



# Management and Satisfaction of Copy and Reline Removable Dentures: Two Case Reports

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## Abstract

Introduction: Copy dentures are a modification of the existing complete dentures that improves the function of the new dentures for a patient. For the removable partial denture, a reline material is sufficient to improve denture retention and stability. Making new dentures could skip a few steps to speed up the delivery of dentures to the patient. With improved impression materials, the clinician can correct minor impairments better. Case report: This clinical report describes two cases: a copy of complete dentures using putty impression and a reline lower removable partial denture using light body impression. The report shares the easy handling of impression materials for each clinic and laboratory procedure. Discussion: A little adjustment of existing dentures has been made for each patient to improve the retention and stability of dentures using the replica technique and wash impression technique. Following the indications of copy dentures, complete dentures were made using the replica technique, and an improvement from the existing denture was compared to the new denture. The relined removable partial dentures using the wash impression technique and alginate impression with the denture in situ provide a straightforward step. Conclusion: The patients were satisfied with esthetics and function after minor adjustments with the replica technique used for complete dentures and the wash impression technique for removable partial dentures.

**Keywords:** Copy Dentures; Esthetics; Impression Materials; Patient Satisfaction; Reline Dentures

## Introduction

Complete dentures are still relevant today, although many treatments, such as dental implants and implant overdentures [1,2]. Other than a conventional technique, the replica is an alternative technique to replace the existing dentures [3,4]. The dentures may be remade because of various types of impairment, such as worn teeth, underextended dentures, and teeth chipped off. A few visits are required for the

patient to attend to receive new dentures. The conventional and replica techniques are similar except for the copying part with the replica technique. For this reason, replica dentures are also known as copy dentures, which reproduce an original denture with minor modifications. However, criteria are indicated to decide on the conventional or replica technique. A replica technique is demonstrated for only cases requiring minor adjustments [5,6]. In contrast, a traditional method is still used for denture replacement, which has

major problems with retention and stability.

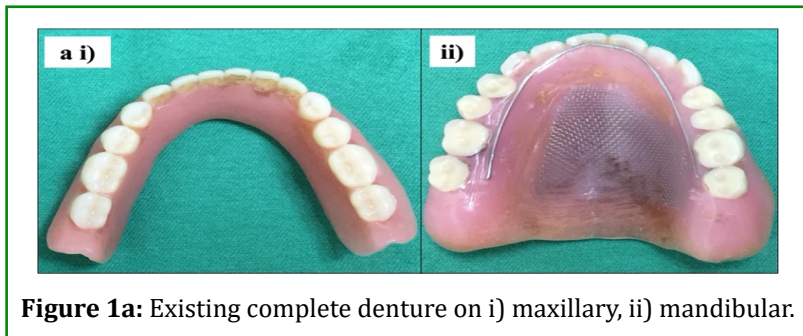
Precautions in selection cases to use the replica technique are important despite its advantages. This clinical report aimed to:

- accentuate the replica technique for complete dentures
- access the stability and retention of complete dentures using a replica technique
- explain the wash impression technique for an acrylic removable partial denture
- evaluate the patients' satisfaction

