Abstract

Final impressions for immediate denture are made by using many combinations of materials and methods. These vary from Alginate in stock trays to sectional impressions made in number of different materials. The irreversible hydrocolloids are poorest materials for final impressions due to their tendency to displace tissues throughout the area of unattached mucosa. On the other hand, sectional impressions made with ZOE paste or rubber base in custom tray have labial flange overextended. So, dentist may spend more time attempting to adjust denture than in making original impression. So, this article discusses an alternative campagna impression technique and instructions for immediate complete denture.

Keywords:
Complete dentures, extraction, campagna impression technique
**Introduction**

The placement of complete dentures immediately following the removal of natural teeth is not new. As early as 1860, Richardson described the use of immediate dentures. But for many years, immediate dentures were considered a luxury. Today, however, the immediate replacement of missing anterior teeth is expected, and frequently demanded, by an appearance-conscious public. Several impression techniques have been advocated, including the use of irreversible hydrocolloid impression material with stock impression trays, polysulfide rubber impression material with custom impression trays, irreversible hydrocolloid and polyvinyl siloxane with double custom impression trays in combination impression technique. This article describes Campagna impression technique with single custom impression tray.

**Case Report**

A 52-year-old male patient reported to the Department of Prosthodontics, D.A.V. Dental College, Yamunanagar, (Figure 1) for the fabrication of removable partial denture involving his missing lower anteriors and upper posteriors. Then, few criterias were used in his selection for immediate denture such as his good general health, no medical history, diseased gingiva with gingival crevice depth >4mm and presence upper five anterior teeth.

1. Initial maxillary impression was made with irreversible hydrocolloid (Plastalgin, France) in a stock tray (Figure 2) and mandibular impression with impression compound (Y Dents, India). These impressions were poured with dental stone (Gypstone, India).

2. The outline of custom impression tray was drawn on the diagnostic cast. It was extended 2mm short of the depth of vestibules in posterior edentulous areas, passed above the pterygomaxillary notches, and extend 3 to 5 mm posterior to the vibratory line and extended into the labial vestibules and a line was drawn around the remaining anterior teeth to indicate the opening in the tray. This opening was 3 to 4mm from the gingival margins of the remaining teeth so that the remaining anterior teeth were not covered by the custom impression tray. So, basically for final impression of maxillary arch with remaining anteriors, a custom tray with a labial flange (Figure 3) was fabricated.

3. Initially, remaining teeth prevented easy placement and removal of the tray, so tray opening was enlarged from lingual side. Then border molding was completed of maxillary arch in a conventional way. The important phase of this technique was the tissue
placement i.e. the extension of the borders of the tray so they made adequate contact with the reflecting tissues. Then, final impression was made with polyvinyl siloxane elastomeric impression material (3M ESPE, Germany). Its purpose was to allow the impression to be removed from severe undercuts which exists in the region of the anterior part of the arch. It was placed in sufficient amount on the tray borders and lingual surfaces of labial flanges and anterior palatal area of the tray. While inserting the tray, the lips were retracted and tray was rotated from anterior to posterior to avoid wiping away the impression material from the labial flanges of the tray (Figure 4). When the impression material was set, an instrument was used to loosen the material to prevent it from getting pulled away from the labial flanges of the tray.

4. A stock tray was loaded with irreversible hydrocolloid impression material while custom tray was already been in patient’s mouth (Figure 5). Purpose of this impression was to record the shape of the anterior teeth and their relationship to the final impression of the palatal and edentulous regions. When the impression was set, it was removed and its borders were trimmed 2 to 3mm short of the borders of the intial impression. Conventional beading and boxing of impression was done and was poured with dental stone.

5. Then an accurate centric relation record was made at an acceptable occlusal vertical dimension and maxillary and mandibular casts were mounted. Artificial teeth were selected. Evaluation of the posterior trial denture was done to verify the accuracy of the mounted casts (Figure 6). Written and oral instructions to be followed by the patient during first 24 hours following denture placement were given to the patient at this time. Then the remaining anterior teeth present on the master cast were trimmed according to pocket depths. Then, maxillary anterior teeth setting was completed (Figure 7).

6. Immediate denture was disinfected (Betadine solution) prior to the placement appointment. The remaining teeth were removed as atraumatically as possible (Figure 8). Bone removal was conservative and limited to removal of interseptal projections. No flap procedure and no sutures were given. Then denture was placed carefully to avoid forcing it into deep anterior undercuts. The denture occlusion was evaluated in centric relation and eccentric positions (Figure 9). Intraoral corrections were made. A remount procedure was delayed until all swelling and edema had subsided.
and patient was comfortable. Denture was removed carefully after 24-hour appointment. The denture and oral cavity were thoroughly cleansed. Pressure indicating paste was used to locate pressure areas and visualize the cause of irritated tissues. Denture was adjusted and occlusion was evaluated.

7. Patient instructions:
   a) Do not remove dentures during first 24 hrs
   b) Eat soft and nutritious diet and call him/her next day.
   c) Oral cavity must be kept meticulously clean.
   d) Remove dentures 4-5 times/day & rinse mouth with warm salt (1 tsp. salt in 1 cup warm water) and tongue should be brushed thoroughly.
   e) Dentures should be worn at night only for first 3-4 days then, these should be removed at night
   f) Clean denture with extra soft toothbrush and nonabrasive soap
   g) Soak the dentures in cleanser for 30 minutes a day for first 3-4 days
   h) Due to the gum shrinkage that occurs within the first 6 months, the use of a temporary liner will be inserted as needed and also denture adhesives can be used. Following the gum shrinkage period (approximately 6 months) a more permanent reline will be placed

Discussion

There are four basic types of impression techniques for immediate denture. Firstly, stock trays with irreversible hydrocolloid but it does not record the proper height, length and width of the labial and buccal vestibules as this material displaces unattached mucosa and impression is overextended. Secondly, custom impression trays with rubber base material but excessive size of tray, distorts the lips and unattached mucosa and causes the impression of labial vestibule to be inaccurate. Then, combination impression technique with double custom impression trays but it leads to over-extended labial flange. So, to overcome all these problems, campagna impression technique was employed due to its greater potential for more accurate impression of the labial vestibules.

Conclusion

This article describes fabrication of immediate maxillary denture with new technique. This assures the same degree of accuracy of the borders in the dentulous region as in the edentulous maxillary dental arches. It insures complete physiologic adaptation of the denture base throughout the basal seat and produces minimal post-operative soft tissue trauma.
References

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