

# Management of Flabby Ridge Using Hobkirk's Technique: A Case Report

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## ABSTRACT

Flabby ridge is the soft mobile tissue which affects both maxillary and mandibular ridges but maxillary anterior of long term denture wearers the most. At the time of impression making, forces exerted can cause distortion of the mobile tissue. If not properly managed, denture will be displaced by the masticatory forces which will ultimately lead to loss of retention, support and stability of denture. There are many approaches to deal with displaceable denture bearing tissue "flabby ridges" which includes- Surgical management, special impression techniques, balanced distribution of occlusal loads and implant therapy. This case report presents the prosthodontic rehabilitation of a patient with flabby ridge using a different impression technique.

**Keywords:** Flabby Ridge, impression techniques, Polyvinylsiloxanes

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## I. INTRODUCTION

Flabby Ridge, also known as Fibrous ridge or displaceable ridge, is commonly encountered in clinics, affects both maxilla and mandible and is most commonly present in the upper anterior region (anterior ridge region of maxilla). It is an excessive movable/displaceable tissue which occurs mostly when an edentulous ridge is opposed by the natural teeth.

Replacement of alveolar bone by a hyperplastic soft tissue can develop a flabby/mobile soft tissue in the ridges. These are easily displaceable tissues which can adversely affect the support, retention and stability of Complete Dentures. These flabby ridges should be managed by special important techniques to fabricate a stable denture base despite of underlying displaceable tissue. Prevalence rate in edentulous maxilla is about 24% and in edentate mandible is 5% only [1], [2].

Masticatory forces/Occlusal forces can displace this easily mobile denture scary tissue and ultimately leading to

loss of peripheral seal.

Historically, flabby ridges found in the anterior maxilla were a feature of the "combination syndrome". In this condition the flabby ridge was thought to occur as a result of maxillary denture opposing mandibular anterior natural teeth without proper post occlusal support [3]. Flabby ridge also occurs due to unplanned or uncontrolled dental extractions.

Problem with flabby ridge is as if a flabby ridge is compressed during impression making, it will later tend to recoil and dislodge the resulting overlying denture. So, an impression technique is required which will compress the non-flabby tissues to obtain optimal support and as well as not displace the flabby tissues. Many techniques have been recorded in literature to deal with flabby ridge as

1. Mucostatic Impression Technique [4]
2. Double Spacers
3. Multiple relief holes
4. Window tray technique

Liddlelow described a technique whereby two separate

impression materials are used in a custom tray (using 'plaster of Paris' over the flabby tissues, and zinc oxide and eugenol over the 'normal' tissues) [5]. Osborne described a technique whereby two separate impression trays and materials are used to separately record the 'flabby' and 'normal' tissues, and then related intra-orally [5].

Watson described the 'window' impression technique where a custom tray is made with a window or opening over the (usually anterior) flabby tissues. A mucocompressive impression is first made of the normal tissues using the custom tray and zinc oxide and eugenol. Once set, it is removed, trimmed, and re-seated in the mouth. A low viscosity mix of 'plaster of Paris' is then painted onto the flabby tissues through the window. Once set, the entire impression is removed [5].

Magnusson et al [2] prescribed an impression technique using two different impression materials in a custom tray [6].

Nowadays, more easy to use materials like polyvinylsiloxanes (silicones) are being used. This article describes a case report using polyvinylsiloxane impression material and different impression technique described by Hobkirk [7], [8].

## II. CASE REPORT

A 56 year old male patient reported to the department of Prosthodontics, Crown & Bridge, Luxmi Bai Institute of Dental Sciences and Hospital, Patiala, Punjab for his prosthodontic rehabilitation. He informed that he has been edentulous since the age of 54 years and complained that his old denture is "loose".

On Examination, the patient was completely edentulous with an extensive area of flabby tissue present on the anterior region of his maxillary denture bearing area (Fig 1). The patient was informed about the treatment options but he was not ready to undergo any surgical procedures like surgical removal of flabby ridge with ridge augmentation or Implants. The patient was finally advised to go for a Complete Denture with modified impression technique.



Fig. 1: Edentulous Maxillary Ridge with flabby tissue in the anterior region

## III. PROCEDURE

*Step 1: Making of preliminary impression and special tray using double spacer*

A preliminary impression was made using reversible impression compound (Fig 2).



Fig. 2: Preliminary Impression

*Step 2: A cast was poured and the flabby tissue was marked over the preliminary cast (Fig 3).*



Fig. 3: Preliminary Cast with flabby ridge marked over anterior region

*Step 3: A special tray was fabricated using double spacer and single spacer over rest of the areas like mid-palatine raphe (Fig 4, 5, 6).*



Fig. 4: Wax Spacer over the flabby ridge region



Fig. 5: Double spacer in anterior Maxillary region



Fig. 6: Special tray with double spacer in anterior maxillary ridge region

**Step 4:** Making of secondary impression using different impression technique

Tray extensions were checked and border moulding was done in conventional manner using green stick. Spacer wax was removed and impression was made using medium body elastomeric impression material (Fig. 7).



Fig. 7: Border moulding

**Step 5:** Impression was then removed from the mouth and the impression material was removed in the region of flabby tissue using a scalpel (Fig. 8).



Fig. 8: Removal of medium body impression material in the anterior region

**Step 6:** Multiple relief holes were made and tray was loaded with light body elastomeric impression material in this region only to record flabby tissue (Fig 9).



Fig. 9: Light body impression

**Step 7:** Master cast was poured using dental stone (Fig. 10).



Fig. 10: Retrieved Master Cast

**Step 8:** Recording jaw relation and try-in was done in conventional manner (Fig. 11).



Fig. 11: Denture try-in

**Step 9:** Once the patient was satisfied with the esthetic outcomes and also the temporary denture base was found to be stable and quiet retentive in try-in phase, final denture was fabricated (Fig. 12).





Fig. 12: Satisfied patient with Final Prosthesis

Final denture had good retention and stability with proper recording of flabby tissue.

#### IV. CONCLUSION

It is a challenge to manage patients with flabby ridge. Dentures fabricated using standard muco- compressive impression techniques result in an unretentive and unstable denture as the flabby tissue was recorded in a distorted or compressed state.

Muco-static techniques may result in movement of denture base relative to support tissue as they cannot make the best use of available tissue support.

The best is to use selective pressure or minimally displacive impression techniques, as they overcome some of these limitations along with modified impression techniques, these patients can be given dentures with good retention and stability without any additional clinical visits as compared to normal conventional dentures.

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