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An accurate implant impression is essential for the fabrication of an accurately fitting superstructure. This is important to reduce stress in the implant components and bone adjacent to the implants. The unique implant-bone relationship requires a high standard of fit and is considered critical to the long-term success of a prosthesis.1,4

The popular pick-up (open tray) implant impression technique, using square copings, has been shown to be accurate and a primary factor in increasing the precision of fit for the restorative complex.5,6 The transfer (closed tray) impression technique, using tapered copings, is a simpler method, in which the impression coping-analog assemblies are placed back into the impression extrarurally. However, the reinsertion of the coping-analog assembly into the impression creates less accurate working casts.7–10

Both techniques may be uncomfortable for the patient and the clinician while the impression copings are being screwed and unscrewed intraorally. Slight movement of the copings may result in deformation of the impression material while unscrewing the guide pins from the impression copings during tray removal, or screwing/replacing the matching implant replicas in the impression tray. The press-fit impression coping is easier to manipulate, time saving, and more comfortable for both the clinician and patient because the coping is connected to the implant by pressing instead of screwing. The press-fit coping design allows removal of the coping with the impression and has the advantage of both the open- and closed-tray implant impression techniques. Thus, the press-fit impression coping helps to overcome movement of impression copings inside the impression material. An implant impression technique in which the press-fit impression coping was used to achieve accurate working casts is described.

PROCEDURE

1. Connect the press-fit impression coping (MD-PF375; MIS Implant Technologies Ltd, Shlomi, Israel) to the implant by pressing on, instead of screwing, the copings (Fig. 1).
2. Verify, radiographically, the fit of the press-fit copings (Fig. 1).
3. Remove the impression tray with the press-fit copings (Fig. 2).
4. Connect the implant replicas (MD-RSM10; MIS Implant Technologies Ltd) into the impression without screwing (Fig. 2).

REFERENCES


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Modeling plastic impression compound (MPIC) is defined as a thermoplastic dental impression material composed of wax, rosin, resins, and colorants.1 Low-fusing compound (type 1) is used for border molding and impressions. Flow and reproducibility of surface detail are important characteristics of these materials.2 Border molding with MPIC can record accurate border detail; however, it can be difficult to use and messy when manipulated over a flame. Some techniques have been described to facilitate the use of MPIC by placing the compound in a syringe and heating it in a water bath.3,4 Although these techniques may be helpful, waiting for the compound to melt is time consuming. Also, the syringes filled with compound must continually be reintroduced into the water after each use so that the compound does not solidify.

Hot glue guns are designed to melt a thermoplastic adhesive that comes in the form of sticks. A continuous temperature modification of a hot glue gun for use with modeling plastic impression compound

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Temperature modification of a hot glue gun for use with modeling plastic impression compound

Hot glue guns are designed to melt a thermoplastic adhesive that comes in the form of sticks. A continuous dity heating element is used to melt the plastic glue sticks at a temperature of 120°C. Low-fusing compound has a melting temperature of 60°C, according to the manufacturer. Some hot glue guns use glue sticks that have a diameter of 7 mm, which is similar to the commercially available green stick modeling plastic impression compound (Impression Compound; Kerr Corp, Orange, Calif) (Fig. 1). A technique that uses a hot glue gun to deliver low-fusing MPIC is described.

PROCEDURE
1. Plug the glue gun (GR-10 Mini Hot Melt Glue Gun; Stanley-Bostich, East Greenwich, RI) into a light dimmer control (Dimmer Control; Westinghouse Lighting Corp, Philadelphia, Pa), and then plug the dimmer into an electrical outlet.
2. Load the hot glue gun with green stick MPIC (Impression Compound; Kerr Corp).
3. Set the dimmer to a low setting using the control knob, and verify the extrusion temperature of the MPIC with a digital thermometer (Good Cook Digital Thermometer; Bradshaw Intl, Rancho Cucamonga, Calif). Adjust the knob on the light dimmer control until a proper working temperature is achieved (60° to 76° C).
4. Mark the light dimmer control once the proper working temperature has been achieved, to ensure the reproduction of results with each use.
5. Apply MPIC directly to the tray to be used for border molding (Fig. 2). Verify the temperature of the impression compound periodically with a thermometer to ensure proper temperature for function and patient safety.
6. Temper the tray in a water bath before insertion intraorally, and border mold in the usual manner.
7. Always place the hot glue gun in an upright position on a level countertop between MPIC applications.

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