Immediate Denture Service Designed to Preserve the Oral Structures – A Case Report

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Abstract
The immediate complete denture is an accepted method of restoration for the patient whose last remaining teeth are to be removed. The prosthesis is fabricated before the removal of the teeth and is inserted immediately after the extractions. The patient is never without teeth, the muscles of facial expression remain virtually unchanged and the natural tooth position can be duplicated, if desired. Immediate denture also acts as a splint over the surgical area and promotes healing.

Keywords: Impressions; polymethylmethacrylate resin; denture

Introduction
In an era of both preventive and conservative dentistry, it is rarely necessary for any dental patient to become edentulous. The placement of complete denture immediately following the removal of natural teeth is not new. As early as 1860, Richardson described the use of immediate dentures. In line with present day, immediate dentures are a necessity to prevent distress, anxiety and embarrassment to many people.

Case Report
A 52 years old male patient reported to the Department of Prosthodontics and Crown & Bridge with the chief complaint of loose lower denture and poor esthetics since 2 months. History of present illness revealed extractions of all the mandibular teeth and maxillary posteriors 2 years back due to pain and mobility. Patient got mandibular complete denture and maxillary transitional removable partial denture fabricated one and a half years back. There was no medical history relevant pertaining to
the case. Past dental history revealed a 2 year period of completely edentulous mandibular arch and partially edentulous maxillary arch. The patient had wheatish complexion and normal gait. Intraoral examination revealed that teeth present were 11, 12, 13, 21, 22, 23, 24. Arch size of both maxillary and mandibular ridges was medium size and arch form of maxillary and mandibular ridges was square. Ridge form in maxillary ridge was U shaped and mandibular ridge was inverted U shaped (Fig. 1 & Fig. 2).

An orthopantograph of the patient revealed bone loss in maxillary anterior region up to the middle thirds of the roots (Fig. 3). The diagnosis made was partially edentulous maxillary and completely edentulous mandibular arch. Fabrication of immediate maxillary complete denture prosthesis and conventional mandibular complete denture was planned.

Maxillary primary impression was made with irreversible hydrocolloid (Tulip Alginate Impression Material, Cavex Holland BV, Holland) (Fig. 4) and mandibular impression was made with impression compound (Hiflex Impression Composition, Prevest Denpro Limited, Jammu) (Fig. 5). Special trays were fabricated with autopolymerizing polymethylmethacrylate resin (DPI RR Cold Cure) 2 mm short of all the sulci. A window was given in the maxillary special tray in anterior region for the natural teeth and tray handle was made with impression compound (Fig. 6). The polymethylmethacrylate resin tray was seated in the mouth and adjusted so that the borders were 2-3 mm short of reaching the unstrained tissue reflection of the mucobuccal fold and 2-3 mm short of the gingival margins around the remaining teeth. The border moulding was then done with green stick impression compound (DPI Pinnacle Tracing Sticks). Maxillary secondary impression was made with zinc oxide eugenol (DPI Pinnacle Tracing Paste) and pick-up or dual impression was made with irreversible hydrocolloid (Fig. 7). Mandibular secondary impression was made with zinc oxide eugenol (Fig. 8). Vertical and horizontal jaw relations were recorded. Teeth arrangement and trial was done (Fig. 9). Maxillary anterior teeth were then trimmed on the cast and cast was smoothened up to the level of posterior ridge with sandpaper (Fig. 10). Maxillary anterior teeth were then arranged (Fig. 11). The dentures were then processed with heat cure polymethylmethacrylate resin (Trevalon, Dentsply).

All the teeth present were extracted and suturing was done (Fig. 12). Denture insertion was done at the same appointment after disinfecting the dentures in Povidone - Iodine solution (Pividine, Wockhardt Limited, Mumbai) (Fig. 13a & b & Fig. 14a & b). Post insertion instructions were given and patient recalled after 24 hours for follow up.

**Discussion**

**DEFINITION**

Any removable dental prosthesis fabricated for placement immediately following the removal of natural tooth/teeth. An immediate complete denture is a dental prosthesis constructed to replace the lost structure and associated structure of the maxillae and/or mandible and inserted immediately following removal of remaining teeth.

**CLASSIFICATION**

Conventional immediate denture

Interim (or transitional) immediate denture

**ADVANTAGES**

Maintenance of patient's appearance, circumoral support, muscle tone, vertical dimension of occlusion, jaw relation and face height are the advantages of immediate dentures. The patient's psychological and social well-being is preserved. There is less postoperative pain as extraction sites are protected. It is easier to duplicate natural tooth shape and position. Speech and mastication are rarely compromised and nutrition can be maintained.

**DISADVANTAGES**

Immediate dentures are more challenging modality than complete dentures because the presence of teeth makes impressions and maxillomandibular positions more difficult to record. The anterior ridge undercut caused by presence of remaining teeth may interfere with the impression procedures. Presence of different numbers of remaining teeth in various locations can lead to incorrect recording of the centric relation position. More chair time, additional appointments are required leading to increased cost.

**CONTRA INDICATIONS**

Immediate dentures are contraindicated in patients with poor general health, uncooperative and elderly patients, patients suffering from debilitating diseases and in patients with sound periodontal health.

**INSTRUCTIONS TO PATIENT**

The patient should avoid rinsing, drinking hot liquids and is instructed not to remove the immediate denture during the first 24 hours. The diet for the first 24 hours should be liquid or soft. Analgesics can also be prescribed if required.

**Conclusion**

Immediate denture service, at its best, is one of the finest contributions that dentistry has to offer to
patients. It fulfills an important role in today’s treatment modalities by providing the patients with esthetics, function and psychological support after extractions and during the healing phase. This method for treating the patient who will become edentulous is preferred over the method that involves being edentulous for months together.

References

Figure 5: Mandibular primary impression

Figure 6: Maxillary special tray

Figure 7: Maxillary secondary impression

Figure 8: Mandibular secondary impression

Figure 9: Try-in (Frontal view)

Figure 10: Trimmed maxillary cast