

## CASE REPORT

### MANAGEMENT OF FLABBY RIDGE: A CASE SERIES

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#### ABSTRACT:

Fibrous or flabby ridge in anterior region of maxillae and mandible provide inadequate support, retention, and stability of complete denture. This case report describes the treatment of completely edentulous patients with localized hyperplastic ridge.

Key words: flabby ridge, hyperplastic tissue, window technique, palatal tray technique

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#### INTRODUCTION:

A fibrous or flabby ridge is a superficial area of mobile soft tissue affecting the maxillary or mandibular alveolar ridges. It usually occurs when natural teeth oppose an edentulous ridge. It could also arise as a result of unplanned or uncontrolled dental extractions. Displaceable, hyperplastic, or flabby tissues are commonly seen in the anterior region of the maxilla in combination syndrome<sup>[1]</sup> or in the mandibular alveolar ridge when extensive bone resorption has occurred.<sup>[2]</sup> The reported prevalence for this condition also varies among investigators, but it has been observed in up to 24% of edentulous maxillae, and in 5% of edentulous mandible, and in both jaws most frequently in the anterior region.<sup>[3]</sup>

Flabby ridges are typically composed of mucosal hyperplasia and loosely arranged fibrous connective as well as more dense collagenised connective tissues. Masticatory forces can displace this mobile denture-bearing tissue leading to loss of peripheral seal. Forces exerted during impression making can result in distortion of the mobile tissue.<sup>[4]</sup> Unless managed appropriately by special impression techniques, such 'flabby ridges' adversely affect support, retention and stability of complete dentures. Many impression techniques have been proposed to help overcome this difficulty.<sup>[5]</sup> In this article we describe an different impression

techniques for making impressions of denture bearing areas containing flabby ridges, which uses a simplified technique and more widely used impression materials.

#### CASE REPORT I:

A 45 year male patient reported to the department of Prosthodontics, Guru Nanak Dev Dental College, Sunam with a chief complaint of replacement of missing teeth in upper and lower arches. The patient was a denture wearer for the last 3years and described the existing dentures as "loose." On examination the patient was completely edentulous maxillary and mandibular arches. The anterior canine-canine region in maxilla along and the mandibular canine-canine region was flabby (fig 1). A treatment plan was formulated to fabricate a complete denture with the modification in the impression technique to achieve minimum displacement of denture during function and maximum retention and stability.

#### Procedure:

Preliminary impression was made in stock tray with irreversible hydrocolloid impression material to ensure minimal distortion of flabby tissue and the impression was poured in dental stone. The displaceable areas were identified on the cast.

On the maxillary cast, a spacer was applied along the mid palatine raphe using modelling wax with additional relief given in the flabby area). The mandibular cast was first adapted with a layer of wax to provide extra relief in the flabby region followed by addition of one more layer of wax covering the ridge except the buccal shelf area (fig 2).

Maxillary custom tray with “supporting” tray covering areas of flabby tissue with the handle placed at the center of the palatal area. Mandibular custom tray was fabricated with handle in premolar region.

Border molding was done for both maxillary and mandibular arch. The spacer wax was then removed and multiple holes were drilled in the region of the flabby tissue (fig 3). Tray adhesive was applied. A final impression with polyvinyl silicone was made (fig 4).

Subsequently, conventional treatment procedures were followed to deliver complete denture prosthesis (fig 5).

#### CASE REPORT II

Clinical examination revealed maxillary and mandibular edentulous ridge with flabby ridge on the maxillary anterior region (fig 6). Window tray technique was used for this patient.

#### Procedures:

Preliminary impression was made in a stock tray with irreversible hydrocolloid impression material. Spacer of 1mm thickness was adapted over the cast and custom tray was fabricated in the conventional manner. The border molding was done with softened greenstick compound. Window was created in the custom tray in the flabby ridge area

(fig 7,8). Secondary impression was made with zinc oxide eugenol impression paste and adhesive application on tray, light-body PVS impression material was injected over the window corresponding to the flabby ridge area. Once the material was set, impression was removed from the patient’s mouth (fig 9,10,11 and 12). Subsequently, conventional treatment procedures were followed to deliver complete denture prosthesis (fig 13).

#### CASE REPORT III

Clinical examination revealed maxillary and mandibular edentulous ridge with flabby ridge on the maxillary anterior region (fig 14). Palatal split tray technique was used. Preliminary impression was made in a stock tray with irreversible hydrocolloid impression material. Using Devlin technique, a palatal tray was fabricated with a 2mm wax spacer, which was used to create space on the palatal aspect of the mobile area and extends to the crest of the ridge (fig 15). A centrally positioned rod was placed on the palatal tray and proclined anteriorly to allow a second special tray to be guided in an oblique upward and backward direction to envelope the palatal tray (fig 16, 17). The second special tray accurately encompasses the palatal tray. Border molding was done on second special impression tray with palatal tray in mouth (fig 18). The displaceable tissues were recorded with low viscosity elastomeric impression material in the palatal tray in an undisplaced position (fig 19). And the second impression was made completely encompassing the palatal tray with medium viscosity elastomeric impression material (fig 20). Subsequently, conventional treatment procedures were followed to deliver complete denture prosthesis.



