TECHNIQUE

# Window's Impression Technique for Anterior Fibrous Maxillary Ridges

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## ABSTRACT

This article is aimed at modifying conventional window's impression technique for making impression of edentulous flabby maxillary ridges. Vinyl Polysiloxane (VPS) impression material was preferred over conventionally used metallic oxide, due to ease of use and dimensional accuracy. The authors used VPS putty consistency on the periphery and regular body for the whole impression. This combination of material consistency gives selective pressure impression. More over the window over the flabby area give the very mucostatic impression of the displaceable area. The authors found the proposed technique superior over Watson's technique in regards of convenience, time consumption, comfort of the operator and patient.

**Key words:** Window's impression, flabby ridge, selective pressure impression technique, Anterior Maxilla.

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## INTRODUCTION

Different techniques have been proposed for making impressions of the edentulous arches.[1,2] These techniques can be broadly divided into three classes according to pressure applied i.e., the mucostatic technique (non-displacive),[3] the muco-compressive (displacive) technique,[4,5] and selective pressure technique.[6] Selection of a specific impression technique for a particular patient depends on the nature of the mucosa overlying the edentulous ridge.[2] Making impressions is difficult when residual alveolar ridge is flat, knife edge, flabby and/or having unfavorable muscle attachment.[7]

Management of flabby (highly displaceable) ridge poses challenge to the operator.[7-9] It is most commonly present in the premaxillary region.[10] The clinically significant problems associated with flabby maxillary ridge are that of insufficient retention/stability of the maxillary complete denture, discomfort and occlusal disharmony which are caused by tissue recoil in the flabby ridge area.[8,11] Many authors have proposed selective pressure impression techniques for flabby ridge impressions by modifying custom tray by window cut through, vent holes, spacer or combination.[12-17]

Some clinicians try to solve this problem by chair side reline. Relining in such cases further displaces flabby tissue.[8] Liddlelow[13] used two impression materials, plaster of paris and zinc oxide eugenol in custom tray. Osborne[14] proposed a technique in which he used two impression trays to record normal and flabby tissue separately and later related them intra-orally. Watson[15] introduced the 'Window' impression technique. In this technique he made a window in the custom tray. This window or opening was made in the area of flabby tissue. Watt and McGregor[16] proposed initial impression with fluid/mucostatic impression material. Then make impression of plaster cast with impression compound in custom tray and later adjust it in patient's mouth. McCord and Grant[6] recommended use of zinc oxide eugenol or regular body poly vinly siloxane impression on custom tray. Then cut through of wash material and tray equivalent to flabby area. Lynch and Allen[17] revisited technique proposed by Watt and McGregor. They used impression compound to modify the custom tray and zinc oxide eugenol wash impression. In contemporary dental practice elastomeric impression materials especially Vinyl Poly siloxane (VPS) impression materials are commonly used.[6,12,18,19] These impression material produce good results as compared to zinc oxide eugenol impression paste, irreversible

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Figure 1: Make the primary impression of the maxillary arch with putty consistency vinly polysiloxane (PVS) Empress Std, 3M ESPE.

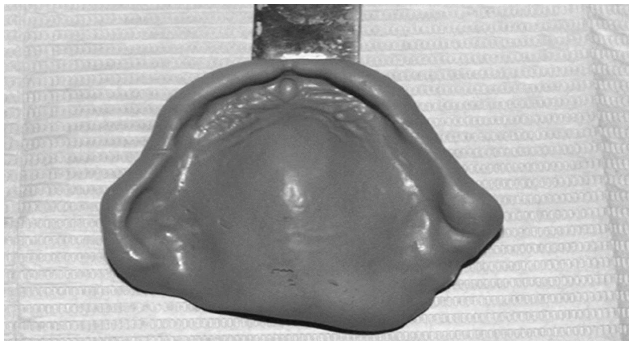


Figure 2: Pour the cast, with compatible dental plaster.

Figure 3: Fabricate the initial tray with autopolymerizing acrylic without covering the area marked with indelible pencil.

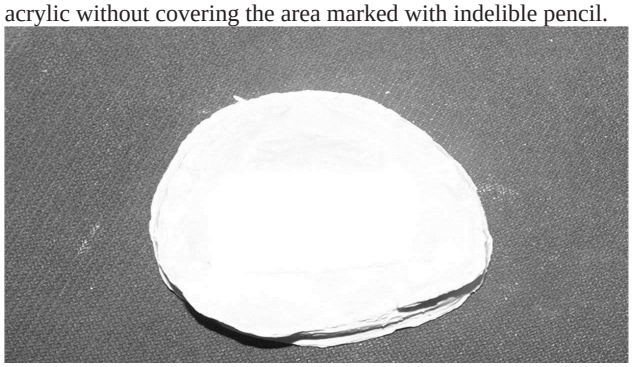


Figure 4: Made multiple 4-5mm combs like grooves on the border area of the tray for the mechanical locking of the impression material.

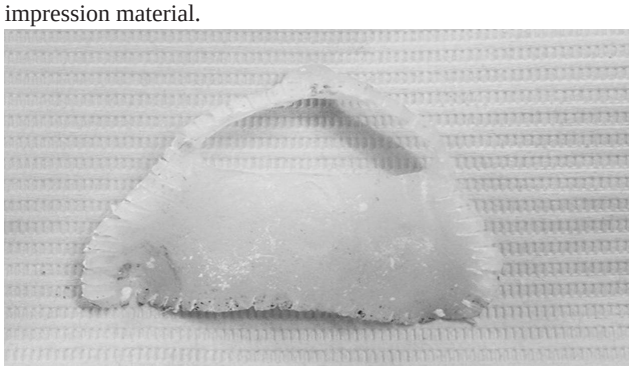


Figure 5: Periphery of the maxillary arch with putty consistency vinly polysiloxane (PVS) Empress Std, 3M ESPE. About 1mm putty is removed from the periphery for the regular body wash impression material.