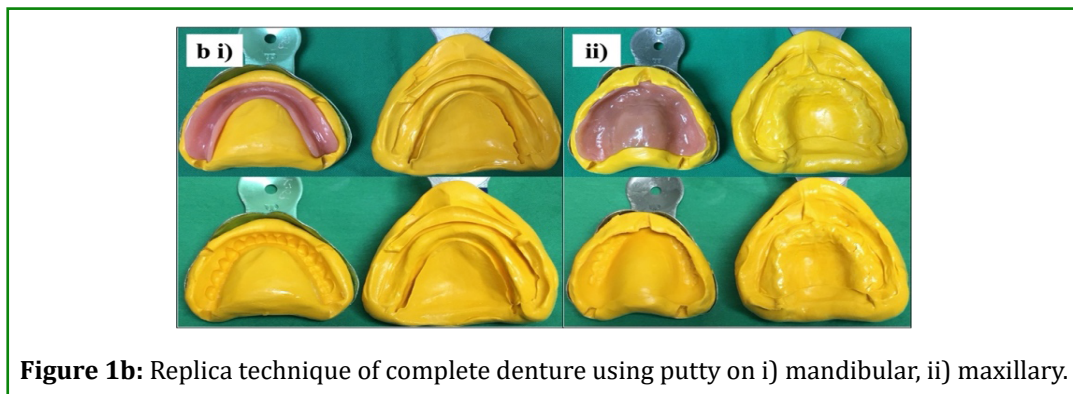
### Case Report 1

A 66-year-old Malay male was referred to a specialty clinic to replace complete dentures. The patient also said he was satisfied with the existing dentures except for worn teeth,

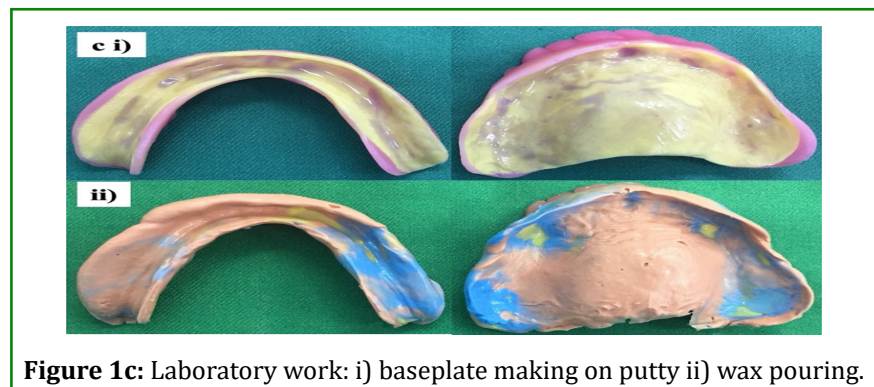
which made it difficult to chew food. Upon examination, the dentures had worn denture teeth, as shown in Figure 1a. For intraoral examination, no abnormalities were detected. The patient attended several clinical appointments, and the steps are shown in Figure 1b until the delivery of copy dentures. The existing dentures were copied using putty (Express XT Putty Soft, 3M ESPE, USA). The following impressions were regular (Express XT Regular Body, 3M ESPE, USA) and light body (Express XT Light Body, 3M ESPE, USA) to record the anatomical landmarks for the denture-bearing area. The adhesive (Caulk Tray Adhesive, Dentsply Sirona, USA) was used to record bite registration. Satisfaction of teeth try-in was followed by processing dentures using heat-curing resin material (Triplex Hot, Ivoclar Vivadent, USA). He was satisfied with the copy dentures on the delivery visit (Figure 1c & Figure 1d).



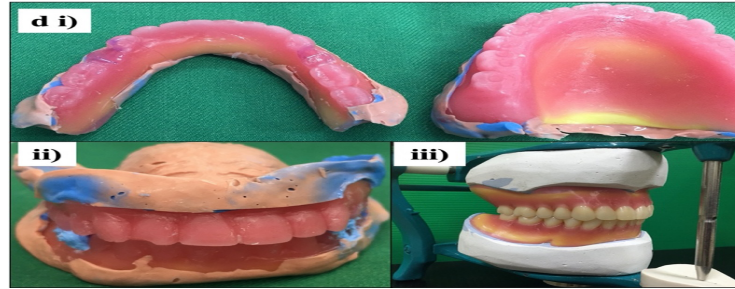
**Figure 1a:** Existing complete denture on i) maxillary, ii) mandibular.



**Figure 1b:** Replica technique of complete denture using putty on i) mandibular, ii) maxillary.



**Figure 1c:** Laboratory work: i) baseplate making on putty ii) wax pouring.



**Figure 1d:** Second visit: i) universal adhesive applied on fitting surface, ii) thin layer of regular body impression with addition of light body impression; e) i) an accurate adhesive applied for bite registration, ii) silicon bite registration, iii) teeth arrangement.

