

Impressing For Excellance –A Technique for Making Final Impressin for Resorbed Flabby Residual Ridges

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Abstract:

Many times, it is difficult to create a final impression of an edentulous arch because of conditions in residual ridges like diminished bone height, undesirable residual ridge morphology, or undesirable muscle attachments. Making an impression becomes challenging when the mucosa is mobile or hyperplastic, often known as flabby tissue, across the remaining alveolar ridges.

To provide the patient with a prosthesis that functions well, treatment processes should be modified to fully capture the characteristics of the denture-bearing surface while retaining the stability of the denture foundation.

This article explains how to use a customized unique custom tray, light body elastomeric impression material, to create a final imprint of highly hyperplastic tissue (sometimes referred to as flabby residual ridges). This method is particularly useful for recording hyperplastic tissue that is present across the slopes of the severely resorbed mandibular ridge.

The goal of the custom tray's design and the material selection for the impression process is to avoid distorting the movable residual ridges during the imprint-making process. The application of this technique helps to preserve the contour and capture every nuance of the tissues' details without shifting hyperplastic tissue. The technique is changed to keep the denture stable.

Keywords: Hyperplastic tissues, flabby tissue, Impression, Denture, Custom tray, modified custom tray

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INTRODUCTION

A final impression of an edentulous arch may often be challenging to create due to problems with residual ridges, such as shortened bone height, undesired residual ridge form, or undesired muscle attachments.¹ When the mucosa is movable or hyper

plastic also referred to as flabby tissue across the remaining alveolar ridges, it becomes difficult to make an impression. Such flabby tissue appears more frequently in the anterior maxilla in two conditions: combination syndrome² or significant bone resorption in the mandibular alveolar ridge.³ Dentures made with this technique will become

unstable and lose retention because the displacement of tissue brought about by taking an imprint under these conditions will force the tissue to return to its original shape when the impression is finished.⁴ Studies show that roughly 5% of edentate mandibles and 24% of edentate maxillae have flabby ridges. Flabby ridges are easily moved during occlusal pressures due to insufficient support,⁵ which affects denture retention by causing the loss of the peripheral seal.⁶ surgical procedures are used to eliminate the flabby ridge before creating a complete denture, including scalpel surgery or injections of sclerosing agents. To address flabby ridges; moreover, surgical ridge enhancement is advised.⁵⁻¹² However, because surgical removal of the flabby tissue increases the weight of the denture material and eliminates soft tissues that absorb tension, it causes harm to the underlying tissues.¹³

Furthermore, the treatment of dentures with flabby ridges is increasingly reliant on conventional prosthodontic approaches such as balancing occlusal stresses and particular impression techniques.^{5,13, 14} Numerous approaches to treating the flabby tissues in the front maxilla are described in the literature.^{5,15} Nevertheless, there are very few reports of techniques for managing soft tissue in the mandible throughout the imprinting process. There are differences in the major and secondary load-bearing areas, supporting areas, and relief areas in the maxilla and mandible, therefore we need to alter certain things when taking an impression of the mandibular ridges with flabby tissues.

Mandibular residual ridges can be accurately documented using elastomeric impression materials because of their precision and capacity to disperse pressure uniformly. When the remaining ridges resorb, the tissues become unsupported, movable, or hyper plastic; this will result in a distorted impression if an elastomeric impression medium is used in a tiny tray. Therefore, modifications to the impression procedure are required to avoid deforming the loose and flexible tissues. This article describes how to generate final imprints of the flabby and resorbed mandibular ridge with the help of a specially made adapted tray and elastomeric materials.

TECHNIQUE -

1. The mandibular primary impression was made with irreversible hydrocolloid impression material (Tropicalgin, Zhermack Spa - Via Bovazecchino,100-45021 Badia pole sine (RO), Italy.)
2. A tray with 2 mm of spacer or relief wax was created over the initial cast using auto polymerizing resin (Rapid Repair, Dentsply India Pvt; Ltd; Noida, India) after the primary cast was poured into Type III dental stone (Kalstone, Kalabhai Karson Pvt; Ltd; Vikhroli West, Mumbai, India).
3. The custom tray was set to be 2 mm short of the labial and lingual sulci's functional depth following an evaluation in the mouth.
4. Border molding was done using a green stick compound. (DPI India Pvt; Ltd; India)(fig.1) The border soft he impression were carefully re-examined for any over-or under-extensions and are corrected accordingly.

