

TRY- IN FOR IMMEDIATE DENTURE – POSSIBLE!!- A CASE REPORT

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ABSTRACT

Immediate denture is a type of hybrid denture. The main disadvantage of immediate denture is that a wax try-in cannot be performed, thereby acceptance of the final prosthesis by the patient would be a challenge. In this case, the patient was concerned about the appearance, so an innovative approach of interim immediate denture was accomplished. The anterior wax try – in was made possible using Campagna impression technique and denture teeth repair technique employing a combination of heat cure and chemically cured resins. The procedure was completed entailing the patient’s suggestion and compliance.

KEYWORDS: Immediate dentures, Hybrid denture, Campagna impression technique, Try-in stage.

INTRODUCTION:

“SMILE”- It lets your teeth breathe. If the teeth are lost, so is your smile. Prosthodontics is defined as a specialty pertaining to the diagnosis, treatment planning, rehabilitation and maintenance of the oral function, comfort, appearance and health of patients with clinical conditions associated with missing tooth/teeth or maxillofacial tissues by using biocompatible substitutes¹. To replace and rehabilitate the lost teeth, dentures are used from past to present, one such denture is an immediate denture. Immediate denture is a type of hybrid denture which is made by combining two different entities¹. Duplication of patient's appearance, support of the circumoral muscles and protection of the extracted site are the advantages of immediate dentures. Routinely, it is always mandatory to have an approval of wax trial stage from the patient before the processing of the final prosthesis. However, in immediate dentures, this is not possible. To overcome this disadvantage, a new approach incorporating a try-in stage for immediate denture was performed in this case report.

CASE REPORT:

A 48year old male patient reported to the Department of Prosthodontics with a chief complaint of difficulty to eat and unpleasant feeling during smile because of mobility of front teeth. Being a public relations officer, his main concern was not to be without teeth even for single day and wanted to replicate his natural appearance and smile. An immediate denture was planned along with anterior wax trial, to satisfy the patient need of appearance and smile.

Intraoral examination revealed a partially edentulous maxillary arch with only 5 teeth (4 anterior and 1 posterior- tooth numbers only) exhibiting grade III mobility. Spacing was present between 12, 13, 21 and 22. A full complement of natural teeth was present in the mandibular arch. (Fig 1).

Treatment was planned and sulcus depth was recorded accurately using Campagna impression technique (Fig 2)², followed by extraction of posterior tooth (16). Later, jaw relations were recorded and posterior wax trial was carried out to check the centric occlusion³ (Fig 3). After approval of posterior wax trial (Fig 4), the denture was fabricated by

conventional technique with heat cure resin.

In the next step, anterior teeth were arranged for a wax trial. Two casts (working and study) were prepared. All anterior teeth were knocked off from working cast and the cast was prepared³ to receive artificial teeth in similar positions as the natural ones. This step was rechecked with the help of the study cast (Fig 5). All the anterior teeth were arranged in similar manner (Fig 6). Patient was recalled and under local anaesthesia, using airtor at slow speed and a proper finger support all the anterior teeth were sectioned leaving 2mm of the coronal portion which would facilitate in atraumatic extraction (Fig 7 and 8). The anterior wax up trial denture was placed over the sectioned teeth for patient's approval (Fig 9). Both spouse and kin of the patient were involved at this stage for suggestion and approval. After the consent for wax trial, the patient underwent extraction and sutures were placed. (Fig 10)^{3,9}.

Full maxillary arch putty index was created in the laboratory which ensured to cover the anterior teeth to the maximum (Fig 11). Index was fastened with elastics to the working cast. Dewaxing was done followed by packing with chemical cure pour resin. The index was held firmly in place until the resin polymerisation was complete. It was later trimmed and polished (Fig 12). Immediate denture was inserted, post extraction instructions were recommended along with medications.



Fig 1: Pre- operative view



Fig 2: Campagna impression technique



Fig 5: Study and working cast



Fig3: Articulated cast



Fig 6: Anterior teeth arrangements



Fig 4: Posterior wax try – in



Fig 7: Sectioning of anterior teeth



Fig 8: Sectioned anterior segment



Fig 11: Putty index



Fig 9: Anterior try –in



Fig 12 : Immediate denture

DISCUSSION:

Problems unique to immediate dentures are related to failure to duplicate position of the natural teeth, aesthetics is not acceptable due to the drastic change in the appearance of the patient, solution to the issue is to place the denture teeth in the same position as natural teeth⁹.

In this case, Campagna Impression technique was followed where the special tray had a labial flange extending to the sulcus of remaining teeth. This would facilitate border molding to get the accurate depth and width of the sulcus to achieve border seal. After making the final impression with elastomeric material, a stock tray loaded with irreversible hydrocolloid was placed over the final impression and anatomical position of the remaining natural teeth were recorded².

Complete immediate denture was planned in both anterior and posterior segments. Posterior



Fig 10: Extraction of sectioned teeth

segment of the denture was fabricated using heat cure denture base resin by conventional compression molding technique⁷. The purpose of using heat cure resin as denture base is to have a good retention, stability, adaptability, higher flexural strength, higher impact strength⁸ and to withstand the occlusal pressure since the mandible had full complement of natural teeth.

Chemically cured resin is a material of choice for denture base repair, refixing teeth and provisional restoration, since it exhibits comparable elastic modulus to the heat cure resin with advantages of lesser shrinkage during polymerization¹¹. Chemically cured resin is also used in interim immediate denture¹⁰. In this present case, after the try-in, anterior segment was processed with chemical cured resin by denture teeth repair and refitting method¹². An innovative method to provide anterior try-in for immediate denture is made possible by combining both heat cure and chemically cured resin in this case.

When performing aesthetic treatment procedures patient's suggestion are incorporated by including try-in stage during fabrication, thereby restoring the form, function, natural appearance and patient satisfaction is made possible.

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CONFLICTS OF INTEREST:

There are no conflicts of interest.

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