

Prosthodontic Management of Flabby Ridges: Case Report

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ABSTRACT

Background: The specialty of Prosthodontics has developed from the need to replace missing dentition and associated structures. Impression techniques and materials used in dentistry have come a long way since the early times. Several authors and researchers have emphasized the need to understand the concept behind the number of techniques being used today. No matter how good the prosthesis is constructed, it will not function as intended if it was not made on an accurate impression. Displaceable tissue on edentulous ridges may present a considerable clinical challenge to dental practitioners when providing complete dentures. Unless managed appropriately, such 'flabby ridges' adversely affect the support, retention and stability of complete dentures. This case report describes one such clinical scenario, and demonstrates the use of a suitable single step impression technique that is based on Modified Hobkirk's technique..

Keywords: Impression, Impression techniques, Flabby tissue, Edentulous ridges.

INTRODUCTION

Retention, stability, and support are considered the 3 most important factors for the clinical success of complete dentures.¹ Excessive movable tissue, a clinical condition resulting from excessive resorption of the alveolar ridge followed by fibrous tissue replacement, is a prosthodontic challenge.^{2,3} The prevalence of excessive movable tissue has been reported to be 24% in the edentulous maxilla and 5% in the edentulous mandible.^{4,5} Excessive movable tissue is easily displaced, which will adversely affect the retention, stability, and support of complete dentures.¹ Different impression techniques have been proposed to record the excessive movable tissue in its undisplaced form.^{2,3,6-11} However, some of the recommended techniques are technique sensitive and time consuming. They can involve painting impression material over the excessive movable tissue,^{2,8} 2-step impressions,^{3,9} extra laboratory

support (for example, 2-part custom trays with or without attachments),^{6,7,10} and impression materials such as impression plaster,^{2,8} which may not be easily accessible in clinical practice. This report describes an alternative impression technique for excessive movable tissue (Fig 1) to allow the fabrication of a definitive record base. The technique is simple with no additional chairside time, and only minimal laboratory support is needed.



Fig 1: Preoperative view showing excessive movable (Flabby) tissue

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TECHNIQUE

1. Make a primary impression of the edentulous maxilla and mandible with low viscosity irreversible hydrocolloid material (Aroma Fine DF; GC Corp). (Fig 2)



Fig 2: Alginate (Primary) Impressions.

2. Pour the impression in dental stone, and mark the displaceable flabby tissue on the primary cast. (Fig 3)



Fig 3: Flabby Tissue marked on the stone cast.

3. Apply 2 uniform thicknesses of modelling wax over the marked displaceable tissue as a spacer. (Fig 4)



Fig 4: Double thickness wax spacer.

4. Fabricate the custom tray on the primary cast with autopolymerizing acrylic resin. (Fig 5)



Fig 5: Custom Tray.

5. Make perforations on the custom tray over the marked displaceable area with a 2-mm-diameter stainless steel cylindrical drill. (Fig 6)

6. Evaluate the custom tray intraorally and perform border moulding with low fusing modelling plastic impression compound.



Fig 6: Border moulding and multiple perforations

7. Apply adhesive to the custom tray and load it with light-bodied addition polyvinyl siloxane impression material. (Fig 7)

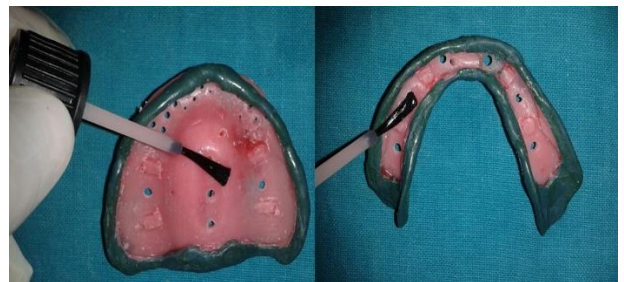


Fig 7: Application of Tray adhesive

8. Place the loaded tray slowly into the patient's mouth to minimize the pressure build-up around the excessive movable tissue and allowing the excess impression material to escape through the perforations.

