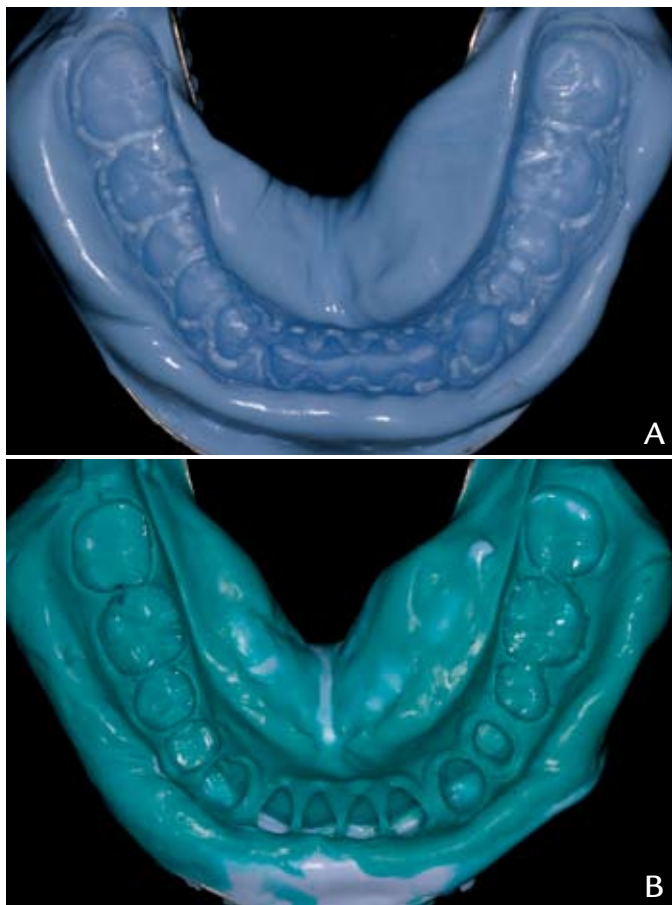
teeth.

5. Place the vacuum-formed spacer intraorally and verify stability.

6. Make a transfer impression of the spacer with high-viscosity putty impression material (Aquasil; Dentsply DeTrey, Konstanz, Germany) in a stock tray (Fig. 2, A).

7. Before the putty impression material is polymerized, remove the entire impression from the mouth and gently remove the spacer from the putty material.

8. Simultaneously wash the putty tray with light-bodied vinyl polysiloxane impression material (Aquasil; Dentsply DeTrey) to make the definitive impression (Fig. 2, B).



2 A, Vacuum-formed spacer on internal surface of putty pick-up impression. B, Internal surface of washed putty impression.

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