

## Flangeless denture: An esthetic innovation

Sudhanshu Srivastava<sup>1,\*</sup>, Sumit K Misra<sup>2</sup>

Senior Lecturer, Dept. of Prosthodontics and Crown and Bridge, Saraswati Dental College, Lucknow, Uttar Pradesh, India

**\*Corresponding Author:**

Email: dr.sudhanshu101@gmail.com

### Abstract

Patient with excessive bulky maxillary ridges often has a compromised facial esthetics. The thickness of the labial flange further compromises the labial fullness and result in an unesthetic maxillary denture. To confront such perplexity, an unconventional approach is required for the fabrication of complete denture. This case report portrays a simple, economical, conservative and non-surgical treatment choice for fabrication of denture in a patient with a bulky maxillary ridge to enhance the facial aesthetics of the patient.

**Keywords:** Flangeless, Gumfit, Denture, Prosthodontics.

### Introduction

A prosthodontist comes across contrasting kinds of edentulous ridges and contours. Ridge forms may differ from patient to patient from severely resorbed to widely massive ridges. An exorbitantly noticeable bone is more typical in maxilla than in mandible.<sup>1</sup> Prosthetic rehabilitation of such cases where intraoral examination reveals unfavorable condition possess a great threat to the final esthetic outcome. Building a labial flange in many such cases might mutilate the facial support and muscles of facial expression, limit function, and compromise aesthetics. Pre-prosthetic surgery is essential in such cases before advancing towards the construction of complete denture.<sup>2, 3</sup> The general objective of reconstructive pre-prosthetic surgery is to give a domain to a prosthesis that would reestablish work, be steady, guide maintenance, save related structures and fulfill esthetics.<sup>4</sup> Patient must be made mindful that the surgical technique will be useful for future denture wearing.<sup>5</sup> This is not viable every time as many patients are not satisfied with the notion of surgery.

The arrangement of denture teeth becomes troublesome because of the absence of space and inevitably brings about an unaesthetic swollen lip appearance. Thus, in such clinical situation, when the patient isn't very responsive in experiencing surgery for an over-contoured ridge, the prosthodontist can adjust a traditional denture in order to restore the ridges with a flangeless denture. This case report portrays a simple, economical, conservative and non-surgical treatment choice for fabrication of denture in a patient with a bulky maxillary ridge to enhance the facial aesthetics of the patient.

### Case Report

A 53 year old female patient presented to the Department of Prosthodontics and Crown and Bridge, Saraswati dental college, Lucknow with the chief complaint of inability to chew food. Intraoral inspection affirmed a U-shaped bulky maxillary ridge and a V-

shaped mandibular arch (Fig. 1). The radiological examination was done. Various treatment options were explained to the patient including implant supported prosthesis or alveoloplasty with a conventional complete denture. Since the patient was hesitant to any sort of surgical procedure, a flangeless maxillary denture with conventional mandibular denture was planned. Impression compound was used to make the primary impression. Special trays were fabricated on the primary cast. Border moulding was done utilizing green stick compound (pinnacle tracing sticks, DPI). Light body polyvinyl siloxane (Aquasil ultra, DENTSPLY) was the material of choice for the final impression. Once the master cast is ready jaw relation was done. Articulation was done and teeth setting was completed. Tryin was done in a conventional manner (Fig. 2) and denture was fabricated subsequently. Once the dentures are ready, a window was created on the labial aspect of the denture. The window created was such that there was no flange on the labial aspect of the denture and the lips were in coordinate contact with the ridge which reduced the labial fullness (Fig. 3). The borders of the denture were in place and kept adequately thick to give sufficient strength. The denture was polished and attempted in the patient's mouth for assessment. (Fig. 4) With the needed occlusal corrections being done, the denture was delivered. The patient was reviewed following 24 hours, a week and one month for post-insertion visits. The patient was satisfied and had no critical dissensions.



**Fig.1: Pre-Operative photograph**



**Fig. 2: Tryin of the complete denture**



**Fig. 3: Flangeless maxillary denture and mandibular complete denture**



**Fig. 4: Denture delivery**

### Discussion

A precise diagnosis is a key requisite of an ideal treatment plan. A good treatment plan paves the way for an excellent prosthesis. A standout amongst the most conclusive criteria for progress is living up to patient's desires by offering significance to their requests. Residual ridge anatomy varies from patient to patient. Patient with excessive bulky ridges often has a compromised facial esthetics. The thickness of the labial flange further compromises the labial fullness and result in an unesthetic maxillary denture. Preservation of facial aesthetics is as crucial as prosthodontic rehabilitation of missing teeth.<sup>6</sup> To confront such perplexity; an unconventional approach is needed for the construction of complete denture. Preprosthetic surgery may decrease the establishment for denture support. Also, certain medical conditions such as uncontrolled diabetes, hypertension, and heart ailments restrict the surgical rehabilitation of such completely edentulous ridges. Many authors have referred to this as "gum fit dentures" and "ridge grip esthetic prosthesis".<sup>7</sup> Some have alluded to this as "wing denture" in which the labial flange is segmented in the labial frenum area and two wings show up from either side to permit space for the labial frenum.<sup>8-12</sup>

Such an assembly is vital to give strength to the prosthesis. Flangeless denture for this case report was recommended as a result of a prominent labial form of the maxillary arch. On the off chance that an ordinary denture would have been manufactured, it would add to extreme labial fullness and an unaesthetic appearance.

### Conclusion

A prosthodontist should endeavor to make the complete denture as unique and customized as possible for each individual. Fabrication of complete denture possesses a great challenge when the perfect necessities of both hard and delicate tissues are not satisfied. Flangeless dentures provide an easy, simple, economical and painless substitute to conventional dentures to improve the facial aesthetics of the patient.

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