

Two Alternatives for Impression Making of Mandibular Flabby Ridge: Case Reports

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ABSTRACT

With the increase in life expectancy, there is increase in number of edentulous individuals requiring rehabilitation with complete dentures. Flabby ridge is a commonly encountered condition in clinical practice which affects the retention and stability of the mandibular denture. Two patients reported in K.M. Shah dental college with flabby mandibular ridges. Two different secondary impressions were employed for the two patients, one was 'Window technique using Hub of needle' and other was 'Window technique using Magnets'. These techniques resulted in a stable and retentive mandibular denture.

Keywords: Mandibular, Flabby Impressions, Alternatives.

INTRODUCTION:

Flabby ridge is a superficial area of mobile soft tissue affecting the maxillary or mandibular alveolar ridges. Literature indicates that the prevalence of flabby ridges in edentulous maxilla is about 24% and that in edentulous mandible is 5%.¹ If the flabby ridge is compressed during conventional impression making technique, it tends to recoil later and dislodge the overlying denture. The aim of impression technique for such a condition should be directed such that it will compress the non flabby tissues to obtain optimal support, and, at the same time, will not displace the flabby tissues.²



A multitude of impression techniques have been described in the literature for impression making of flabby ridges. Liddlelow described a technique whereby two separate impression materials are used in a

custom tray, plaster of Paris over the flabby tissues and zinc oxide eugenol over the rest normal tissues.³ Osborne described a technique in which two separate impression trays and materials are used to separately record the flabby and normal tissues, and then related intra-orally.⁴ Watson described the 'window' impression technique employing a custom tray with a window or opening over the flabby tissues. Firstly, a mucocompressive impression is made of the normal tissues using the custom tray and zinc oxide eugenol. After it sets, it is removed, trimmed, and re-seated in the mouth. Then, a low viscosity mix of plaster of Paris is painted onto the flabby tissues through the window. Once it sets, the entire impression is removed.⁵ Watt and McGregor proposed a technique where impression compound is loaded on to a modified custom tray. The material is then manipulated to simultaneously compress the normal tissues, while avoiding displacement of the flabby tissues using the same material and impression tray. Later, over this manipulated impression compound, a wash

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impression with zinc-oxide and eugenol is made.⁶ Lynch and Allen also supported the technique proposed by Watt and McGregor.⁷ Hobkirk advocated the use of light-bodied addition silicone.⁸

This present article describes the case reports for impression making of flabby edentulous mandibular ridge. The first technique is a 'Two-tray Window technique assembled using hub' and the second is 'Two-tray Window technique assembles using magnets'. In both the techniques light-bodied addition silicone is the material choice.

CASE REPORT

A 60 year old female and a 62 year old male patient reported in the Department of Prosthodontics, K. M. Shah Dental College & Hospital with the chief complaint of loose lower dentures and wanted new set of dentures. On complete clinical examination they were diagnosed with maxillary and mandibular completely edentulous arches with flabby mandibular ridge. The entire crest of ridge was found to be flabby in both the cases. It was decided to rehabilitate them with complete dentures fabricated with 'Two-tray Window technique assembled using hub' and 'Two-tray Window technique assembles using magnets' impression techniques, respectively.

Clinical procedure was as follows:

Case I

Primary impressions were made using Impression compound Type I impression material and then was scrapped to create space for irreversible hydrocolloid which was then applied over impression compound to record the primary impression. For maxillary primary impression, conventional technique using impression compound was employed (Fig. 1).

For secondary impression, firstly, a close fitting custom tray made of autopolymerising acrylic resin with a spacer wax of 0.5mm thickness was adapted on the primary cast which was 2mm short of sulcus. Then, the hubs of two needles were separated and were incorporated in to the custom tray at the second premolar region on both sides. After this, petroleum jelly was applied on the first tray with hub and a second tray was fabricated on that such that the two trays could be separated. The

second tray was 2mm short of first tray and made up of clear acrylic (Fig. 2). On the first tray border moulding was done using low fusing greenstick compound. The flabby area was marked in the mouth with an indelible pencil and transferred on the first tray. The windows were made on the first tray, in the marked flabby areas and were placed in the mouth. Four holes were made in the second tray, two anteriorly and two posteriorly and was placed over the first tray in the mouth. The light-bodied addition silicone was injected through the one of the anterior holes. It flowed in without any pressure and as it flowed over towards posterior, it was seen through second tray made up of clear acrylic. Excess material oozed out of posterior hole on the opposite side. Similarly, when the material was injected through one of the posterior holes, excess material oozed out through the opposite anterior hole (Figure. 3). A final impression was recorded without any application of pressure on the flabby tissues and was poured in dental stone.