**Figure 1:** Maxillary and mandibular flabby ridge



**Figure 2:** Maxillary and mandibular special tray with relief at flabby area



**Figure 3:** Maxillary and Mandibular border moulding with relief holes at flabby ridge area



**Figure 4:** Maxillary and mandibular final impression



**Figure 5:** Maxillary and mandibular final denture



**Figure 6:** Maxillary flabby ridge



**Figure 7:** Maxillary border moulding



**Figure 8:** Window created in flabby ridge area



**Figure 9:** Final maxillary impression except flabby ridge area



**Figure 10:** Adhesive application on maxillary tray



**Figure 11:** Light body injected in flabby ridge area



**Figure 12:** Maxillary final impression of flabby ridge using window technique



**Figure 13:** Maxillary and mandibular final denture



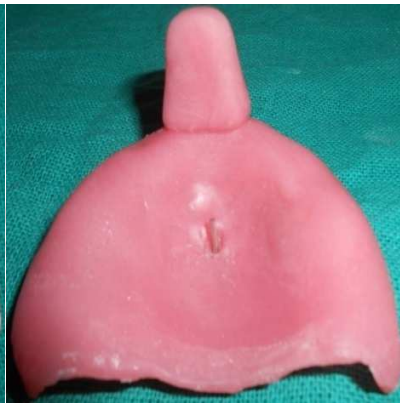
**Figure 14:** Maxillary flabby ridge



**Figure 15:** wax spacer on the palatal aspect of the flabby area



**Figure 16:** Palatal Tray with Proclined Guidance Rod



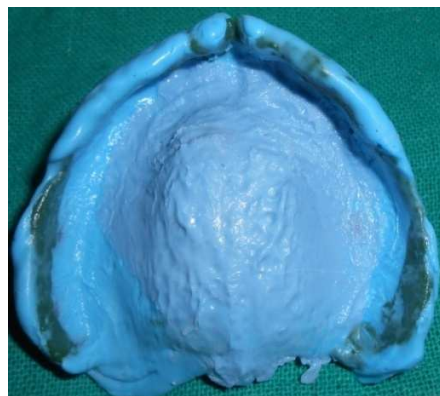
**Figure 17:** Second Tray Seated on Palatal Tray



**Figure 18:** Border molding on second special tray



**Figure 19:** Flabby tissues recorded with low viscosity elastomeric impression material



**Figure 20:** Second special tray impression made completely encompassing the palatal tray with medium viscosity elastomeric impression material



**Figure 21:** Maxillary and mandibular final denture impression material

### DISCUSSION:

Dentures constructed on flabby ridges without any special care for the same, may cause discomfort to the patient and failure of the prosthesis. Surgical excision of flabby tissue is one of the treatment option. But, however, in majority of the cases it reduces the sulcus depth and arises a need of vestibuloplasty. Ridge augmentation is an invasive treatment option, as it has the risk of rejection of graft material along with the need for additional surgery for graft harvesting.<sup>[6]</sup> The surgical intervention in the form of fibrous tissue removal or placement of implant retained prosthesis causes their own disadvantages of medical condition of elderly patients, shallow ridge, treatment time, cost, etc. A conventional prosthodontic solution may avoid problems associated with surgery.

Prosthodontic management of such conditions is a feasible and non-invasive option. In these cases impression techniques used for recording the ridge has paramount.<sup>[7]</sup> The conventional muco compressive impression techniques result in an unstable denture. For these cases a selective pressure or a minimally displacive impression technique should be chosen.<sup>[8]</sup>

The technique described in this case report does not involve extraclinical stages in the construction of complete denture, thereby keeping clinical time to minimum. The impression technique can be accomplished relatively quickly and uses the material with which the general practitioner as apprehensively uses materials that they have little experience of using. Polyvinylsiloxane are dimensionally stable and do not need to be poured immediately. They are

also less brittle than plaster of paris and do not need to be handled as carefully.

### CONCLUSION:

An accurate impression is mandatory for good prosthetic service. However, making of a good impression is not a mechanical job, but involves a sound knowledge of oral anatomy, physiology and dental material sciences. The dentist's ability in these three aspects is severely tested while dealing with compromised situations. No doubt presence of highly displaceable denture bearing tissue presents a difficulty in complete denture fabrication; with modified impression techniques these ridges can be managed effectively by conventional prosthodontics without any additional clinical visits like the patients with normal edentulous ridges.

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