

Complete Denture Fabrication for Old Denture Wearer in One Day

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ABSTRACT

Complete dentures fabrication conventionally requires 4 to 5 visits to the clinic. It will be sometimes very demanding for aged patients and also for the dentist. Here, in this article, technique of complete denture construction in one day for an old denture wearer is described. Wherein the old denture is used as special tray and also as record base. Secondary impression with border moulding and jaw relation is completed in one visit with old dentures. Teeth arrangement try-in is not given and finished in one day.

Keywords: One day denture, One visit denture, Worn denture, All in one day denture, Old worn denture.

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INTRODUCTION

Advances in oral disease prevention and increased concern for dental care over the past several decades have resulted in recent generations of people with healthy mouths and teeth. However, there is still many people who lose some or all of their natural teeth. This is usually due to a lack of interest on their behalf, time restraints or for various financial reasons.² For these people partial dentures or complete dentures will restore their lost teeth, allowing them to eat and speak properly and have a natural appearance. The prevalence of total edentulism has been estimated to be about one-tenth to one-fifth of the general population, in half of the population over age 65. This does represent a considerable change from the high prevalence of edentulism found only a few decades ago.^{1,3} The loss of natural teeth is associated largely with low socioeconomic status.

Loss of natural teeth and subsequent alveolar resorption has a significant impact on appearance and function. Complete denture fabrication techniques, while not universally standardized have resulted in a high degree of success.¹¹ Many dental courses on complete denture prosthodontics advocates that five or six appointments are necessary in fabrication of complete dentures. The typical appointment sequence progresses from preliminary impressions (for custom tray fabrication), final impressions (for master cast and record base construction), jaw relation appointment, trial denture appointment insertion and

delivery, with all the steps verified and confirmed.¹² Many a times age and health of the patient precludes change in the conventional appointment schedules, compelling for lesser number of visits. Any attempt to reduce the number of dental visits for the fabrication of dentures is appreciated by both the patient and the dentist,⁸ without compromising on the denture quality and patient satisfaction.⁶ This article illustrates clinical and laboratory procedures for making one stage definitive impression combined with the recording maxillomandibular relations in the same visit for old denture patient.

When an existing set of complete dentures exhibits extreme wear of the occlusal surfaces, loss of occlusal vertical dimension is often present. In this circumstance, the anterior teeth often begin to fracture or become dislodged from the denture base due to increased vertical overbite, laterotrusive as well as protrusive forces.¹² When the new dentures are planned for such cases, the dentist may choose a different occlusal scheme in order to perfect the patient's evident wear pattern by selection of a different arrangement, such as a lingualized occlusion.

TECHNIQUE

There is no evidence that a more complex fabrication technique including facebow registration results in a better clinical outcome. Balanced occlusion/articulation is not necessary for successful complete denture function. Variations in materials and techniques appear to have only minor influence, if any, on the clinical end result. Creating a good relationship between the dentist and the patient is more important than the prosthodontic factors for a successful outcome of a complete denture treatment.⁵ In another study, it was found simplified method is the more cost-efficient method and that there are no negative consequences that detract from the cost savings.^{7,10}

The existing dentures were analyzed for loss of vertical dimension, change in centric relation and also the fit of dentures. Due to the excessive wearing out of denture teeth patient will be habituated to the position anterior to the true centric relation leading to the prognathic mandible. Taking into consideration of health of underlying tissue condition, ability of the patient to retrude the mandible to the true centric and most importantly psychological factors

especially, the good relationship between the dentist and the patient, case will be selected for one day denture construction.⁴

The existing denture is checked for border extensions and if required it is altered to make sure 2 mm short of functional depth of the sulcus. The dentures were used as special tray and border molding carried out with putty material to extend or otherwise improve the fit of the denture⁹ (Fig. 1A).

Using these stabilized maxillary and mandibular modular dentures vertical jaw relation is carried out, with the maxillary modular denture, check for desired esthetic position of anterior teeth, any alteration can be done with the help of modeling wax, then check for:

- Parallelism of the occlusal plane to ala-tragus line and the interpupillary line.
- Midline
- Lip line
- Lip support.

In the same way, mandibular modular denture is altered according to the esthetic and functional requirement of the jaw relation.¹⁶

Place both the dentures and guide the mandible into centric relation and have the patient close. Verify that the vertical dimension of occlusion is correct and also other parameters, make a index in both the dentures in centric relation and remove the dentures (Fig. 2).