Case II

Primary impression was obtained in two steps. Firstly, an impression was made using Impression compound Type I impression material and was poured in dental plaster. A custom tray was fabricated over it and an impression was made employing Admix technique (8 parts of low fusing greenstick compound and 2 parts of impression compound). The impression, so obtained was the primary impression (Fig. 1). For secondary impression, a close fitting custom tray made of autopolymerising acrylic resin with a spacer wax of 0.5mm thickness was adapted on the primary cast which was 2mm short of sulcus. Three magnets were incorporated in this first tray, one in central incisor region and other two at first molar regions on both sides. Then, a second tray made up of clear acrylic was fabricated on the first tray with three magnets which correspond to the location of magnets on the first tray. A sheet of aluminium foil was adapted between the trays to act as spacer (Fig. 2). Border moulding was done on the first tray using low fusing greenstick compound and then the windows were made in the marked flabby areas. This tray was then seated in the patient's mouth. Light-bodied addition silicone was injected in the windows and immediately the second tray was oriented on to the first such that the two trays were



Fig 1: Primary Impression

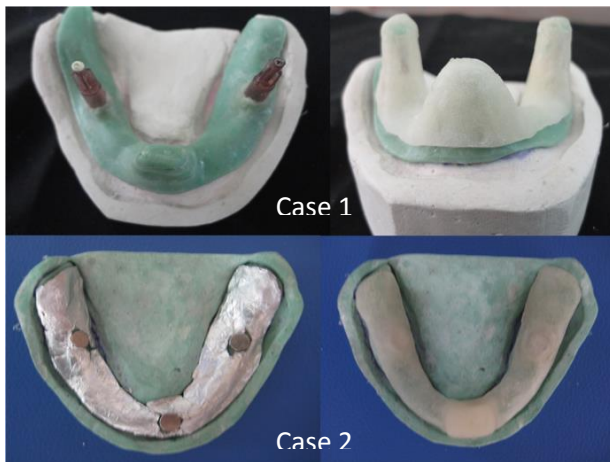


Fig 2: Fabrication of custom trays

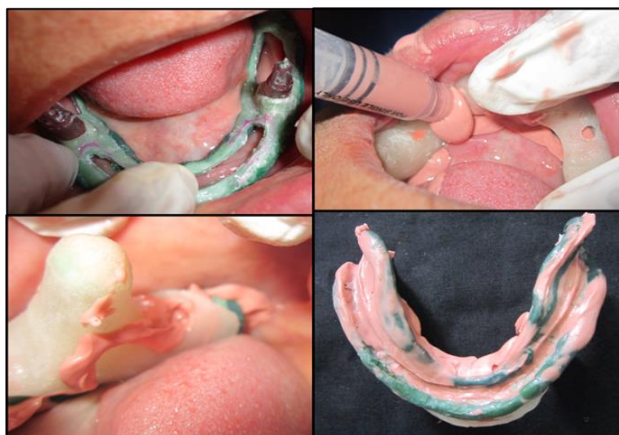


Fig 3: Secondary impression for Case 1

held together by magnetic attraction. The light-bodied silicone could be seen spreading to the entire ridge through second tray made up of clear acrylic. Excess material oozed out through the space between the two trays. Finally, a secondary impression was obtained with the help of magnetic attraction, without any pressure over the tissues (Figure. 4).



Fig 4: Secondary impression for Case 2

Secondary impression for maxillary arch in both the cases was made using low fusing greenstick compound for border molding and zinc oxide eugenol impression paste for final impression.

Jaw relations were recorded for both cases in the conventional manner. Teeth setting was done using Monoplane teeth to reduce the forces on the edentulous ridge and prevent further bone resorption. Try-in was done (Fig. 5) After the patients approved the trial dentures, they were processed using heat-cure acrylic resin and denture insertion was done (Fig. 6). The resulting dentures were felt more comfortable by the patient because they did not dislodge and were more stable and retentive.

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.⁹ Implant-retained prosthesis is also a good option but in most cases there is lack of available bone volume.

Prosthetic management of such conditions is a feasible and non-invasive option. In these cases both impression surface and occlusal scheme are at a paramount.¹⁰ The conventional muco compressive impression techniques result in



Fig 5: Try in of all the dentures



Fig 6: Completion of treatment

an unstable denture. For these cases a selective pressure or a minimally displacive impression technique should be chosen.¹¹ However, in the cases of the present article the entire crest of ridge was flabby and so a complete mucostatic impression technique was used. Occlusal scheme which directs minimal amount of forces on the edentulous ridge should be chosen. Monoplane occlusion presents as a good option.

This article describes two alternatives for impression making of flabby mandibular ridges. The very same techniques can be employed for maxillary flabby ridges too. The materials used are

readily available in contemporary clinical practice, except for magnets which are too, easily obtainable. These techniques can be efficiently carried out by any dental practitioner and makes it possible to manage flabby ridge cases in primary dental set-up.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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