A modified impression technique to fabricate an immediate denture

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Abstract

The advantage of immediate dentures is that the patient need not experience edentulism and there is no interruption to normal lifestyle - smiling, talking, eating, and socializing. However, immediate denture fabrication is more challenging because of the limited predictability of the related factors like the fit, appearance and comfort. Impression making in immediate dentures becomes difficult if the remaining teeth are mobile. This clinical report describes a technique of impression making for such a situation. (TPDI July 2012; 3 : 41-43)

Key words: Fabrication procedures, immediate complete denture.

Introduction:

Immediate denture treatment is a patient friendly procedure that provides and maintains esthetics, function and psychological well being after dental extraction and during the healing phase. The immediate denture can be considered as a matrix or bandage that protects the surgical site, controls hemorrhage and prevents contamination. Presence of undercut and a few teeth in relation to the anterior ridge interfere with the impression procedures1,2. If the teeth are mobile, the procedure becomes further complicated. An elastomeric impression can occasionally results in unintentional dental extraction. A modified impression technique is described here.

Methodology:

1. A 75 year old patient reported with complaints of loose partial dentures. Intra oral examination revealed the presence of 11, 14, 16, 32, 33, 34, 35, 36, 44 and 45 which were mobile, severely abraded and having undercuts. The patient was socially active and was not ready to be edentulous even for a short period of time. Hence an immediate denture was planned for the patient. Primary impression in alginate was made and casts were obtained. (Fig.1,2)

2. On the maxillary cast, the teeth were covered with one sheet thickness of modelling wax. A custom made tray was made in autopolymerising resin and the tooth portion was relieved. Locating notches were prepared in the tray around the teeth. A thin layer of vaseline was applied over the tray and cap like trays were prepared over the teeth. The tooth portion of the tray could be separated and reassembled to the major tray. (Fig.3,4,5)

3. Border molding was done using putty elastomer and the impression was completed in light body polyvinyl siloxane, impression material. The impression did not include the teeth. The impression was removed and excess material was removed. (Fig.6,7,8)

4. After reseating the impression, the trays made for each tooth were filled with light body elastomer and was positioned over the respective teeth and aligned with the help of the locating notches. (Fig. 9, 10)
5. Once the polymerization was completed the maxillary special tray was removed in segments. (Fig.11)

6. For the mandibular arch, single sheet of wax was adapted over the teeth portion and the special tray was made in two parts: one part for the teeth portion and the other part for the edentulous portion. (Fig.12,13)

7. As in the case of maxillary impression, border molding and light body impression was made for the edentulous portion and the tooth portion separately. The segments of the impression were assembled outside the mouth. (Fig.14, 15, 16)

8. Casts were obtained and occlusal rims were made for the respective casts. (Fig. 17, 18, 19, 20)

9. Face bow transfer was done and maxillary cast was mounted on the semi adjustable articulator.

10. Teeth were removed and cast was smoothened,
teeth arrangement was done and anterior trial was done. (Fig. 21, 22)
11. Posterior arrangement was done on the articulator and denture was processed.
12. On the day of extraction, the denture was relined with GC soft liner and inserted in the patients mouth. (Fig. 23, 24, 25, 26)

Discussion:
Although there are limitations to an immediate denture, the final outcome is usually positive. One of the most important esthetic advantage of immediate dentures is that the patients can avoid the enhancement of being seen in public without teeth. The technique described in this case report, can be followed for making impressions in immediate dentures where severe undercut is present. This technique makes the impression an easier task as the segments can be removed separately and reassembled again with the help of locating notches, avoiding the chances of unintentional extraction of teeth during the removal of impression.

Conclusion:
For the fabrication of immediate dentures the impression should copy the ridge as well as the teeth. Mobile teeth complicates the process with accidental dental extraction. Segmented custom tray offers a simple solution to obtain a reasonably good cast.

References: