



DIAGNOSTIC WAXING TRANSFER FROM DIAGNOSTIC CASTS TO SOFT TISSUE DEFINITIVE CASTS

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Fabricating quality anterior esthetic restorations, such as porcelain veneers and crowns, requires the fabrication of a soft tissue definitive cast with removable dies and a hard stone gingiva.^{1,2} This cast is essential to the integration of the definitive restoration with the architecture of the gingiva. It is obtained by repositioning a set of dies (trimmed as a root form with antirotation grooves) into the definitive impression, and subsequently pouring a solid base.^{1,2} This so-called “alveolar cast” (cast base with alveolar sockets) is not a substitute for another important cast, the solid cast, which is obtained from a single pour of the definitive impression, trimmed and mounted in an articulator. The solid cast represents the most accurate reference for inter-tooth relationships, and is used only during the final stage of laboratory procedures, for evaluation of the occlusion of the restoration. During the initial stage of restoration fabrication, the soft tissue cast (alveolar cast) will be primarily used. The ceramist is guided by the diagnostic waxing from the diagnostic cast. To facilitate this task, a method to accurately transfer the diagnostic waxing onto a set of removable dies for the soft tissue definitive cast is described. Because all sets of dies result from precise duplication of the original single dies, they

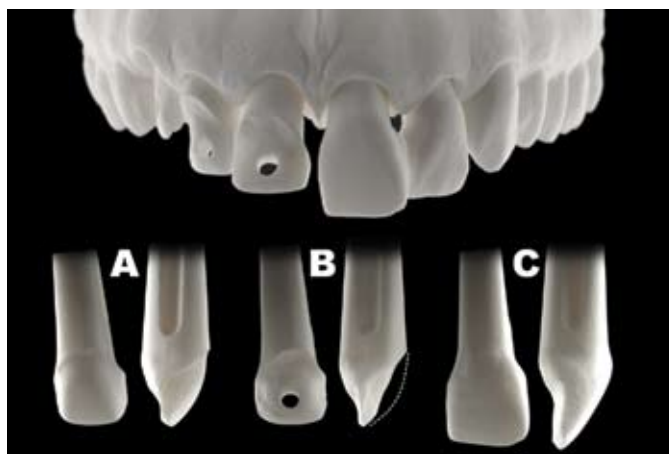
all feature identical root portions that fit the alveolar stone base. The dies with transferred waxing can therefore be used alternatively or in combination with the original stone dies or refractory dies, using the same alveolar base (Fig. 1).

PROCEDURE

1. Obtain an alveolar cast (Fujirock White; GC America, Alsip, Ill) from the definitive impression.² Lubricate the gingiva and upper part of the alveoli with separating agent (Neosept; Benzer Dental AG, Zurich, Switzerland).

2. Use duplicating silicone (Elite Double 22; Zhermack, Eatontown, NJ) and type IV stone (Fujirock White; GC America) to generate 1 set of dies with the original preparations (Fig. 1, A). Reduce the labial portion of the preparations on the dies and drill a hole in the center of the preparation (Fig. 1, B).

3. Obtain a silicone index (Platinum 85; Zhermack) of the original waxing from the diagnostic cast. During fabrication of the index on the diagnostic cast, extend the matrix onto the adjacent teeth and allow the material to polymerize under 4-atm pressure for 2 minutes. Verify transfer



1 Soft tissue cast for porcelain veneers. Top: Soft tissue cast, labial view, with alveolar base and removable modified dies (left) and dies with transferred waxing (right). Dies are partially inserted on lateral and central incisors. Bottom: A, Original set of dies. B, Modified set of dies. C, Dies with transferred waxing.

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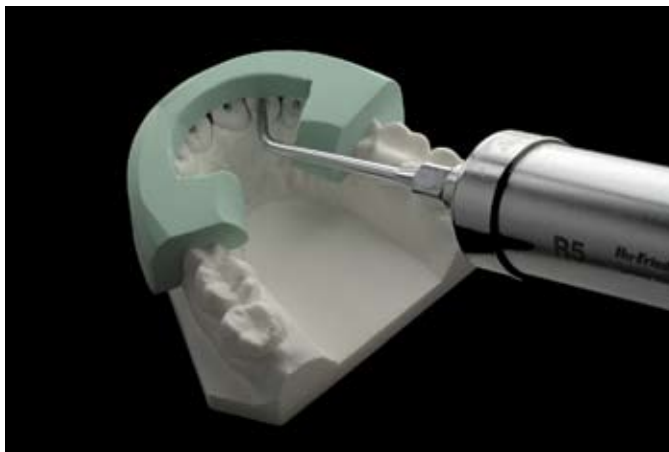
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of the index onto the soft tissue cast, and reduce the palatal aspect of the index in order to access the holes in the dies for the upcoming injection of liquid wax (Fig. 2).

4. Warm a metal syringe (Hu-Friedy, Aqua-Fix Irrigating Syringe; Hu-Friedy, Chicago, Ill) with a burner and fill with hot liquid wax (S-U-Modeling wax; Schuler Dental GmbH, Ulm, Germany) obtained from a constant wax heater (Digital Micro Dip; KerrLab, Orange, Calif).

5. Inject wax into holes through the palatal side of the modified dies (Fig. 2) and wait a few minutes. Place the cast into a pressure pot at 4 atm for 5 minutes. Then, remove the cast from the pressure pot, allow the cast to cool completely, and carefully remove the matrix and excess wax. Separate the teeth with thin nylon fishing line (Platil Universal 0.14 mm; Monofil-Technik GmbH, Hennef/Sieg, Germany). Push the dies out of the alveolar base, remove excess interproximal wax, and finish with a waxing knife (LeCron Carver; Hu-Friedy). As an optional procedure, duplicate dies with the transferred waxing using



2 Injection of liquid wax through palatal access opening of modified dies.

liquid silicone (Elite Double 22; Zhermack) and type IV stone (Fujirock White; GC America).

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