

Original research article**Epochal design prosthesis: A case series of
unconventionally made dentures**

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Abstract

This article describes cases done in an unconventional ways of fabrication of complete dentures. The primary goal in prosthodontics has always been preservation of what is remaining and at the same time to satisfy the patient's expectation. Above all there is always a factor of economy. By stepping out a bit from the conventional steps in complete denture fabrication helps us to meet the patient's expectation and also within their budget.

Keywords: Hollow denture, cusil denture, liquid denture

Introduction

As they always say "it is always difficult to make ends meet." It has always been a challenge to meet the patient's expectation and the financial requisite for the treatment of their expectation. So the practitioner has to think a little out of box to bring a simpler solution to a complicated situation so that the patient's anticipation can be met. This is a report of few such cases, showing slight modification in treatment procedures to fulfil their needs, like hollow denture, liquid denture, cover denture, denture with hollow cheek pads, cusil dentures.

Hollow denture

A 64 year old male patient had reported to the Department of Prosthodontics, complaining of ill fitting denture. On examination it was found that he had severely resorbed maxillary edentulous ridge. The challenge with severe ridge resorption is not only in attaining good retention but also it has increased inter arch space. The problem with these clinical situation is that they become very heavy due to the increased denture base height ^[1]. To overcome this hollow dentures treatment plan and the primary requisite in this technique is to use two identical flask ^[2]. The modification occurs in the processing steps. The regular steps of complete denture fabrication is followed, till dewaxing. After dewaxing, on the mould side of the first flask, wax is added on the buccal and labial surfaces (figure 1).



Fig 1: Wax up in the flask

Then to this plaster is poured using the counter parts of the second flask. Similarly on the cast which has been invested in the first flask with plaster, the wax is now adapted to form a record base (figure 2). Then plaster is poured and closed using the counter parts of second flask. After which the regular dewaxing, packing and curing is done.

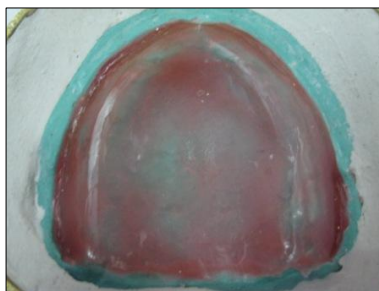


Fig 2: Wax up of the cast

Now, the first flask's parts are brought in approximation till complete closure is obtained. Then this is packed with self cure in the borders and closed. After the curing of selfcure, the denture is deflasked from the flask and checked for any defects (figure 3).



Fig 3: Hollow denture

Hollowness of the prosthesis considerably reduces the weight of the prosthesis which in turn prevents transmission of detrimental forces which would otherwise be transmitted from a conventional heavy prosthesis to the underlying tissues ^[3].

Hollow cheek pads

A 65 year old male patient had reported to the Department of Prosthodontics complaining of all missing teeth. On examination, he had completely edentulous arches, with severe sunken cheeks. Despite the establishment of the vertical dimension in geriatric patients with excessive loss of facial fullness and hollowed cheeks, an extra support to flaccid oro-facial muscles is required ^[4]. So in these patients making a hollow cheek pads helps achieve a slight better esthetic result. Cheek plumper, otherwise called the cheek lifting appliance, is fundamentally the prosthesis for assisting and lifting the cheeks ^[5]. Regular steps in making the complete denture was followed till wax try in. During the wax try in stage, wax was added to the flanges in the buccal side of the record base until a satisfactory esthetic look was obtained. Similar to the technique used in hollow denture the cheek pads are fabricated hollow. This small cups of wax patterns were flasked, and dewaxing done (figure 4).



Fig 4: Dewaxing

After dewaxing again wax was added to the sides of the mould space (figure 5)



Fig 5: Wax pattern

only and flaked with different lid, dewaxed, packed and cured. This hollow cup of cheek pad was then trimmed. These were verified in the patient's mouth with his processed dentures and fused with denture using self cure polymerizing resin (figure 6).



Fig 6: Denture with cheek pads

Thus a better esthetics was obtained for his very shrunken cheeks.(figure 7 & 8).



Fig 7: Before

Fig 8: After

Liquid denture

A 75 year old female patient had come to the Department of Prosthodontics complaining of ill-fitting denture. She has been wearing complete dentures for the past 25 years. On examination severely resorbed residual ridge was found. Flabby tissue was found in the upper anterior region. Liquid denture treatment was decided to allow for the stress to be equally distributed and allow for preservation of soft tissues well^[6]. Primary impression was taken with mucostatic impression material alginate. Secondary impression was taken with window technique to record flabby tissues mucostatically. Master cast was duplicated (figure 9).



Fig 9: Duplicate cast

Jaw relation was recorded. Try in done. Now with the duplicate cast, using the vacuum heat pressed polythene sheet (figure 10) the tissue surface is made [7].



Fig 10: Heat Pressed Polythene Sheet

Now regular processing is done with the other cast. On to the intaglio surface of the denture the polythene sheet is now glued with the bioadhesive (figure 11) in all margins leaving one small opening to be filled with glycerine.



Fig 11: Bioadhesive

Now glycerine is slowly injected in to this opening and again sealed with adhesive (figure 12).



Fig 12: Liquid denture

This liquid helps the stress to be distributed evenly thus helping to reduce the rate of resorption (figure 13).



Fig13: After wearing of Liquid Denture.

Cover denture

A 12 year old patient (figure 14 & 15) was referred from Department of Orthodontics for opinion and management.



Fig 14, 15: Extra oral & Intra oral pictures of Enamel hypoplasia

On examination patient had enamel hypoplasia along with multiple missing teeth. He also had skeletal open bite. Patient did not want any invasive procedure, his family were not willing for surgery or crown preparation procedures. So it was decided to do a cover denture. Impressions were taken using alginate impression material (figure 16), articulated.



Fig 16: Impressions

Wax pattern was made on top of the already present teeth. Then try in done in patient mouth (figure 17) and processed (figure 18).



Fig 17: Try in



Fig 18: Processed denture

Customizing the dentures to the needs of the patients makes them easily acceptable and more comfortable to the patient and the relief of not undergoing any surgical procedure (figure 19).



Fig 19: Final Insertion

Cu sil denture

Cu sil is a full denture that includes one or two natural teeth by putting soft liner around the teeth [8]. Seals out food and fluid. Saves teeth from wear stress and torque from metal clasp. A 45 year old male patient had reported with complains of missing teeth and wanted to replace them. On examination only two canines were present in the upper arch (figure 20).



Fig 20: Intraoral picture

On suggesting for over dentures patient was not willing for intentional root canal treatment. So we decided to go for cu-sil denture. Both the canines were clinically strong, no mobility no pocket. Dentures were fabricated using the regular fabrication technique (figure 21).



Fig 21: Cusil Denture

Now for both the canine region soft liner is added and seated in the patient's mouth⁹ (figure 22).



Fig 22: Final Insertion

Thus the tissue conditioner can be changed in the recall visit after few months.

Conclusion

Our goal was to achieve solutions which are

1. Patient friendly
2. Easy acceptance
3. Economical
4. No invasive surgical procedure.
5. Preservation of remaining soft tissues.

“All the great things are simple and many can be expressed in a single word- freedom, justice, honour, duty, mercy and hope -Winston Churchill”. It should be always remembered that when the edentulous patients come to a dentist their request is only for replacement of missing teeth in whatever form may it be, removable or fixed, so the decision should be done by the dentist keeping in mind the factors like the patient’s request to avoid invasive surgical procedures and also their financial restrictions.

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