



**ORIGINAL RESEARCH PAPER**

**Prosthodontics**

**SIMPLE APPROACH TO IMMEDIATE DENTURE FABRICATION**

**KEY WORDS:** Impression, tooth selection, stability, denture.

**Dr. Kalpana D\***

Professor & HOD, Dept. of Prosthodontics, Dayananda Sagar College of Dental Sciences and Hospital, Kumaraswamy Layout, Bengaluru -560078.

\*Corresponding Author

**ABSTRACT**

Effective management of an immediate denture patients poses a challenges to dentist. Many methods and materials are available to dental professionals to manage immediate denture patients. This article will demonstrate the use of an appropriate methods and materials for the success of an immediate complete denture fabrication.

**INTRODUCTION:**

In line with present day trends, "instant dentures" are a necessity to prevent distress, anxiety and embarrassment to many people. Most people do not object strenuously to removal of teeth if they receive prosthesis at the time of extraction.

There are many advantages to immediate denture from the patients' point of view, chief among these advantages is the preservation of the person's natural appearance and social mobility. A well made immediate complete denture will act as a splint over the surgical area and therefore promote healing, an alveoplasty is not always indicated, and many immediate complete dentures may be inserted with surgical procedures limited to extraction of the teeth. When conventional complete denture is fabricated, there is normally a period of several weeks to months of edentulous for healing after extraction. The following clinical case demonstrates the fabrication of an immediate complete denture.

**CASE REPORT**

A 60-year-old man with few mobile maxillary and mandibular teeth was referred to the department of prosthodontics; the patient had an existing maxillary and mandibular removable partial denture. The remaining teeth were indicated for extraction. Most of the maxillary and mandibular anterior and posterior teeth were extracted many years ago. Because of the patients concerns for esthetics, the patient refused to wait for several weeks after the teeth were extracted prior to fabrication of a conventional complete denture.



**Procedure**

Make an irreversible hydrocolloid (alginate) upper and lower impressions using stock tray, the impression should be well extended and have adequate hard and soft tissue detail. The impression is poured with dental stone. A custom tray with base plate wax is fabricated with auto polymerizing acrylic resin on the preliminary cast. The remaining teeth are covered with a double thickness of base plate wax, this provides space for the impression material around the teeth.

The custom tray is placed in the patient mouth and evaluated. Heated stick compound is added sequentially to the borders of the tray and border molded in the mouth.



Base plate wax is removed from the custom tray. The tissue surface of the tray and the borders are covered with the adhesive. Medium-viscosity vinyl polysiloxane is used for the final impression it flows well, records soft and hard tissue detail accurately, and is elastic which facilitates removal. Distortion on removal from undercuts is virtually non existent, because these materials exhibit the lowest strain-in-compression values. Medium viscosity material is used for capturing the fine details and for recording the bulk of the oral structures, it flows readily and yet holds its shape when placed in a custom tray.

Prior to making impressions, the mobility of the remaining teeth were evaluated, care was taken to avoid extracting the teeth with the impression by lightly coating the teeth with petrolatum. The impression material is mixed and the tray loaded, taking care to cover the border areas with impression material, the tray is seated in the mouth and allowed to remain there for a minimum of seven minutes to ensure adequate curing, the tray should be removed on a line of draw parallel with the long axes of the remaining teeth, the impression is inspected for detail, voids and thickness of the impression material, the impression is poured with dental stone.



If alternate two-step impression procedure is followed the two sectional impressions are usually tends to separate when removed from the patient mouth which leads to the failure of proper re-orienting the resin tray impression into the irreversible hydrocolloid impression.

A record base is fabricated from auto polymerizing acrylic resin, and an occlusion rim is made from base plate wax, a face-bow record is made to orient the maxillary cast on the articulator.



Care was taken while evaluating the occlusal vertical dimension because of supra eruption (remaining natural teeth), tentative occlusal vertical dimension was determined. The centric relation record is made at a slightly increased vertical dimension using a free-flowing medium on the occlusion rim such as zinc-oxide eugenol impression paste, this contributes to an accurate record and helps in preventing “skids” that might occur as a result of contact between the teeth and the occlusion rims.