9. Remove the impression from the patient's mouth after the impression material has polymerized and remove any excess impression material with scissors. (Fig 8)



Fig 8: Final Impressions with light bodied polyvinyl siloxane

10. Reseat the impression in the patient's mouth to ensure it does not rock when pressure is applied over the excessive movable tissue.

DISCUSSION

In 1972, Kelly and his colleagues first described 'combination syndrome' caused by the presence of opposing natural teeth to an edentulous area. His observations included alveolar bone resorption in the anterior maxilla, enlargement of the tuberosities and bone resorption underneath the mandibular denture bases.^[12] Liddlelow^[13] in 1964 described a technique whereby two separate impression materials were used in a custom tray (using 'plaster of Paris' over the flabby tissues and zinc oxide eugenol over the normal tissues). In 1964, Osborne^[13] described a technique where two separate impression trays and materials were used to separately record the 'flabby' and 'normal' tissues and then related intra-orally. Watt and McGregor^[13] in 1986 described a technique where impression compound was applied to a modified custom tray and a wash impression with zinc-oxide and eugenol is made.

Impression making plays critical role in complete denture fabrication. A particular problem is encountered if a flabby ridge is present within an otherwise 'normal' denture bearing area. An impression technique is required which will compress the non flabby tissues to obtain optimal support and at the same time, will not displace the flabby tissues.

This modified impression technique (Modified Hobkirk's technique) for the management of excessive movable tissue is straightforward and does not require additional clinical steps or appointments. Only a single easily available impression material is required, and the chairside time required is comparable with that of the conventional technique. Furthermore, the fabrication of the custom tray is straightforward, and minimal laboratory material is needed.

CONCLUSION

Managing a patient with flabby maxillary ridge can be a challenging problem. Standard mucocompressive impression techniques are likely to result in an unretentive and unstable denture as the denture will be constructed on a model of the flabby tissue in a distorted state. Mucostatic techniques may not make the best use of the available tissue support and movement of the denture base relative to the support tissues may be a problem. The use of selective pressure or minimally displacive impression techniques should help to overcome some of these limitations. With modified impression techniques, these ridges can be managed effectively without any additional clinical visits as compared to patients with normal edentulous ridges^[14].

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Jacobson TE, Krol AJ. A contemporary review of the factors involved in complete denture retention, stability, and support, part I: retention. *J Prosthet Dent* 1983;49: 5-15.
2. Allen PF. Management of the flabby ridge in complete denture construction. *Dent Update* 2005;32:524-8.
3. Lynch CD, Allen PF. Management of the flabby ridge: using contemporary materials to solve an old problem. *Br Dent J* 2006;200:258-61.
4. Carlsson GE. Clinical morbidity and sequelae of treatment with complete dentures. *J Prosthet Dent* 1998;79:17-23.

5. Xie Q, N hri TO, Nevalainen JM, Wolf J, Ainamo A. Oral status and prosthetic factors related to residual ridge resorption in elderly subjects. *Int J Prosthodont* 1997;55: 306-13.
6. Liddelw KP. The prosthetic treatment of the elderly. *Br Dent J* 1964;117:307-15.
7. Osborne J. Two impression methods for mobile fibrous ridges. *Br Dent J* 1964;117:392-4.
8. Watson RM. Impression technique for maxillary fibrous ridge. *Br Dent J* 1970;128:552.
9. Lynch CD, Allen PF. Management of the flabby ridge: re-visiting the principles of complete denture construction. *Eur J Prosthodont Rest Dent* 2003;11:145-8.
10. Kathuria N, Prasad R, Bhide SV. Flabby alveolar ridges: a modified technique to treat this clinical challenge. *Eur J Prosthodont Rest Dent* 2011;19:21-4.
11. Bindhoo YA, Thirumurthy VR, Kurien A. Complete mucostatic impression: a new attempt. *J Prosthodont* 2012;21:209-14.
12. Kelly E. Changes caused by a mandibular removable partial denture opposing a maxillary complete denture. *J Prosthet Dent*. 1972;27:140-50.
13. Lynch CD, Allen PF. Management of the flabby ridge: Using contemporary materials to solve an old problem. *Br Dent J*. 2006;200:258-61.
14. Allen F. Management of the flabby ridge in complete denture construction. *Dent Update*. 2005;32:524-8.