

## A Simplified Impression Technique for a Flabby Maxilla - A Clinical Report

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### Abstract

Flabby maxillary ridge is the most commonly encountered clinical condition during routine dental practice. The presence of these displaceable denture-bearing tissues often poses difficulty during fabrication of complete dentures resulting in compromised support, retention and stability. Many impression techniques and materials have been proposed in various literatures to help overcome this difficulty. These techniques vary in philosophies but are often quite time-consuming to perform, and rely on materials not commonly in use in contemporary dental practice. The purpose of this paper is to describe an impression technique for flabby ridges, using conventional impression material.

**Key words:** Flabby denture-bearing tissues, Impression techniques, Impression material

### Introduction

The Glossary of Prosthodontic Terms defines flabby ridge as an “excessive movable tissue”.<sup>1</sup> It is composed of mucosal hyperplasia and loosely arranged fibrous connective tissue as well as denser collagenised connective tissue.<sup>2</sup> These displaceable tissues develop when hyperplastic soft tissue replaces the alveolar bone and is often related to the degree of bone resorption and faulty dentures. It has shown prevalence varying up to 24% in edentulous maxillae, and 5% in edentulous mandibles with predilection for anterior region in both the arches.<sup>3-5</sup>

Displaceable ridges in particular, complicate complete dentures fabrication compromising retention, stability, support, function and esthetic.<sup>2</sup> Mac Entee states concerns about support for the denture if the residual ridge

moves more than 2 mm under light pressure.<sup>6</sup> Forces exerted during the act of impression making can distort the mobile tissues. In addition, masticatory forces can displace these mobile denture bearing tissues, leading to altered denture position and loss of peripheral seal, hence compromising retention.

The literature suggests three main approaches for the management of flabby ridge which includes surgical removal of fibrous tissue prior to conventional prosthodontics, implant retained fixed or removable prosthodontics and conventional prosthodontics without surgical intervention. However, many medical, psychological and social conditions contraindicate these surgical procedures. The purpose of this article is to describe a conservative yet convenient approach of making impression of the displaceable tissues using a modified impression tray and commonly available dental material without negotiating the philosophy of impression making.

### Case report

A female patient of age 72 years was referred to the Department of Prosthodontics and

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Maxillofacial Prosthetics, People's Dental and College and Hospital, Kathmandu. The patient complained of loose denture which she had been wearing since 7 years. Systemic examination revealed she was under medication for diabetes and hypertension since 15 years.

On examination, it was noted that there was an area of flabby tissue in the maxillary anterior region extending from right canine region to the left canine region. The superficial tissues were mobile when pressure was applied with the handle of mouth mirror (Fig. 1).

Various treatment options were discussed with the patient but she was reluctant to go for any procedure involving surgery. So, it was decided to fabricate a new set of complete denture, paying special attention to recording the flabby tissues in undisplaced state.

The preliminary impression was made using irreversible hydrocolloid material (Zelgan 2002; Dentsply Ltd) in perforated edentulous trays and poured in dental plaster. The displaceable areas were identified on the maxillary cast and marked. Special trays were fabricated; one for mandibular arch and two for maxillary arch—one with a window in flabby tissue area, with a key corresponding to the access made on the second tray for making final impression. The second tray was sectional with escape holes corresponding to the marked area on the cast. The escape holes were made with 2mm width straight fissure bur. (Fig. 2)

The first tray was border molded using green stick compound and the final impression was made with zinc oxide eugenol (Fig. 3). The tray was retrieved and excess final impression material, flowing into the area associated with 'flabby tissues' was removed using a scalpel.

The tray was then replaced over the denture bearing area (Fig. 4). A low viscosity alginate

was mixed and painted over the flabby tissue area (Fig. 4) and the second tray was guided over the first tray through the keys. Both the trays were removed simultaneously after the material had set (Fig. 4). The processing was done in a conventional manner and the dentures were delivered. The patient was satisfied with the stability, aesthetics and function at subsequent appointments.



Figure 1: Flabby ridge in the anterior maxillary area displaced by the handle of mouth mirror



Figure 2: Modified custom tray for maxillary denture bearing area



Figure 3: Border molding and final impression of the first tray



Figure 4: Final impression of the flabby tissue area made with a low viscosity alginate

## Discussion

Impression techniques and materials used in dentistry have come a long way since the early times, where it was just an attempt to record the tissues without the knowledge and appreciation of the anatomy, physiology and microbiology of tissues being recorded, to a more scientific, well documented, biologic impression making followed today.<sup>7</sup> Despite advances, difficulties still persists when the quality of the denture bearing areas are compromised.

The surgical removal or excision of the flabby tissues improves stability from the available firm denture bearing area and the use of dental implants offers better stability and retention in fibrous ridge cases. However, most of the complete denture patients are elderly and accompany complex medical histories, unsuited for surgical procedures. Furthermore, the excision of flabby tissues will leave virtually no ridge at all<sup>8</sup> which provide little retention or resistance. The prosthetic replacement also has additional bulk and weight of the denture base material. In addition, time, cost and expertise of the clinician limit their usage on a regular basis. A conventional prosthodontic solution discussed here, may avoid these problems associated with surgery.

There is much speculation in the dental literature regarding the most suitable impression technique for a flabby ridge; there is no evidence to indicate that one technique is superior to the other. The two stage technique remain closest of the described techniques for recording the fibrous ridge in its undisplaced position and have the highest number of advocates in the literature reviewed.<sup>9-11</sup> The mucostatic impression technique is made over the flabby ridge with the basic support achieved from the other firm areas of the arch and thus, maximizing retention. In addition, if load is to be distributed evenly over the available denture bearing area, distortion of the tissues must be minimized during the impression making procedure.<sup>12</sup>

The technique described involves no additional clinical appointment and can be accomplished relatively quickly. Zinc oxide eugenol and alginate are easily available, affordable alternative to other impression materials for the purpose. Furthermore, every general dental practitioner is familiar with these material.

## Conclusion

Although preprosthetic surgery helps in recontouring the ridges to accept prosthesis in a better way, they do have some limitations. Modified impression technique described here is a feasible alternative for construction of prosthesis in a flabby ridge cases as they are not only non invasive but may have better patient acceptance and provide satisfactory results.

## Acknowledgement

Dr. Smriti Narayan Thakur for the departmental support

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