Alternative technique for investing abutments for screw-retained implant-supported restorations

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The investment of multiple screw-retained prostheses is a challenging phase in the fabrication of implant-supported prostheses. One problem encountered is that air bubbles are easily trapped within the cast-to-abutments and/or prosthetic cylinders, resulting in mis-casting and/or misfit of the prosthesis. These fabrication errors generally add to the cost of the laboratory phase because new components must be purchased.1-4 This article describes a simple technique to limit the trapping of air bubbles in the cast-to abutments or prosthetic cylinders. This procedure reduces the risk of trapping air bubbles in the screw access holes of the abutment by directly injecting the investment into the cast-to abutment or prosthetic cylinders.

Fig. 1. A, Completed wax pattern attached to crucible former. B, Injection of investment with syringe. Note investment extruding from opposite end of abutment.

Fig. 2. A, Injection of investment over all abutments. B, Final pouring of investment with ring attached to crucible former.

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PROCEDURE

1. Attach the wax pattern to the crucible former. Do not place into the metal ring at this time (Fig. 1, A).
2. Apply surfactant (Picosilk; Renfert, Hilzingen, Germany) to minimize the surface tension.
3. Mix the investment (Hi-Temp; Whip Mix Corp, Louisville, Ky) according to the manufacturer’s directions, and place a small amount into a plastic syringe (Disposable Impression Syringes; Henry Schein, Melville, NY).
4. Inject the investment into the access openings of the abutments, verifying the investment has filled the access opening and there is excess flowing out from the other end of the abutment (Fig. 1, B).
5. Extrude the remaining investment in the syringe over the wax pattern (Fig. 2, A).
6. Place the casting ring into the crucible former and fill the casting ring with investment (Fig. 2, B).

REFERENCES


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