

MODIFIED IMPRESSION TECHNIQUE FOR MANAGEMENT OF FLABBY RIDGE-A CASE REPORT

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ABSTRACT

The presence of displaceable denture-bearing tissues often presents a difficulty when making complete dentures. Unless managed appropriately, such 'flabby ridges' adversely affect the support, retention and stability of complete dentures. Many impression techniques have been proposed to help overcome this difficulty. While these vary in approach, they are similar in their complexity, are often quite time-consuming to perform, and rely on materials not commonly in use in contemporary general dental practice. The purpose of this paper is to present a modified window technique for the impression of anterior maxillary flabby tissues for improved and controlled application of polyvinylsiloxane impression material.

Keywords: management of flabby ridge, modified window technique.

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INTRODUCTION

Impression making plays critical role in complete denture fabrication. A particular problem is encountered if a flabby ridge is present within an otherwise 'normal' denture bearing area.. Flabby ridge can be defined as a mobile soft tissue which is located on the superficial aspect of the alveolar ridge¹. Flabby ridge can also be called a displaceable ridge or a fibrous ridge. A fibrous or flabby ridge is a superficial area of mobile soft tissue affecting maxillary or mandibular alveolar ridges. Typically these "flabby ridges" are composed of mucosal hyperplasia and loosely arranged fibrous connective as well as more dense collagenised connective tissues. In the soft tissue, varying amounts of metaplastic cartilage and/or bone have been reported.

Flabby ridge is predominantly seen in the upper anterior region and is commonly associated with features of combination syndrome, as mentioned by Kelly. Earlier studies show that prevalence of flabby ridges vary in either arches, with edentulous maxillae prevalence being 24% and edentate mandibles 5%^{4,5}. Another reason for flabby tissue is lack of planned dental extraction⁶.

In the presence of displaceable ridge, fabrication of a stable denture becomes an arduous challenge. Flabby ridges get easily displaced under occlusal forces owing to poor support, resulting in compromised denture retention as a consequence of loss of peripheral seal¹. According to MacEntee, support for the complete dentures is significantly compromised if the flabby ridge has more than 2mm displacement under pressure⁷. An impression technique is required which will compress the non flabby tissues to obtain optimal support and at the same time, will not displace the flabby tissues.

MATERIALS & METHODOLOGY

A 45year old female patient reported to the department of prosthodontics with a complaint of ill-fitting maxillary complete denture since one year. On intra-oral examination, an edentulous maxillary arch with severely displaceable anterior flabby ridge



Fig.1
Edentulous maxillary arch with displaceable anterior flabby ridge

was observed (Fig. 1). It was planned to provide the patient with a new maxillary conventional complete denture. A special window impression technique using PVS material for the definitive impression was considered⁸. The technique is as follows,

1. A Primary maxillary impressions were made with alginate material (Zhermack tropicalgin) using edentulous rim lock stock trays .
2. A maxillary cast was poured (Dental stone, Type III, Kuzler) and the flabby ridge area was marked, followed by fabrication of

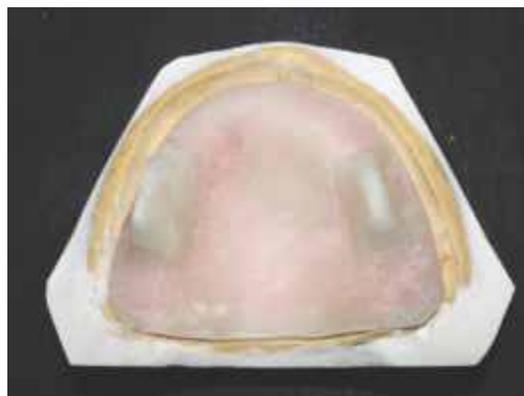


Fig.2 Custom tray with two posterior handle

custom tray [spaced (2mm), tissue stops] with two posterior handles (Fig.2).

3. A vacuum heat pressed polyethylene sheet of 0.5mm thickness was adapted on the custom tray(Fig.3)



Fig.3
Polyethelenesheet(0.5mm)
adapted on custom tray

4. The window was removed and holes of similar dimensions were placed on the polyethylene sheet in the window area
5. The tray was tried in the patient mouth and the flanges were adjusted to be 2mm shorter than the depth of sulcus using a slow-speed motor and carbide acrylic-trimmingbur.
6. Border molding was performed using the conventional technique with green stick impression compound (Dental Kerr impression compound). Following which a maxillary impression was made using medium body PVS impression material (Aquasil Monophase).
7. The impression was evaluated carefully for defects and any excess material on the



