

## Case Report

### Management of Flabby Ridges in Complete Denture: A Case Report

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#### **ABSTRACT:**

A fibrous or flabby ridge is a superficial area of mobile soft tissue affecting the maxillary or mandibular alveolar ridges. It can develop when hyperplastic soft tissue replaces the alveolar bone and is a common finding particularly in the upper anterior region of long term denture wearers. Masticatory forces can displace this mobile denture-bearing tissue, leading to altered denture positioning and loss of peripheral seal. Forces exerted during the act of impression making can result in distortion of the mobile tissue. Unless managed appropriately by special impression techniques, such 'flabby ridges' adversely affect the support, retention and stability of complete dentures. This paper presents three case reports for prosthodontic rehabilitation of patient with flabby ridges with three different impression techniques.

**Key words:** Flabby tissue, impressions, irreversible hydrocolloid

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#### **INTRODUCTION**

Flabby ridge or movable tissue is most commonly seen in the maxillary anterior region. It is nothing but a hyperplastic soft tissue that has replaced the underlined resorbed bone. The presence of displaceable denture-bearing tissues often presents a difficulty in making complete dentures.<sup>1</sup> Displacement of such mobile tissues during impression making is always a concern. Soft tissues that are displaced during impression making tends to return to their original form, and complete dentures fabricated using this impression will not fit accurately on the recovered tissues. This will result in loss of retention, stability discomfort and gross occlusal disharmony of the dentures. Ridge resorption as well as flabby ridges that are a sequel of long term denture wearing influence denture retention and stability.<sup>2</sup>

Several impression techniques have been suggested to rule out this difficulty caused by flabby ridges. In the window technique, two separate impression materials such as zinc oxide eugenol impression paste for the normal tissues and

impression plaster or low viscosity elastomeric impression material for the flabby tissues are used. Impression plaster is a mucostatic impression material and produces little or no pressure, but it is difficult to handle and to pour also it offers little advantage over low viscosity polyvinyl siloxane impression materials.<sup>3</sup> Light body polyvinyl siloxane is a mucostatic material. It is dimensionally most stable, elastic material and records undercuts. This article presents an impression technique used to record flabby tissue in an undisplaced form using Window technique. 'Window' impression technique was described by Watson. Light body polyvinyl siloxane is also a mucostatic material. It is dimensionally most stable, elastic material and records undercuts. The purpose of this article is to describe an impression technique for flabby ridges that makes use of low viscosity polyvinyl siloxane impression material.<sup>4</sup>

#### **CASE REPORTS:**

A 78 years old male patient named Aftab ahmed with the OPD No. 486/18 reported to our clinic with a chief

complaint of looseness of the present dentures. The patient was wearing ill-fitting denture for the past 20 years. There was difficulty in eating and speaking with his old dentures. No relevant medical history was reported. On examination, it was found that there was an area of flabby tissue in the

maxillary anterior region extending from the canine region from one side to the other and blanching of the tissues was seen when pressure was applied with the end of the mouth mirror.[Figure 1] and [Figure 2] The mandibular edentulous ridge was also resorbed.



Figure 1,2 : Intraoral pictures of maxillary and mandibular arch

A treatment plan of fabricating a complete denture with the modification in the impression technique to achieve minimum displacement of the denture during function and maximum retention and stability was decided. It was decided to use the window impression technique for the maxilla.<sup>6</sup> Primary impressions were made with irreversible hydrocolloid (Zelgan, DENTSPLY, India) to record the tissues in a minimally displaced form. Custom trays were fabricated in autopolymerizing resin (Pyrax, India) with a spacer of modeling wax with 1-mm thickness. A spacer thickness of 2 mm is adapted in the area of flabby ridges (double spacer). Border molding was carried out using the sectional method for the maxillary arch with greenstick compound (DPI Pinnacle, Tracing Sticks Dental Products of India, Ltd.). The impression was made with zinc oxide eugenol paste.<sup>7</sup> The displaceable tissue was marked intraorally with indelible pencil, and this marking was transferred on to the final impression [Figure 3] and [Figure 4]. A window was cut in the impression through the impression tray exactly corresponding to Flabby ridge marked in mouth area the flabby tissues in the anterior maxilla [Figure 5] and [Figure 6].

