

# CASE REPORT

## CU-SIL Denture – A Novel Approach: Case Report

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### ABSTRACT

The prime concern of the present-day dentistry is to preserve the tooth, alveolar ridge integrity and periodontium. The treatment option for patients with few teeth include overdentures, immediate dentures or transitional dentures. Transitional dentures are better treatment options as most of the patients defer getting all their teeth extracted. A relatively new type of transitional denture is Cu-sil denture. It is essentially a complete denture with holes which may or may not be lined with rubber gasket, allowing remaining natural teeth to protrude through. This case report represents a simple and economical technique to fabricate Cu-sil denture.

**Keywords:** CU-SIL denture, RPD, transitional denture.

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### INTRODUCTION

Present day dentistry focuses on preservation of oral structures as according to Muller De van's dictum which states "that the perpetual preservation of that which remains is more important than meticulous replacement of what is missing". Va Crum and Rooney have proved that the amount of bone resorption is relatively less when few teeth are present compared to completely edentulous patients [1]. It also has positive psychological effect on patient as the natural teeth are preserved [2]. Transitional dentures serve as one of the treatment options for patients presenting with very few remaining teeth, in compromised condition.

### CU SIL DENTURE

Cu-sil denture is a transitional denture which is both an easy and affordable treatment option. Cu-sil denture is basically a simple removable partial denture with or without a soft elastomeric seal that clasps the neck of every natural tooth. It is a denture with holes through which natural teeth protrude and are usually surrounded by gasket of silicone rubber or soft liner which envelops the natural teeth, allowing a natural suction to form under the denture [3]. This rubber gasket seals out food and fluids as well as acts as a cushion cum splint every natural tooth from the hard acrylic denture base [4]. The immobility of natural tooth offers mechanical stability without compromising retention. This case report describes an alternative technique to fabricate Cu-sil denture in normal dental set-up.

### INDICATIONS:

- 1) In situations of Mobile, isolated or periodontally involved teeth
- 2) To eliminate extractions of the remaining few natural teeth
- 3) A patient with a few remaining teeth whose mucosa, supporting bone, or general health, suggests a poor prognosis for complete dentures.
- 4) A patient in need of transitional denture.
- 5) For the psychological benefit of the patient

### CONTRAINDICATIONS [5]:

1. When too many natural teeth are remaining.
2. When severe soft and hard tissue undercuts are present.
3. Patients with high smile line
4. Bruxism

### CASE DESCRIPTION

A 62 year old male reported to Department of Prosthodontics and crown & Bridge, Government Dental College and Hospital, Cuddalore district, Chidambaram with chief complaint of missing anterior and posterior mandibular teeth and wants to replace them. Medical history revealed history of diabetes and hypertension for past 10 years and increased creatinine level in kidney for past 6 years

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and he is currently under medication for the same. Dental history revealed removable partial denture worn in relation to 11, 21 and 22(Fig.1a). Patient presented with missing 16, 17, 27 in maxillary arch and presence of 45 and 46 in mandibular arch (Fig.1b)..



Figure 1a: Pre- Operative Photograph- Maxillary arch



Figure 1b: Pre- Operative Photograph- Mandibular arch

**TREATMENT PLAN:** Considering the systemic condition of patient, resorption of anterior part of mandibular ridge and unwillingness of the patient to undergo extraction, the denture was planned as to encircle the remaining teeth, thus providing better retention and stability of the prosthesis.

A novel approach of fabricating a modified Cu-sil denture was planned. The denture was fabricated to encircle the remaining teeth along with clasps adapted to the tooth structure. While planning for treatment, a rotatory movement of the denture causing pain due to the deep engagement of buccal undercut was anticipated. To overcome this, the cu-sil denture could be transformed to a regular removable partial denture by cutting off the buccal portion of denture near the teeth which would enable adaptation of clasps.

**PROCEDURE:** Upper and lower impressions were made with irreversible hydrocolloid impression (Prime dental products Pvt.Ltd). The study casts which were obtained were surveyed followed by block out and adaptation of stainless steel wrought wire clasp(Konark,India) (Fig.2a). Bite registration of the patient was taken using bite rims made of



Figure 2a: Block out and fabrication of clasp.



Figure 2b: Bite registration.



Figure 2c: Wax try in



Figure 2d: Final prosthesis

modelling wax(Dental products of India, Uttarkhand, India) (Fig.2b). The set up was mounted on an articulator. Teeth arrangement (Teeth set-Premadent, Delhi, India) and wax-up procedures were executed on three point articulator (Fig.2c). The dentures were cured with heat-cure acrylic resin(Dental Products of India,Uttarkhand,India).

After the denture was finished and polished, denture insertion was done (Fig.2d). The patient was comfortable at the time of insertion.

**PITFALLS:** The main pitfall of the denture is the absence of snug fit and cuffing around the teeth as silicone gasket or soft liners weren't used encircling the teeth. This defect was adjusted by doing wax up in close approximation to tooth structure after the requires block out. Due to the probability of plaque accumulation as the gingiva covers natural teeth totally, regular care has to be provided regarding maintenance of good oral and denture hygiene.

## CONCLUSION

Cu-Sil dentures serves as a viable treatment alternative for patients with very few remaining teeth. This treatment modality does not require any tooth preparation and extra patient visit. It does not require any special armamentarium and materials. If a tooth is lost in future, existing denture can be changed to conventional complete denture. They function as an answer for single standing or isolated teeth present in dental arch. They rest on the soft tissues whereas offering a comfortable fit over existing, healthy tooth structures. It helps in promoting healthy stimulation of the alveolar bone while the proprioception is also maintained giving an improved retention.

## CONFLICT OF INTEREST

There is no conflict of interest.

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