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CLINICAL TECHNIQUE

Simple Technique for Duplicating the Palatal Rugae in the Maxillary Complete Denture

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ABSTRACT

Palatal rugae contours have a very important role in phonetics. The production of palatolingual group of sound involves the contact between tongue and the palate. For the newly denture wearer the palatal contours easily adapt the tongue to the rugae and in turn shortens or eliminates the adjustment for the phonation. This article describes a simple technique for duplicating the individual palatal rugae patterns in the denture to enhance the speech.

Keywords: Palatal rugae, Phonetics, Duplication.

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INTRODUCTION

The palatine rugae plays an important role in speech and also assists the forensic odontologist in the identification of a person.[1] Restoring patient's speech is an important goal in the complete denture fabrication. Most patients normally have the ability to adapt their speech in the presence of denture. However, there are persons whose speech are sensitive to the changed relationships with the dentures and have difficulty accommodating.[2] These patients require a tactile sense to orient the tongue. The lack of texture on the palatal portion of the complete denture can impede proper articulation. Adding palatal rugae to complete denture may help alleviate the speech problems. The two concepts for phonetics, first the obstruction to create turbulence in outgoing airstream and the second there should be some landmark where tongue, recognizes as the locale where it produces best particular sound.

Therefore, when the tongue does not find the rugae it might press on forward until it finds a structure with which it can relate profitably, this might be the teeth, thus some words such as 'Th', 'D' might be poorly said, as it cannot form a base in making the damp for impounding air.[3-5] The patients own rugae can be transferred to the palatal surface of the denture.[3] There are several methods to duplicate the palatal rugae,[6] simplest procedure being arbitrary carving of the rugae this method is difficult to correct, if improperly done and difficult to polish, another precise procedure is electroplating to form metal plate that duplicates patient's palate but the disadvantages being time-consuming, expensive and does not apply to denture made of acrylic resin. Some methods use dental stone, custom acrylic pattern, tin foil to capture patient's palatal anatomy, but this paper describes the simplest method to duplicate the palatal rugae using elastomeric impression materials.[7]

PROCEDURE

1. Make an index of the palatal rugae area with the elastomeric putty material (addition silicone) (Fig. 1).
2. Cut 1 mm thickness of wax as the stop on three sides of the cast so that there is uniform thickness of acrylic in the palatal area. Apply separating medium to the cast and then place the acrylic resin material.
3. When the acrylic sets, remove it from the cast with a gentle blast of air, it is taken out and trimmed properly (Fig. 2).

Fig. 1: Putty index made of the palatal rugae area

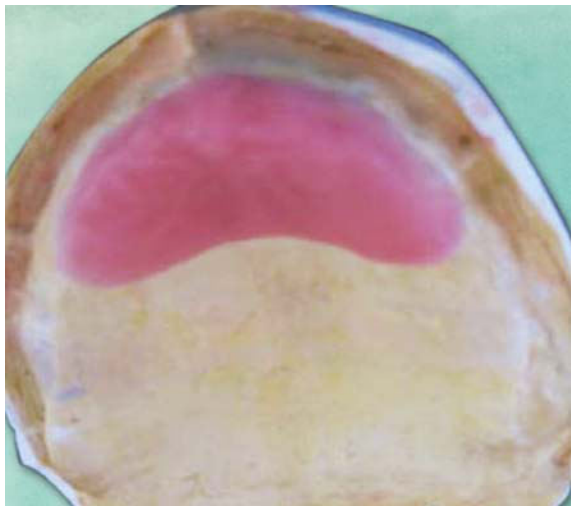

Fig. 2: Acrylic stent of palatal rugae area

Fig. 3: Palatal rugae area is cut for the placement of the acrylic stent

Fig. 4: Wax up done with acrylic rugae area

4. Remove the palatal rugae area of trial denture base and place the acrylic duplicated rugae (Fig. 3).
5. Wax the trial denture base (Fig. 4) and invest it in flask and process the denture in the routine manner.
6. Finished complete denture with the duplicated palatal rugae.

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