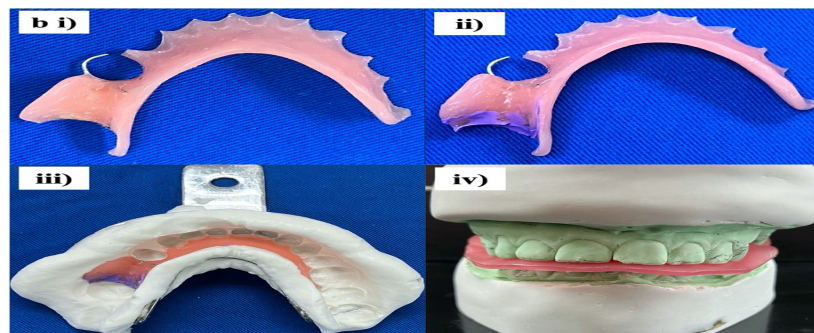
## Case Report 2

A 34-year-old Malay female requested dentures. Removable partial dentures were delivered to the patient. However, the lower removable partial denture presented an underextension on its right side with a non-fitting clasp on abutment teeth of 36 and 47, as shown in Figure 2a. The patient requested to get the denture repaired quickly to help better chewing. Several steps to reline the denture as shown in Figure 2b-2d until delivery. The non-fitting clasps were removed. The adhesive (Caulk Tray Adhesive, Dentsply Sirona, USA) was applied at the underextended area of the denture before making a wash impression using a light body (Express XT Light Body, 3M ESPE, USA). Next, an alginate

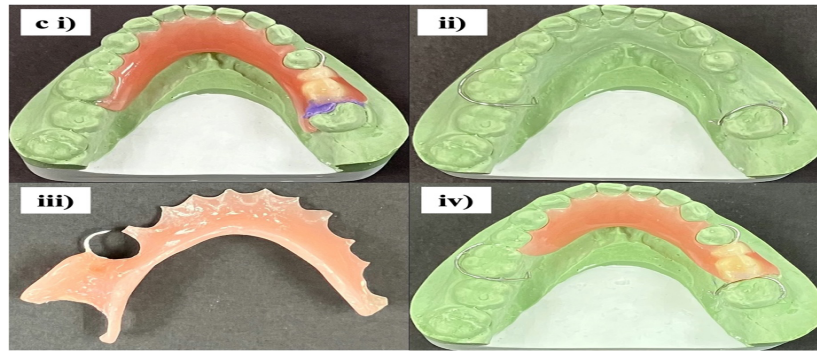
impression (Kromopan, Lascod, Italy) was performed with the lower partial denture in situ and sent to the laboratory. The working models were mounted using a hinge articulator. The occlusion of the patient is stable, and only two missing teeth were to be replaced to justify the usage of the articulator. Trimming at the underextended area of the denture was to provide a relieving space so that the cold-curing denture base material (Triplex Cold, Ivoclar Vivadent, USA) could flow easily. With a pressure pot (MultiCure, Vertex, USA), the complete curing was performed at 54°C and 2 bar for 10 minutes. After three days, the relined lower acrylic partial denture was delivered to the patient, as shown in Figure 3. The patient was satisfied with the denture after an essential examination, including occlusion.



