TIPS FROM OUR READERS

Use of irreversible hydrocolloid impression material to correct a defect in complete denture definitive impressions

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A maxillary complete denture (CD) impression often demonstrates a defect in the palatal region of the edentulous arch.\textsuperscript{1} This problem commonly relates to air trapped in the impression material or mishandling of the tray seating; the bubble formed in the impression can compromise the fit of the CD or impair tissue health.\textsuperscript{2}

One method of correcting the impression when the defect is small and localized is to use a dental impression wax.\textsuperscript{3,4} This procedure requires the impression wax to fill the defect and the impression to be seated and separated repeatedly until the wax presents the surface detail of the mucosa without overlapping the adjacent impression surface. However, errors may develop because of poor handling and misjudgments such as displacement of the mucosa and distortion of the wax upon removal from the mouth.\textsuperscript{5,6}

The impression is often relined with a light-viscosity impression material. This method is convenient and eliminates the risk of reproducing the error in another impression. However, the relining procedure may subject the mucosa of the palatal vault to excessive hydraulic pressure and cause tissue displacement.\textsuperscript{2} At removal, the impression may demonstrate poorly developed borders at the periphery, and the fit and retention of the denture will be compromised.\textsuperscript{7}

An alternative procedure for correcting polyvinyl siloxane (PVS) definitive CD impressions with an irreversible hydrocolloid impression material is presented. When a defect is identified, 2 small holes are made in a diagonal direction through the tray. With the impression seated intraorally, the secondary impression material is injected into the defect through a hole until the excess is extruded through the other.\textsuperscript{8}

The size defect is not critical as the defect is confined to the region of the palatal vault. The risk of mucosal displacement is minimized by increasing the liquid-to-powder ratio and releasing the hydraulic pressure through the hole in the tray.\textsuperscript{9,10} However, this corrected impression should be poured upon removal from the mouth or stored in a humidor to avoid distortion related to loss of water.\textsuperscript{11}

PROCEDURE

1. Evaluate the maxillary CD definitive PVS impression (Extrude Medium; Kerr Corp) and identify a defect in the palatal region (Fig. 1).
2. Create 2 holes through the tray into the defect in a diagonal direction with a No. 8 tungsten carbide round bur (Brasseler USA Inc) (Fig. 2).

\textbf{Figure 1.} Maxillary PVS impression demonstrating defect in palatal region.

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3. Seat the PVS impression intraorally and secure it firmly against the palate.

4. Mix fast-setting irreversible hydrocolloid impression material (Jeltrate; Dentsply Caulk) to a fluid consistency with 1.5 times the amount of water recommended by the manufacturer and load it in a small disposable syringe (Luer-Lok Tip; BD).

5. Inject the impression material through a hole in the tray until the excess extrudes through the other. Close the holes with a finger. Do not disturb the material until it sets.

6. Separate the impression from the mouth and evaluate the adequacy of the surface detail (Fig. 3).

REFERENCES


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