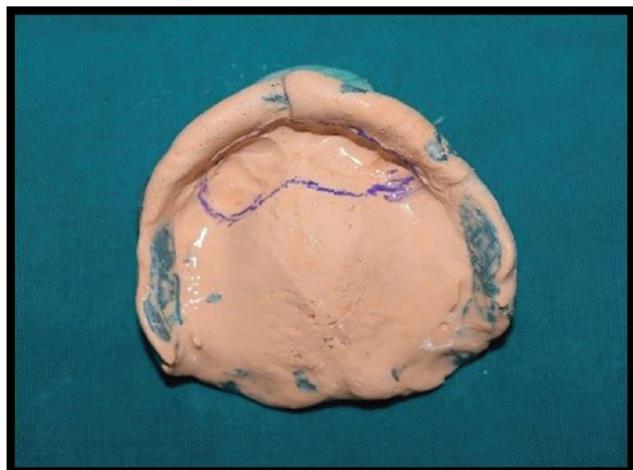


Figure 3,4 : Flabby ridge marked in mouth Window is cut at flabby portion

The impression was placed in the mouth, and light body polyvinyl siloxane (3M ESPE™ II GARANT) was syringed on to the flabby tissues exposed through the window, and the maxillary impression was completed [Figure 7] and [Figure 8]. Master cast was prepared and denture base and occlusal rim was fabricated on master cast. Tentative jaw relation made and teeth arrangement done. Try in done and once it was approved by patient then complete denture fabrication made. After finishing and polishing complete denture inserted in patient mouth. Because of the presence of longstanding uncontrolled occlusal forces, important changes in the denture foundation can occur, as the accelerated loss of the bone and the excessively displaceable tissue that come with the problem of the differential support capability to the same load. The forces of occlusion are resisted by the mucoperiosteum which allows some movement of the denture base by its resiliency. If the tissue changes allow excessive displacement, the movement of the denture under load will be greater with resultant dislodgement. [Figure 9], [Figure 10], [Figure 11], [Figure 12].



Figure 5,6 : Window is cut at flabby portion and Checking of window preparation of tray intraorally

