



## A TECHNIQUE FOR MAKING IMPRESSIONS OF DEEPLY PLACED IMPLANTS

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Precise fit between dental implants and the superstructure is important for the long term success of implants and implant-supported prostheses.<sup>1</sup> One factor which may influence the accuracy of the definitive prosthesis is the stability of the impression coping in polymerized impression material. In some circumstances, an implant must be placed well below the gingival margin, meaning that most of the impression coping will also be situated subgingivally with no contact with the impression material. This can result in reduced stability of the impression coping, allowing it to rotate when fastening the implant analog.<sup>2</sup> The use of longer impression copings to increase the surface area has been suggested to overcome this problem; however, only a few implant systems offer this solution.<sup>3</sup>

There are 2 primary implant impression techniques: indirect (transfer) and direct (pickup).<sup>4</sup> This article describes a simple technique that involves the use of a roll of composite resin, tray adhesive, and a small amount of occlusal registration material applied around a transfer coping in a direct implant impression. The hardness of occlusal registration materials is higher than those of vinyl polysiloxane (VPS) impression materials.<sup>5,6</sup> Thus, a small amount of

occlusal registration material can be used around impression copings to increase stability. A roll of composite resin applied around an impression coping increases surface area and produces undercuts. The application of VPS adhesive enhances the adhesion of impression material to the coping.<sup>7</sup> As a result, the impression coping is more resistant to dislodgement when an implant analog is attached and a cast poured, regardless of whether a large part of the transfer is or is not in contact with the impression material. There is no risk of nonunion between the occlusal registration material and the VPS because both materials are based on A-silicone. The advantages of this technique include cost effectiveness, ease of use, and the ability to use this approach with any implant system. However, this technique should not be used with materials that are not compatible with VPS, such as polyethers. Another disadvantage is that the occlusal registration material usually polymerizes faster than the VPS impression material, which may cause some inconvenience during the procedure or produce an inaccurate record of the soft tissue details. This problem may be resolved by using slower setting occlusal registration materials. Deep undercuts of adjacent teeth, if

they are present, should be blocked out before making the impression.

### PROCEDURE

1. Attach an open tray impression coping (Internal Implant System; Bio-Horizons, Birmingham, Ala) to an implant. Make a radiograph to confirm complete seating.

2. Make a small roll of composite resin (Revotek LC; GC America, Alsip, Ill) around the impression coping and light polymerize it for 5 seconds (Elipar; 3M ESPE, St. Paul, Minn) (Fig. 1A).

3. Apply VPS tray adhesive (Universal Adhesive; Heraeus Kulzer, Hanau, Germany) on the surface of impression coping and air-dry (Fig. 1B).

4. Apply a small amount of occlusal registration material (Futar D; Kettenbach GmbH & Co, KG, Eschenburg, Germany) around the impression coping (Fig. 1B).

5. Inject VPS light body impression material (Splash Light Body; Discus Dental, Culver City, Calif) over the teeth and impression coping (Fig. 2A).

6. Place a complete arch impression tray filled with VPS putty (Splash Putty; Discus Dental, Culver City, Calif) intraorally.

