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Using A Thermoplastic Sheet to Add Palatal Rugae to A Complete Removable Dental Prosthesis

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One of the common complaints of first-time complete removable dental prosthesis wearers is difficulty speaking.¹ and ² The severity of the speech problem depends on the reaction of the denture patient to speech sound distortion. Although most patients with dentures do not encounter any difficulties, some have mild to moderate problems with speech both socially and vocationally.³

In patients who complain of speech distortion, the tongue has lost the landmark identification necessary for speech sound production.³ They may require a tactile sense to orient their tongue,⁴

and palatal rugae can help the tongue identify irregular and rough regions rather than slippery and smooth ones.⁴

The purpose of this article was to present a method of adding palatal rugae to newly fabricated maxillary complete removable dental prostheses by using a vacuum-formed plastic sheet.

Technique

1. Make an irreversible hydrocolloid impression (Jeltrate; Dentsply Caulk) of the maxillary arch with a stock tray. Ensure that the surrounding anatomic soft tissue is captured.
2. Pour the impression with Type III dental stone (Microstone; Whip Mix Corp).
3. Thermoform a clear 0.5-mm thermoplastic sheet (Copyplast; Scheu-Dental GmbH) over the cast in the conventional manner ([Fig. 1A](#)).

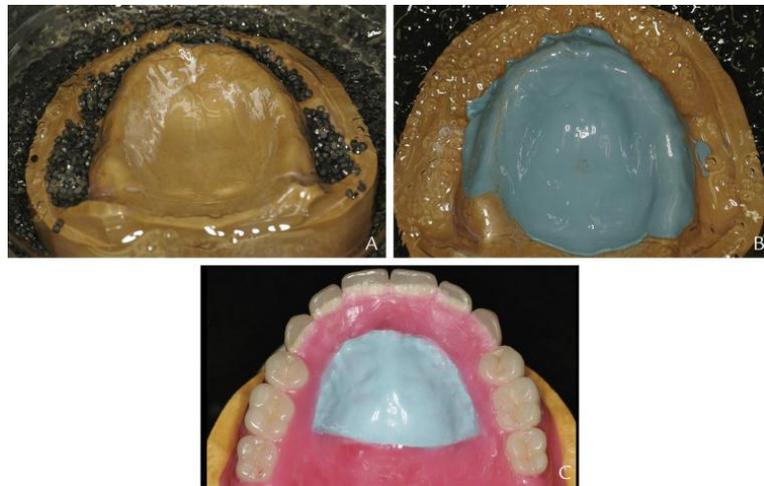


Figure 1. A, Thermoplastic sheet over cast on vacuum-forming machine B, Silicone occlusal registration material applied on inner surface of thermoplastic sheet C, Silicone rugae pattern sealed on palatal area of wax denture.

4. Remove the sheet from the cast and trim it.
5. Apply silicone occlusal registration material (Blu-Mousse; Parkell) on the intaglio of the thermoplastic sheet. Then press it immediately on the cast ([Fig. 1B](#)).

6. Remove the silicone rugae pattern from the cast and seal it to the palatal area of the completed waxing with hot baseplate wax ([Fig. 1C](#)).
7. Flask, process, finish, and polish as usual ([Fig. 2](#)).



Figure 2. Rugae texture reproduced on palatal area of new complete removable dental prosthesis.

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