Fig.4
Impression using medium body PVS
impression material and the material from
window area was removed

periphery was removed. In addition, the impression material in the area of flabby ridge was carefully removed using scalpel blade (Fig.4)

8. The impression was re-seated in the patient mouth and a light body PVS impression material (Zhermack Elite HD Plus) was injected starting from one of the side holes passing through the middle of



Fig.5
Light body PVS material was
injected through hole

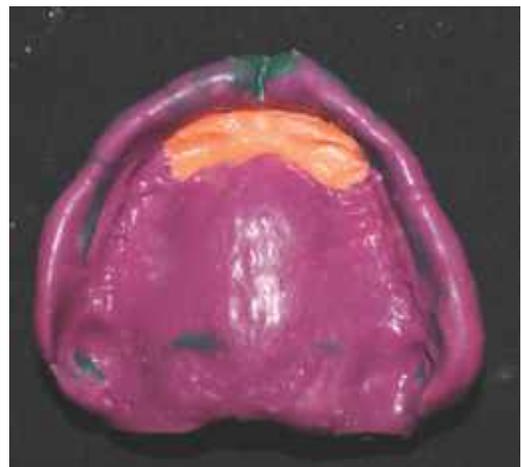


Fig.6
Completed Final impression

the polyethylene sheet until some excess material poured from the holes (Fig.5,6)

9. A master cast was poured from the impression (by using boxing and pouring) and wax rims were fabricated and jaw relation procedure was carried out (Fig.7)
10. Facebow record (Hanau Springbow) was made and transferred to the



Fig.7
Jaw relation recorded



Fig.8
Facebow record

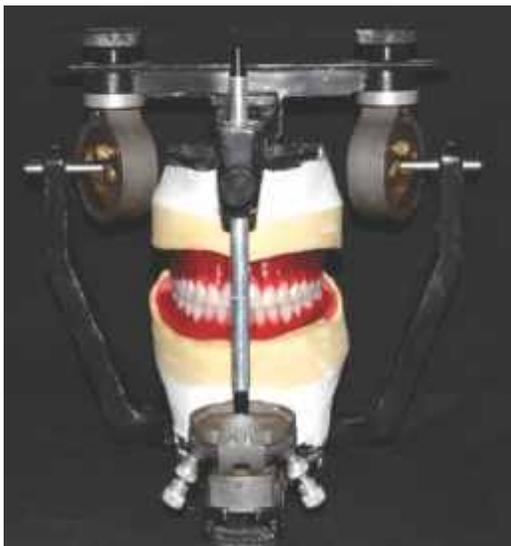


Fig.9
Teeth arrangement on semi adjustable articulator

semiadjustable articulator (Hanau Wide-Vue). Teeth arrangement was done in balanced occlusion for occlusal stability. (Fig.8,9)

11. Following try-in(Fig.10), a conventional complete denture was completed with characterization using brown pigment for natural looks (Fig.11,12).



Fig.10
Try-in



Fig.11
Denture insertion



Fig.12
Post operative photograph

DISCUSSION

Various techniques have been recommended and there is controversy as to whether a mucodisplacive technique which compresses the mobile tissue aiming to achieve maximum support from it or whether a mucostatic technique with the aim of achieving maximum retention should be employed. Liddlelow⁹ in 1964 described a technique whereby two separate impression materials were used in a custom tray (using 'plaster of Paris' over the flabby tissues and zinc oxide eugenol over the normal tissues). In 1964, Osborne¹⁰ described a technique where two separate impression trays and materials were used to separately record the 'flabby' and 'normal' tissues and then related intra-orally. Magnusson et al.² described a technique where two impression materials are used in a custom tray using zinc oxide and eugenol over the normal tissues and impression plaster over the flabby area. Crawford et al.¹¹ described a two-tray impression technique where two trays are fabricated and impression is recorded with two different materials and is then oriented intraorally. The elastic recoil of flabby fibrous soft tissue during function results in instability and loss of denture retention and dislodgement^{1,2}. The clear polyethylene sheet in this modified window technique (described by N Labban) performed as a stent for holding and preventing the low viscosity material from dropping away from the tissue (allowing control and uniform application). In addition the visibility from the clear tray helps clinicians to see the adaptation of impression material to the flabby tissue. Therefore authors recommend clinical application of this modified window technique using PVS impression materials for final impression of flabby maxillary ridge in the fabrication of complete dentures.

SUMMARY

Mucostatic techniques may not make the best use of the available tissue support and movement of the denture base relative to the support tissues may be a problem. The use of selective pressure or minimally displacive impression techniques should help to overcome some of these limitations. With

modified impression techniques, these ridges can be managed effectively without any additional clinical visits as compared to patients with normal edentulous ridges.

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