

A Simple Method for Palatal Rugae Carving in Complete Dentures

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Received: 24 October 2012 / Accepted: 13 March 2013 / Published online: 20 March 2013
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Abstract Palatal rugae play an important role in the production of palato lingual sounds. A simple inexpensive method for carving palatal rugae in complete dentures has been described here.

Keywords Palatal rugae · Auto-polymerizing clear resin · Interdental floss

Introduction

Palatal rugae play a very important role in phonetics. The production of palato–lingual group of sound involve the contact between tongue and the palate. Allen advocated making the palatal portion as thin as is practical [1]. Duplicating the rugae on palatal surface of denture reduces the problem encountered with speech. This can be done using plastic palate forms; corrugated metal palate and free hand wax carving of anatomic palate [2, 3]. A simple technique is described here, to make palatal rugae patterns that are custom-made for each patient using dental floss.

Procedure

1. Mark rugae patterns in definitive maxillary cast using permanent marker (Fig. 1). Block the undercuts.
2. Apply auto-polymerizing resin (clear) in sprinkle on method on the rugae portion in the cast. The markings will be seen through the transparent resin in the cast

(Fig. 2). The thickness of resin added should not exceed 1 mm.

3. Apply auto-polymerizing resin (pink) in sprinkle on method on the rest of cast and fabricate the record base in the usual manner. Proceed with the tentative jaw relation and teeth arrangement. Trial denture verification is done.
4. Demount the maxillary cast from articulator. Cut dental floss (ICPA waxed interdental floss) as per the required lengths and lute them over the rugae marking seen through the record base using inlay casting wax (Sigmament) (Fig. 3). A wax dropper (P.K. Thomas instruments) can be used for this purpose. The thickness of dental floss used is 0.75 mm. Two or three floss threads can be luted together for duplicating variations in the thickness of rugae.
5. Proceed with fabrication of denture in conventional manner. The rugae pattern is duplicated in the denture (Fig. 4).

Discussion

The procedure of electroplating to form metal palate that duplicates patients' palate is limited in that it does not apply to dentures made of acrylic resin [3]. Another procedure uses an impression of maxillary cast to make custom acrylic resin pattern to capture patient's anatomy. But this involves making additional impression or duplication of cast. Missing lingual contours of denture teeth should be added during waxing up the trial dentures in this method [4]. Use of palatogram and acrylic resin to modify palatal portion of denture has been done [5–7]. The procedure described here involves the use of interdental floss, which duplicates the width and thickness of rugae to a reasonable

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Fig. 1 Rugae marked with permanent marker pen on the cast



Fig. 2 Autopolymerizing transparent resin applied over the cast in rugae area



Fig. 3 Floss luted over corresponding rugae area on the cast



Fig. 4 Denture fabricated with rugae area clearly duplicated in it

extent and is not expensive. Since it is waxed floss it does not involve excessive carving. The rugae replica in the finished denture does not interfere with speech.

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