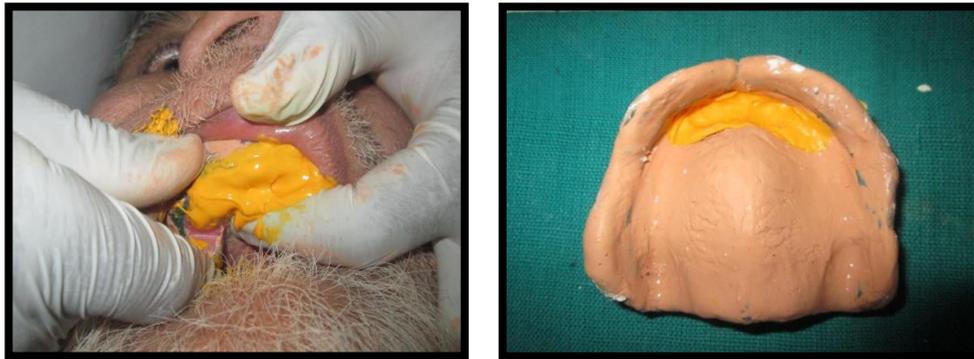


Figure 7, 8: Impression made with light body elastomeric impression material



Figure 9,10 : Centric relation of new denture



**Figure 11 :** Newly fabricated complete denture



**Figure 12 :** Happy patient

## DISCUSSION

For patients with flabby ridges, when dentures are fabricated using the conventional impression techniques, the patient often complains of “looseness” of the dentures. This is because the flabby tissues recoil when recorded in a displaced form and dislodge the dentures. Prosthodontic management of a patient with a flabby maxillary ridge can be a challenging problem and taking care to consider the influence of both the impression surface and occlusal surface detail is paramount. Standard mucocompressive impression techniques are likely to result in an unretentive and unstable denture as the denture is constructed on a model of the flabby tissue in a distorted state. The use of selective pressure or minimally displaced impression techniques should help to overcome some of these limitations. Other treatment modalities for the scenario described in literature include surgical “debulking” or excision of the flabby tissues and the use of dental implants. Surgical “debulking” of flabby tissues is mainly a historical concept nowadays. The rationale behind its use was that removal of flabby tissues would result in a “normal” compressible denture-bearing area on which a mucocompressive impression technique could be used. Some of the difficulties caused by this approach include the fact that many complete denture patients are elderly or have complex medical histories, for which any form of surgery is contraindicated. One is reminded of the concept that prosthodontic therapy should be concerned with the “conservation of what remains, rather than the meticulous replacement of what has been lost.”<sup>8</sup> The current paper describes a simple technique to record flabby tissues in their undisplaced state using readily available clinical materials such as polyvinyl siloxanes in varying consistencies. The advantage of choosing light body polyvinyl siloxane impression material is that, due to the inherent nature of the material, different consistencies can be achieved by varying the pressure applied on the material during mixing.<sup>9</sup> McCord and Grant and Ahmad (2008) described window technique which ensures peripheral molding resulting in peripheral seal because window, holes, or vents are prepared after the final impression is made.<sup>10</sup> The suggested three methods eliminate the excessive displacement of the soft tissues at the secondary impression; thus, a physiologic and anatomic

registration of the attached and the unattached tissue of the denture-bearing areas is attained. Most commonly used materials in such a scenario are irreversible hydrocolloid, impression plaster and elastomeric impression material.<sup>11</sup> The displaceable tissue is then recorded in a minimally displaced position, and the peripheral seal is re-established which is lost due to the window prepared.<sup>7</sup>

## CONCLUSION

Fibrous or flabby tissues in complete denture fabrication are a challenge to deal with. But with modified impression making techniques one can overcome this problem and prevent it from hindering in the success of denture fabrication. Thereby providing adequate retention, stability, support and patient satisfaction with the functioning of the denture. This paper has described an impression technique for the management of a denture-bearing area that contains flabby tissues. In this simple technique for making wash impression of highly displaceable maxillary anterior ridge with low-viscosity polyvinyl siloxane and zinc oxide eugenol, impression material is explained. The choice of impression materials and design of the custom tray used for making final impression to reduce the pressure on the displaceable tissue is very important. The materials used are readily available and used in contemporary general dental practice. The time required for the specialized impression technique is not excessive.

## REFERENCES

1. Kelly E. Changes caused by a mandibular removable partial denture opposing a maxillary complete denture. *J Prosthet Dent* 1972;27:140-150.
2. Lytle RB. The management of abused oral tissues in complete denture construction. *J Prosthet Dent* 1957;7:27-42.
3. Liddelov KP. The prosthetic treatment of the elderly. *Br Dent J* 1964; 117: 307-315.
4. Osborne J. Two impression methods for mobile fibrous ridges. *Br Dent J* 1964;117: 392-394.
5. Watson R M. Impression technique for maxillary fibrous ridge. *Br Dent J* 1970; 128: 552.
6. Crawford RW, Walmsley AD. A review of prosthodontic management of fibrous ridges. *Br Dent J* 2005;199:715-9
7. McCord JF, Grant AA. Impression making. *Br Dent J* 2000;188:484-92

8. Lynch CD, Allen PF. Management of the flabby ridge: Using contemporary materials to solve an old problem. *Br Dent J* 2006;200:258-61
9. Pai UY, Reddy VS, Hosi RN. A single step impression technique of flabby ridges using monophasic polyvinylsiloxane material: A case report. *Case Rep Dent* 2014;2014:104541.
10. Labban N. Management of the flabby ridge using a modified window technique and polyvinylsiloxane impression material. *Saudi Dent J* 2018;30:89
11. Bansal R, Kumar M, Garg R, Saini R, Kaushala S. Prosthodontic rehabilitation of patient with flabby ridges with different impression techniques. *Indian J Dent* 2014;5:110-3.
12. Sankeshwari B. Impression techniques for management of flabby ridges in complete dentures – A review. *IDA J* 2013;46:87-93