

# Prosthodontic Management of Flabby Edentulous Maxillary Arch: A Case Report

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**Abstract:** Flabby or fibrous tissue refers to the hyperplastic tissue present over the alveolar ridge of an edentulous patient. The presence of fibrous tissue is not desirable as it is extremely resilient, causing problems in denture fabrication, especially during impression-making. The resulting dentures tend to get displaced due to tissue rebound. The resultant complete denture lacks stability, retention and poses speech difficulties. Thus, the denture can be easily displaced during normal oral function leading to patient discomfort. The present case report aims at utilizing a minimum pressure technique while making the impression of the flabby tissue and stabilizing the occlusion to minimize the effects of its hypermobility.

**Keywords:** flabby ridge, impression technique, edentulous, window technique, fibrous tissue

## 1. Introduction

Flabby ridge or fibrous ridge is an area of superficial soft tissue that affects the maxillary or mandibular alveolar ridge when the bone is replaced by hyperplastic tissue [1]. It is commonly encountered in an edentulous patient and poses a peculiar challenge. It occurs frequently in the maxillary edentulous arch, with prevalence of 24% whereas 5% of the edentulous mandibles show flabby tissue [2].

The management of this hyperplastic tissue is essential before the fabrication of a complete denture as its resiliency can be displacive, resulting in an unstable denture. The main means of management of flabby tissues is surgical removal, an implant-retained fixed prosthesis or conventional management using modified impression-making techniques [3]. However, surgery can lead to loss of ridge height and width which can further compromise retention [4]. Hence, the primary means of management usually takes the conventional approach with improvised impression techniques and materials.

The present article is a case report wherein management of flabby tissue is done using a modified impression technique followed by fabrication of the prosthesis that incorporates bilateral balanced occlusion to enhance the stability of the denture.

## 2. Case Presentation

A 68-year-old elderly male patient reported to the Department of Prosthodontics, KVG Dental College and Hospital, Sullia, Karnataka, India, with a chief complaint of inability to chew due to missing teeth in the upper and lower, right and left, front and back teeth region, and wanted replacement of teeth with a complete denture. A complete medical and dental history of the patient was recorded. A comprehensive extraoral and intraoral examination was done. The intraoral examination revealed the presence of fibrotic tissue in the anterior maxilla (Figure 1). Hence, it

was decided that the maxillary final impression would be made using Hobkirk's technique to reduce the effect of tissue mobility. A balanced occlusion was also planned to further stabilize the denture.



**Figure 1:** Fibrous tissue in the Anterior Maxilla

The primary impression was made using irreversible hydrocolloid impression material (Chromatex, DPI, India) using a perforated metal stock tray. A diagnostic cast was poured using Type III dental stone (Goldstone, Asian Chemicals). The area of flabby tissue was marked on the diagnostic cast and a double-thickness spacer was adapted over it (Figure 2).



**Figure 2:** Extra partial spacer at flabby tissue region

A custom tray was fabricated using auto-polymerizing acrylic resin which was 2mm short of the sulcus. The adaptation of the tray was verified in the patient's mouth and adjustments were made. The border molding was performed using a low-fusing impression compound (DPI Pinnacle,

India). The spacer was removed from the tray and relief holes were made in the custom tray. The final impression was made using regular body addition silicone (Resprosil, Dentsply caulk). The impression material was removed from the flabby tissue region and the number of vent holes was increased to minimize the stress over the region during impression making (Figure 3).



**Figure 3:** Extra relief holes provided in the anterior maxilla

Light body addition silicone was syringed on the tissue and the tray. The tray was reinserted in the patient's mouth to record the flabby tissue (Figure 4).



**Figure 4:** Final impression made using light-body polyvinylsiloxane

In the subsequent appointments, a facebow transfer and jaw relation was done. Extra-oral gothic arch tracing was performed, and the teeth were arranged in bilateral balanced occlusion. A try-in was performed (Figure 5, 6).



**Figure 5:** Teeth arranged in bilateral balanced occlusion



**Figure 6:** Try-in

A try-in was performed. The dentures were processed using heat-cured acrylic resin. Dentures were polished and finished before delivering to the patient. Dentures were delivered and post-insertion instructions were given (Figure 7). Follow-up was done at 24 hours, one week, one month and three months.



**Figure 7:** After insertion of the denture

### 3. Discussion

The presence of flabby ridges poses a unique problem because of the recoil effect of the underlying tissues which can lead to displacement of the denture. The available literature proposes various techniques for the management of the condition including, surgical and conventional approaches. The surgical approach is considered invasive and may lead to loss of the desirable bulk of the alveolar ridge. This may further reduce the ridge support and lead to loss of retention [3]. Moreover, elderly patients frequently present with a medical history that precludes surgical interventions. Treatment with implants is again invasive and expensive.

The goal of prosthodontic treatment is preserving what remains rather than meticulously replacing what has been lost. Therefore, most clinicians prefer the modification of conventional impression procedures to record tissue efficiently. The most suitable form of an impression of flabby ridges is to record the displaceable tissue at rest [4,5]. Liddlelow used two different impression materials in a custom tray. The flabby portion of the ridge was recorded in impression plaster and the other areas in zinc oxide eugenol [6]. Osborne used two materials and two custom trays [7]. Watson proposed the 'window technique' to minimize the displacement of tissues. He used impression plaster for the window and zinc oxide eugenol for the healthy tissue [8]. Watt and McGregor used impression compound in custom tray and a wash impression using zinc oxide eugenol [3]. Lynch and Allen used a modification of this technique using polyvinylsiloxane [4]. Hobkirk also used polyvinylsiloxane impression material with multiple relief holes provided at the site of flabby tissue [9].

The present case report used Hobkirk's modified window technique to record the region of flabby tissue [9]. A double spacer was also provided only in the region of fibrous tissue to facilitate added relief [10]. The use of impression plaster can be cumbersome. The present case substituted Plaster of Paris with light-body polyvinylsiloxane which has a low viscosity which is desirable for recording the mobile tissue in a static state. It is less cumbersome and readily available in clinics. Multiple relief holes were provided to ensure a reduction in the pressure applied during impression-making. The occlusal scheme of choice in the present case was bilateral balanced occlusion. The presence of even contacts during excursion counteracted the displacing force of the fibrous tissues, stabilizing the denture base and therefore enhancing the retention [4].

#### 4. Conclusion

The case report described an impression technique that reduces the chances of displacement of dentures caused by the presence of flabby tissues. It uses a modified window technique and light body polyvinylsiloxane to record the tissues in a static state. A bilateral balanced occlusion was also provided which will enhance the stability and retention of the denture. The protocols used in the article do not increase the number of appointments. It is non-invasive and not technique sensitive. Hence, it can be easily performed in the routine dental practice for effective management of flabby tissue and enhancing clinical and patient-related outcomes.

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