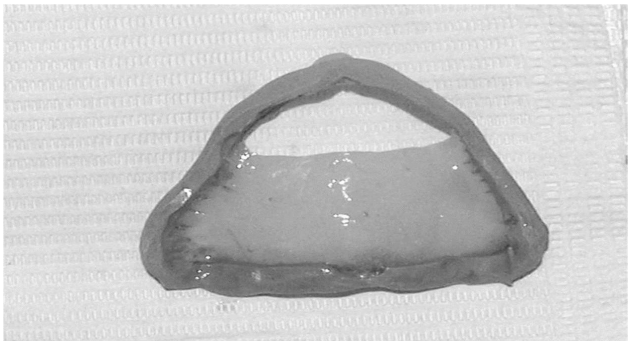


Figure 6: Load regular body polyvinylsiloxane (Imprint II Garant Monophase,3M) on the impression tray, both on the posterior segment and anterior loop

Figure 7: Load regular body PVS Imprint II Garant Monophase, 3M, on one single layer 2"x2" gauze.

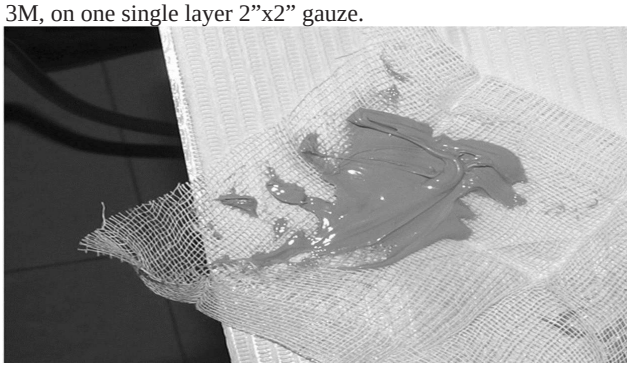
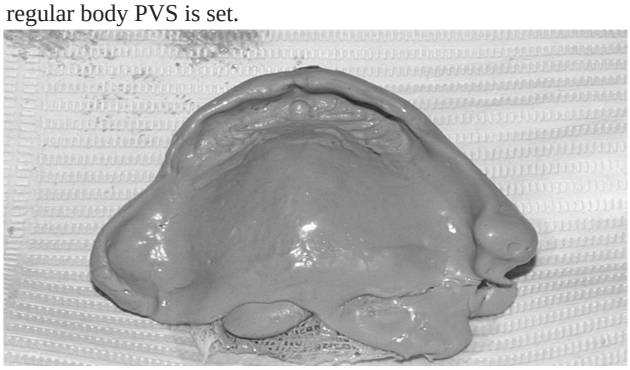


Figure 8: Retrieve the impression tray after the last coating of regular body PVS is set.



hydrocolloid and impression plaster.[20] Metallic oxide impression paste tends to stick to the dry mucosa lining.[6] While impression plaster is difficult to handle and pour.[21] Therefore, a modified window impression technique is described which uses different viscosity VPS impression material. This is convenient to practice and comfortable for the patient.

**TECHNIQUE**

1. Make the primary impression of the maxillary arch with putty consistency vinly polysiloxane (VPS) Empress Std, 3M ESPE, Figure 1.

2. Pour the cast, with compatible dental plaster, Figure2.

3. Mark the flabby tissue area on the cast with indelible pencil.

4. Fabricate the initial tray with autopolymerizing acrylic without covering the area marked with indelible pencil, Figure 3.

5. Check the finished initial tray on patient's mouth. Do any needful modification.

6. Tray should be 1-2mm short of mucogingival fold and 1mm away from the flabby tissue.

7. Made multiple 4-5mm combs like grooves on the border area of the tray for the mechanical locking of the impression material. Additionally the tray adhesive for chemical bonding of the impression material to the tray, Figure 4.

8. Mix putty consistency VPS (Express STD, 3M) and make it about 4mm thick rope and adapt it on the facial flange from one tuberosisty to the other and also on the post dam area.

9. Insert the loaded tray in the patient's mouth and perform necessary border molding.

10. Retrieve the tray after the VPS is set. Check for any over or underextension. Perform any needful correction. No putty material should be on the intaglio surface of the tray.

11. About 1mm putty is removed from the periphery for the wash impression, Figure 5.

12. Paint tray adhesive on the intaglio surface of the tray. Wait for 5-10minute as per the recommendation of the manufacturer.

13. Load regular body Vinyl Polysiloxane (Imprint II Garant Monophase, 3M) on the impression tray, both on the posterior segment and anterior loop, Figure 6.

14. Seat the impression tray in the patient's mouth.

15. Perform border molding.

16. Load regular body VPS on one single layer 2"x2" gauze, Figure 7.

17. Apply regular body VPS through syringe on the exposed flabby tissue and spread it with gentle air pressure. Repeat it till all the exposed area is wet with light body VPS.

18. Place these gauzes one by one on the exposed tissue and also touching the initial tray all around. This will give bonding of gauzes with the initial tray.

19. Retrieve the impression tray after the last coating of regular body VPS is set, Figure 8.

20. Disinfect and box the impression and pour it in type III dental stone.

**SUMMARY:**

A modified impression technique using different viscosities of VPS impression material is presented. There is special consideration to the choice of impression material as well as to the design of custom tray to ensure that no pressure is exerted on the flabby ridge.

The use of different consistency of the impression material give selective pressure impression, window makes the impression over the flabby area more mucostatic. Selection pressure impression helps in gaining retention through peripheral seal. The window cut-through prevents the displacement of the flabby tissue hence ovoid tissue recoil and loss of retention.

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