The centric relation record is removed from the mouth and verified, the mandibular cast is mounted using the centric relation record.

Tooth selection is easily carried out, since the patients remaining natural teeth are an excellent starting point for from, size and shade selection. Acrylic denture teeth is used because of reshaping the ridge lap portion of the teeth. The teeth are arranged on the recording base, the teeth are set so as to provide multiple bilateral posterior contacts in centric relation, Bilateral balancing contacts were provided in lateral and protrusive excursions.

A try-in is done after the teeth are set, the trial base was not retentive so denture adhesive was used, centric relation and occlusal vertical dimension are verified, and the position of the posterior seal is verified at this time.



The teeth are cut away on the cast and the labial portion of each root is excavated to a depth of approximately 1mm on the labial, lingual or palatal side, the slight depression was carved in the labial region will accommodate the ridge laps of the artificial teeth, since there is gingival recession and bone loss, no need to remove labial stone on the cast. There is some flexibility in the placement of remaining teeth, diastemas eliminated, slanted teeth straightened and the smile line improved for the esthetics.



The wax-up of the denture is completed to provide proper contour and thickness of the denture base, the denture is

processed using conventional technique, the denture was stored in a germicidal solution.



**Insertion Appointment**

In the patient mouth remaining teeth are removed with a minimum of trauma, Bony spicules and sharp edges of bone are carefully removed, the tissue flaps are approximated and sutured. The denture is placed in the mouth, denture must seat in the mouth in exactly the position it was intended to occupy, the patient is asked to close for the first check of occlusion, the denture was seated correctly after surgery, there was no gross deflective contacts, ensure both comfort and stability.

The patient is instructed to keep the denture in position for 24 hours, at which time the dentist will remove it for the first time, the patient is advised to do no chewing during the first 24 hours and a liquid diet is prescribed. Because the occlusion has not been finally adjusted, mastication cannot be efficient, stability of the denture will improve when the occlusion is perfect, and this cannot happen until the swelling subsides. Occlusal adjustment is done after 48 hours of the denture insertion.

The patient is seen at one week following insertion for suture removal. The occlusion is checked, the tissue surface of the denture is evaluated, and the soft tissue is examined for irritation. After 2-3 weeks of healing, the patient is seen again for possible subjective complaints; patient needs number of post insertion appointments. Proper follow-up care is essential to the success of an immediate denture.



**CONCLUSION**

An immediate denture provides restoration of esthetics, phonetics and masticatory function. The patient does not have to endure a long healing process without teeth. Best results are obtained if no bone is removed at the time the dentures are inserted. It acts as a splint over the surgical field and helps in preventing a break down of the blood clot.

**REFERENCES**

1. Weston V. Hales and Lawrence Sussman, Intermediate dentures. J Prosthet Dent 1969;21:448-55.
2. Demer W. Minimizing problems in placing immediate complete denture. J Prosthet Dent 1972;27:275-84.
3. Passamonti G, Kottrajarus P, Gheewala RK, et al. Effect of immediate denture on maxillomandibular relations. J Prosthet Dent 1981;45:122.
4. Leo F. Broering and William M. Gooch, Existing restorations duplicated for an immediate denture. J Prosthet Dent 1982;47:336-7.
5. Woloch M. Nontraumatic immediate complete denture placement: a clinical report. J Prosthet Dent 1988;4:391-3.
6. Izharaul Haque Ansari, Pouring a cast for immediate complete denture that simplifies setting of teeth. J Prosthet Dent 1995;74:204-5.
7. Anton S. Godlieb and Samuel W. Askinas, An atypical chairside immediate denture: a clinical report. J Prosthet Dent 2001;86:241-3.
8. Majid Bissas, A simple procedure for minimizing adjustment of immediate complete denture: a clinical report. J Prosthet Dent 2004;92:125-7.
9. Steven J. Sadowsky, Use of foil to block out extraction sites prior to relining immediate dentures. J Prosthet Dent 2006;95:79.
10. Alejandro Rabanal, Michael Bral, and Gary Goldstien, management of a patient with severe erosive lichen planus in need of an immediate complete denture: a clinical report. J Prosthet Dent 2007;97:252-5.