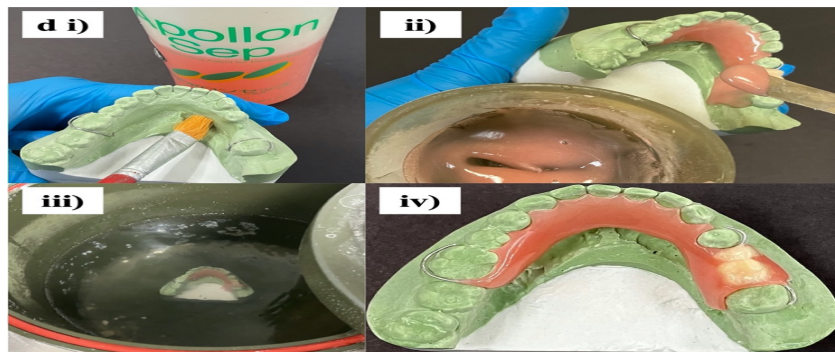
**Figure 2a:** Existing lower acrylic partial denture with non-fitting clasps and underextension.



**Figure 2b:** i) Removal of non-fitting clasps, ii) Wash impression technique at the right saddle end, iii) Alginate impression with lower denture in-situ, iv) Bite registration.



**Figure 2c:** Laboratory work: i) existing partial denture on the working model, ii) remake two clasps, iii) trim and provide space acrylic resin to flow, iv) trimmed acrylic partial denture with two clasps in place.



**Figure 2d:** i) Application of resin separating agent, ii) Adding cold-curing denture base material, iii) A sealed pressure pot used to complete cure for 10 minutes, iv) Finishing after polishing.



**Figure 3:** A lower acrylic removable partial denture after repair.

## Discussion

The first case was a patient who attended a dental clinic for a replacement of the existing complete denture. The second case was a slightly unfit partial acrylic denture, and the clasps were not significantly placed on the respective abutment teeth due to non-fitting. It is crucial to have a dental team that is knowledgeable, skillful, and experienced in treatment

success without compromising patient satisfaction. For the cases in this paper, it confirms that the replica technique of complete dentures and relines of a lower partial acrylic denture are successful using silicon impression materials. Minor adjustments also ensure that the copy dentures can be made. Similarly, the relined denture is only indicated for minor adjustment without returning all the steps to construct a new partial acrylic denture.

Copy dentures are easy to make using stable impression material, such as putty, regular body, and light body impressions. With putty, patients were more satisfied with copy dentures than conventional dentures, which is agreed upon by a previous study [4]. Other than the wear of the denture teeth, a copy denture is indicated if the patient is satisfied with the teeth's position in the neutral zone with a well-polished surface; there is a lack of retention in the existing denture due to bone resorption. The elderly patient requires longer adapting to new dentures due to reduced neuromuscular control [7-9]. Despite the contraindications of copy dentures, significant problems occur, such as the undesirable appearance of the existing dentures and incorrect teeth setup leading to unstable and flabby ridges. The advantages of copy dentures are that there is no alteration but a minor adjustment to improve retention and stability and ease of adaption to the new denture while having a short dental appointment. Because of this reason, patient selection and a thorough inspection of the current dentures are essential to benefit from the advantages of copy dentures.

Meanwhile, a reline partial acrylic denture is desirable for correcting minor adjustments despite the non-fitting clasps. Since the patient had no experience wearing dentures, adaptation to dentures is essential. As for copy dentures, a reline denture is straight forward and no major alteration of the denture [10]. Although the reline is simple, clinicians and technicians may not be familiar with this technique. Furthermore, selecting soft or hard reline denture material is essential to satisfy the patients [11,12]. Generally, the principle is to keep it simple but significant and successful while following the basic directions, such as denture bearing area, occlusion, polished surface, and fitting the clasps in place correctly to improve the retention and stability, notably lower partial acrylic denture. Because of this reason, the dental team should always be up to date on knowledge and skill while giving the best experience to patients.

## Conclusion

Replacement of the existing dentures is always challenging in providing denture betterment. With minor adjustments, skillful clinicians and technicians can make a replica denture and a reline partial denture using stable silicon impressions. Improvement of retention and stability of dentures satisfy patients and impact their quality of life.

## Ethics Approval and Informed Consent

Written and verbal consent has been obtained from the patients presented in this paper, including for publication.

## Disclosure Statement

The authors do not have any financial interest in the companies whose materials are included in this article.

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