7. After polymerization of impression materials, loosen the screw of the impression coping and remove the

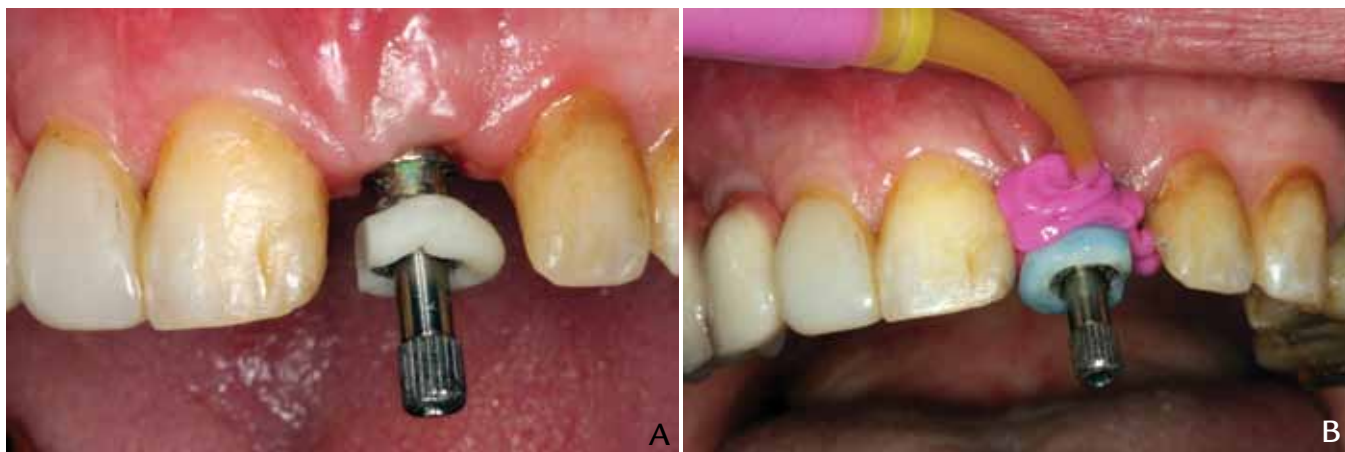
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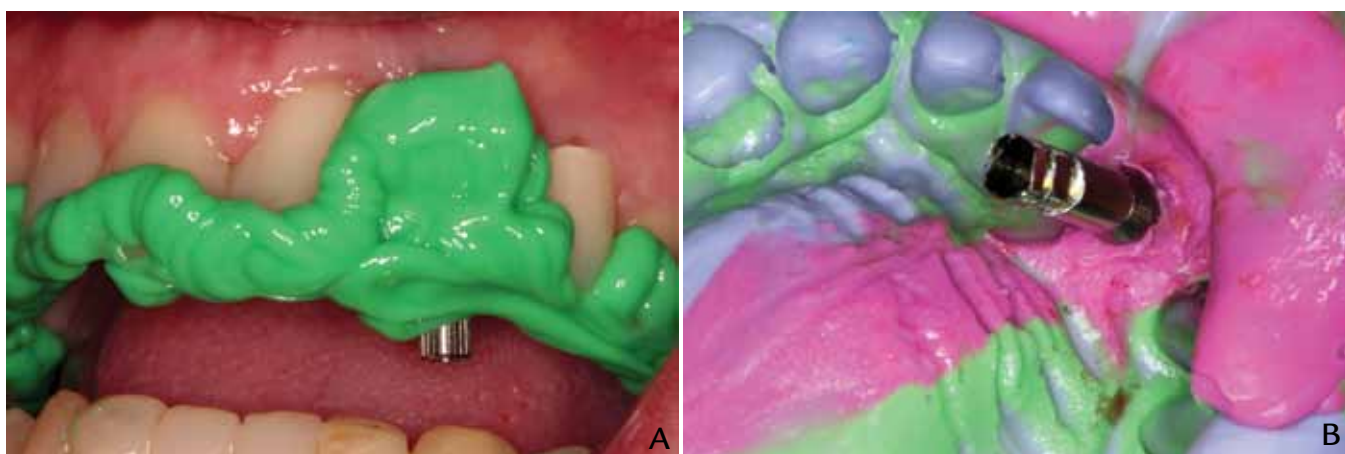
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**1** A, Light-polymerized composite resin around impression coping. B, Occlusal registration material placed around impression coping.



**2** A, Light-body VPS impression material is syringed over impression coping and adjacent teeth. B, Final impression with implant analog connected to impression coping.

tray from the mouth.

8. Connect a laboratory implant analog (BioHorizons) to the impression coping (Fig. 2B).

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