The impression material of choice is placed onto the tissue surface of the dentures and a wash type impression made of both maxilla and mandibular arches in centric relation position in closed mouth technique. Carefully remove both the upper and lower dentures from patient's mouth. Inspect and with a sharp scalpel blade, trim away all excess material which flowed onto the external surface of the denture. If excess material is retained assessment of esthetics will be difficult. With an indelible transfer stick, mark the posterior limit on the patient's maxillary tissues (vibrating line). Reinsert the maxillary denture and transfer the mark to the denture (Fig. 1B).

Again the dentures are inserted in the mouth and using zinc oxide eugenol impression paste centric relation is recorded. Carefully, the impressions are removed from the mouth and the impression/dentures are then boxed and poured with dental stone.

The master casts are trimmed, indexed and mounted on the mean value articulator (Fig. 3). Note that the master casts and dentures are not yet separated from the impression media. A record may be made of mold and shade, or new selections may be made.

Occlusal index is obtained by closing the mounted maxillary denture into the plaster on the remount jig. Or if



Fig. 1A: Old denture with border molding



Fig. 1B: Secondary impressions



Fig. 2: Jaw relation record

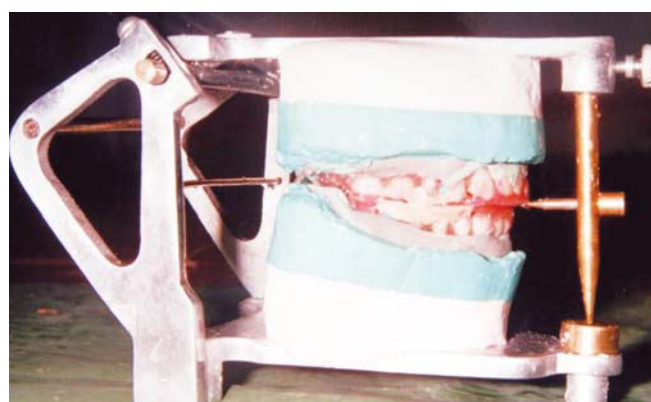


Fig. 3: Articulated dentures

the technician has better understanding of the technique and experienced in making new trial denture base with planned position of the anteriors, arch form and occlusal plane, the plaster index may not be required. The arrangement of teeth completed for trial (Fig. 4), dentist may decide to skip the trial denture appointment at his or her discretion,¹⁵ if there

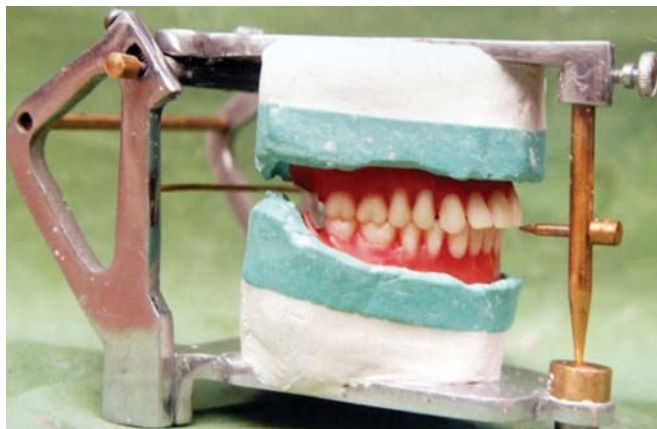


Fig. 4: Teeth arrangement on new denture base

is confidence in the technique, esthetic parameters, phonetics, etc. A base shade must be selected as well and the post-dam carved into the master cast by the clinician.

The dentures are processed, inserted and delivered as usual. Any occlusal disharmony or prematurities are corrected at chairside.^{13,14}

The limitations of this technique are acknowledged. Without a trial denture appointment, there is no possibility of patient approval of the arrangement. It is suggested that whenever possible a posterior/anterior try-in be made, with active patient participation in the matters of color, shape and size of teeth as well as overall approval of the arrangement. If the existing dentures are under extended and not corrected in the final impressions, errors may compound and the finished dentures will be collection of compromises.

CONCLUSION

A simplified method for fabrication of new complete dentures for an old dentures patients was described, wherein the denture can be delivered within a day and number of visits to the clinic will be reduced. This not only reduces strain and apprehension to the aged patients but also the cost-effective. The only drawback could be try-in of denture is not carried out, if the technician is available in the clinic this can also be carried out within an hour after completion of impression and jaw relation. Availability of good chairside assistant and technician will make the process error proof by participating in tooth selection, separating cast, trimming, indexing and mounting the dentures and also talking with the patient about esthetic or any other expectations, further contributing for successful complete dentures.

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