

# Immediate Complete Dentures: A Case Report

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## ABSTRACT

**Background:** Immediate complete denture is one of the treatment options in patients requiring extraction. It plays a significant role in the immediate restoration of aesthetics and other oral functions. The dentures are fabricated before the extraction of all the remaining teeth and delivered immediately to the patient after the extraction.

**Case:** This presents a case of a patient with aggressive periodontitis managed with an immediate complete denture. The patient had reservations about conventional complete dentures due to concerns about being seen as edentulous while extraction sockets healed. The patient was satisfied with the simple and economical treatment modality of immediate complete denture.

**Keywords:** Complete denture, Conventional denture, immediate denture.

Received: 03-Oct, 2023  
Revision: 07 Dec, 2023  
Accepted: 12 Dec, 2023

**Citation:** Ogunrinde TJ. Immediate complete dentures: a case report. *Nig J Dent Res* 2024; 9(1):1-4.  
<https://dx.doi.org/10.4314/njdr.v9i1.1>

## INTRODUCTION

An immediate complete denture is a dental prosthesis fabricated for placement immediately after the extraction of all the natural teeth<sup>1</sup>. Immediate complete denture is fabricated to replace all the teeth in the maxillae and/ or mandible. It provides the patients with aesthetics, masticatory, social and psychological functions immediately after the loss of teeth<sup>2</sup>.

There are two types of immediate dentures: conventional immediate dentures and interim immediate dentures.<sup>3</sup> A conventional immediate complete denture is a dental prosthesis fabricated for placement immediately following the removal of all-natural teeth and can later be modified to serve as a permanent prosthesis (GPT-g).<sup>4,5</sup> Interim immediate complete denture is a dental prosthesis used for a short interval of time for reasons of aesthetic, mastication, occlusal support and to condition the patient to the acceptance of an artificial substitute for missing natural teeth until a more definitive prosthetic therapy can be provided (GTP-g).<sup>4,5</sup>

Immediate dentures have several advantages. It prevents bleeding after the extraction of the remaining teeth and protects the extraction site from trauma and infections. It encourages the patient to accept the extraction of hopeless teeth, reduces alveolar ridge resorption, and facilitates speaking and mastication during the healing period. In addition, it enhances the aesthetic, social and psychological well-being of the patient.<sup>6</sup>

The main disadvantage of an immediate denture, however, is that the trial denture cannot be assessed intra-orally, so the treatment outcome is not always predictable.<sup>7</sup> Also, there could be initial discomfort as a result of fitting a denture on the edentulous ridge immediately after extraction.

This case report described a simple and cost-effective treatment with conventional immediate complete dentures for a patient with aggressive periodontitis.

## CASE REPORT.

A 46-year-old male patient complained of loss of denture replacing 41, 42, 31 and 32. He also complained of severe pain from 46. The patient had

no history of diabetes but was previously diagnosed with rapid progressive periodontitis when he was 23 years old. He had a denture fabricated about ten years ago which was misplaced a day before presentation in the prosthetic clinic. He claimed the lower denture was loose. However, he felt the denture still provided social and psychological functions before it was lost. He then demanded a new partial denture to replace the lower anterior missing teeth.

Clinical examination revealed maxillary and mandibular partially edentulous arches with severe loss of periodontal support and grade 3 mobility of all standing teeth (12,14, 15,21,22,23,24 in the upper arch and 46, 43, 33 in the lower arch) (Fig 1). There was also a periodontal abscess of 46. The upper anterior teeth were splinted together with composite material to prevent their exfoliation. Radiographic evaluation (OPG) revealed advanced bone loss of 12,14, 15,21,22,23,24,33 and 43 (Fig. 2). The patient was informed of an immediate complete denture option which he reluctantly agreed to. The patient was initially wary of extraction due to psycho-social considerations, but after being educated about the advantages and possible drawbacks of immediate dentures, he agreed to the treatment plan.

Extraction of tooth 46 was done under local anaesthesia. Alginate impressions of upper and lower arches were made with the teeth liberally rubbed with lubricant (Vaseline) to prevent exfoliation of the teeth during impression making. Upper and lower stone casts were made from the impressions (Fig 3). The standing teeth were removed at the level of the gingival margin from the cast and record blocks were fabricated on the cast. Bite registration was done with record blocks made of modelling wax (fig 4). Two dots technique was used to establish the occlusal vertical dimension and the upper and lower record blocks were sealed together at centric relation position. The recorded centric relation was transferred to the mean value articulator and the teeth were set up (fig 5). The wax dentures were thereafter processed in acrylic resin using a compression moulding technique. The dentures were trimmed, polished and fitted for the patient immediately after the extraction of the standing teeth. The patient was reviewed twenty-four hours after the fitting of the denture and

pressure spots were relieved. He was also reviewed one week (Fig 6) and one month after placement of the denture and the patient was satisfied with the aesthetic and function of the denture.

#### DISCUSSION.

The success of immediate dentures depends on the correct indication and precise execution of clinical and laboratory procedures involved in its fabrication. In this case, poorly managed aggressive periodontitis was the indication for extraction of all the remaining natural teeth. The poor bone support of the remaining teeth and the financial constraint of the patient preclude the consideration for complete overdenture. Immediate complete denture was decided on because the patient was concerned about his appearance being a clergyman.

In the fabrication of the prosthesis, there was a need to record a new jaw relation for the patient because the remaining standing teeth could not support the correct vertical dimension in occlusion and centric relation of the patient. The jaw relations recording followed a standard technique for complete denture patients.<sup>8</sup> Tuncel and Celik<sup>9</sup> described the procedure of immediate complete denture fabrication using the patient's occlusal vertical dimension and centric relation to mount the cast on an articulator. This was not practicable in this patient because of drifting and severe mobility of remaining teeth that has altered the occlusal vertical dimension. Also, the arrangement of the natural teeth could not be replicated in the artificial teeth set-up because of drifting and severe mobility of the remaining natural teeth. The clinical and laboratory steps employed agreed with the report of Ashok<sup>7</sup> which stated that the reproduction of the teeth position is not always workable in immediate complete denture patients because the position and appearance of the standing natural teeth is often not satisfactory.

Although the patient was initially unwilling to lose the hopeless teeth for fear of edentulous status, he was satisfied with the treatment option when he was reviewed a week and three months after the

placement of the dentures. The patient was motivated to accept the option of immediate denture and extraction of diseased/hopeless teeth. Thus preventing possible sequel of retaining such teeth.

**Conclusion:** Immediate complete denture is a simple and reliable treatment option for managing patients with few standing hopeless teeth, however, its success depends on the correct indication and precise execution of clinical and laboratory procedures involved in the fabrication.

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Fig 1: Picture of the mouth of the patient before extraction of tooth 46



Fig 2: Radiograph (OPG) after extraction of tooth 46



Fig 3: upper and lower casts made after extraction of #46



Fig 5: teeth set up on mean value articulator



Fig 4: Record block in the mouth for recording jaw relation



Fig 6: patient with finished complete denture