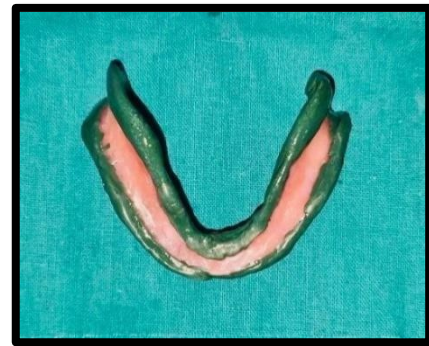


Fig1-Border molding was done in the mandibular arch using a greenstick compound

5. The hyper plastic tissue over the slopes of the mandibular alveolar ridge was marked using an indelible pencil (Hand Epencils NOZOMIA psarapencils Pvt; Ltd; India) and was transferred to the tray.
6. A window was cut in the tray using a straight bur (HM 33T, Meisinger cutters tungsten carbide, Centennial, CO) outlining the marked area, corresponding to the hyperplastic tissues over the slopes of the mandibular alveolar ridge. (fig.2)

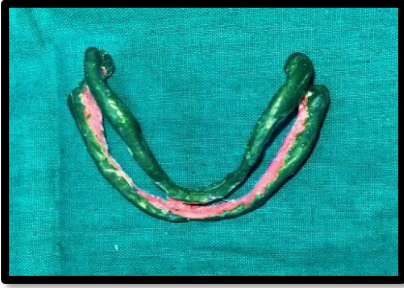


Fig 2 - Window corresponding to the hyperplastic tissue over the slopes of the mandibular alveolar ridge.

7. The tray was then inserted into the mouth, and the acrylic resin was replaced with softened admixed impression material (Impression compound and green tracing stick compound, 3:7 parts by weight in a bowl of water at 60 0 c) that was shaped to form a handle. The impression material was obtained from Y-Dents Impression compound, MDM Corporation, Delhi, India, and DPI green sticks, DPI, Pvt; Ltd; India. To stabilize the impression, two studs were produced over the buccal shelf area. (Figure 3)



Fig3-Handle fabricated with admixed impression material

8. The tray was stabilized intraorally; the admixed Impression material was allowed to set and the tray was removed from the mouth. (Fig .4)



Fig4-Intaglio surface of admixed impression material

9. The window was cut in the handle which was made with admixed impression material using a sharp Bard-Parker knife. (fig. 5), this is done to record hyperplastic tissue in precise form.



Fig 5. The window was cut in the handle

10. Light-body elastomeric impression (Affinis, Coltean/whale-dent Pvt. Ltd., Mumbai, India.) material was loaded into the tray, which was loaded into the tray, which was then seated on the ridge. Additional light-body materials are then expressed in the window. Lingual and facial borders were molded, ensuring the tray remained steady until the impression material was set.(fig. 6)



Fig 6. Light body Expressed into window in Traorally.

11. Once set, the impression was removed, disinfected with 2.2%glutaraldehyde, and inspected. (Fig. 7)



Fig 7. Completed mandibular final impression

12. Beading and boxing were performed, and the impression was poured using Type III dental stone. (Keystone Kalabhai Karson Pvt. Ltd., Vikhroli West, Mumbai, India).

DISCUSSION

The mandible that is edentulous in Class IV is the most severely disabled.¹ Modifying the custom tray and using specialized impression procedures are suggested when surgical intervention is not an option to obtain an appropriate treatment outcome.^{1,16}

The approach explained uses light body elastomeric imprint materials, with the former being more palatable to patients and more practical for the operator. One benefit of using elastomers

as an impression material that is easier to handle, uses less time, requires fewer insertions, and causes less discomfort in the patient.^{17,18}

The window was made in a tray with a limited labiolingual extent after border molding, which could make handling afterward more difficult. The lack of a handle and finger rests might make handling and stabilization more difficult.

In the method described, a handle formed from the mixed impression material was also used to make the window. By removing the mixed impression material corresponding to the hyperplastic tissue across the slopes of the mandibular alveolar ridge, the window was created.

According to Boucher's selective pressure technique, this method applies pressure to the ridge slopes.¹⁹ Rebound will be more effective and pressure will be lowered in the tray when controlling displaced tissue²⁰, regardless of the material employed. This can be achieved by adding a window to cover the ridge's slopes. With the least amount of pressure possible, an impression is formed using light-body impression material over the ridge's slopes. You may also use impression plaster, but it is difficult to pour and manage.¹⁶

Making impressions is essential to creating complete dentures. If a flabby ridge appears within a 'normal' denture-bearing area but is otherwise absent, there is an issue. It is necessary to use an impression technique that won't shift the flabby tissues while compressing the non-flabby tissues to provide the best support.

CONCLUSION

The method described here uses a modified special tray and elastomeric impression materials to create an imprint of resorbed and moveable, or hyperplastic, also known as flabby mandibular ridges. By utilizing theoretical impression-making principles, this technique gets over the practical challenges frequently seen during such processes. They reduce the amount of pressure applied to the moveable tissue of the remaining ridges throughout the impression-making process. The custom tray's design and the option of impression materials have both been taken into account.

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