

## Perio-Prostho Synergy: A Case Series

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### ABSTRACT:

The interdisciplinary approach has become popular for full-service dental care. Periodontics and prosthodontics are inseparable in modern dentistry in many ways, including the treatment plan, execution of procedures, achievement of outcomes, and maintenance. Without a doubt, periodontists can provide a solid foundation for successful prosthetic outcomes by controlling inflammation and preparing sites for the appropriate prosthesis. Prosthodontists, on the other hand, could design the right restorative margin, shapes, and contacts to enhance the harmony between the prosthesis and the periodontium. This article discusses, through representative cases, potential periodontal problems and their management encountered before giving any prosthesis.

### INTRODUCTION:

The foundation of comprehensive dental care is teamwork. Periodontics and prosthodontics are the most closely related modern dental specialties out of all of them. Periodontal health has a significant impact on the longevity of restorations in prosthodontics. On the other hand, periodontal disease progression may be sped up by defective prostheses. Periodontists and prosthodontists should work together on the treatment plan, execution, and upkeep in order to achieve good results.

The patient's health, appearance, comfort, and function should all benefit from prosthodontic treatment. Equally crucial is ensuring that treatment does not cause harm to the periodontal structures. Before beginning prosthodontic treatment, healthy periodontal tissues must be present, and additional periodontal treatment is frequently recommended to facilitate improved prosthodontic treatment outcomes.

The outlines and extensions of the dental prosthesis are determined by gingival morphology<sup>1</sup> in prosthodontics because it can have a significant impact on the final aesthetics of the teeth and face<sup>2</sup>. The gingival morphological variables, which can have an impact on all phases of prosthodontic treatment, have been mentioned by a number of authors<sup>3</sup>. Despite disagreements regarding the exact dimensions, the biological width has been used as a guide for clinicians for the past few decades.

Increasing the clinical crown length through the removal of soft tissues—either with or without osseous modifications—is the most common approach<sup>4,5</sup>. When a fracture line,

perforation, or restorative margin is subgingivally located, these procedures are recommended to re-establish a physiological biologic width. Following these guidelines makes it easier to perform subsequent prosthodontic procedures and keep tissues in good health<sup>6</sup>.

In addition, the retention and resistance forms that can be achieved during crown preparation are enhanced when a short clinical crown is lengthened. This is necessary if the clinical crown height is less than 3 mm. The elimination of periodontal pockets is another benefit of crown-lengthening surgery. Aesthetically<sup>7</sup>, it can improve gingival contour and increase tooth display<sup>8</sup>.

### CASE REPORT 1:

A 26-year-old male patient was referred to the Department of Periodontics, Santosh Dental College from the Department of Prosthodontics for pre-prosthetic surgery. On examination, left mandibular second premolar and third molar had short clinical crown with inadequate interocclusal distance in the edentulous area between second premolar and third molar. To deliver crown and bridge prosthesis, crown lengthening was required to be done. After informed written consent, the crown lengthening with respect to 35 & 38 and bone reduction in edentulous area between 35 & 38 was performed.

Based on measurements of width of attached gingiva with respect to 35 & 38 and thickness of soft tissue in edentulous area between 35 and 38, crown lengthening procedure with gingivectomy, osseous reduction and apically positioned flap was planned. Crestal incision was made along the crest of the ridge with intrasulcular incision along buccal surfaces of 35 and 38 ending with two vertical incisions on both ends of incision line. The full-thickness mucoperiosteal flap was elevated to give access to the underlying alveolar bone. Osseous reduction was done with a straight handpiece and continuous saline irrigation with a syringe. Flap was placed back apically and sutured with 3-0 silk suture. Patient was recalled after 1 week for suture removal. Healing was satisfactory. Adequate crown length and interocclusal distance was gained. Patient was referred back to department of prosthodontics for prosthesis.



Figure 1: Pre-operative



Figure 2: Attach gingiva width measurement irt 35



Figure 3: Attach gingiva width measurement irt 38



Figure 4: Interocclusal space



Figure 5: Tissue depth



Figure 6: Mucoperiosteal flap raised (Full thickness)



Figure 7: Osseous reduction



Figure 8: Suture placed



Figure 9: One week post-operative



Figure 10: After Suture removal



Figure 11: Gained interocclusal distance



Figure 13: Crown and bridge given irt 35 36 37 38



Figure 14: After Prosthesis

## CASE REPORT 2:

A 32-year-old female patient reported with a chief complaint of short and worn upper front teeth. On examination, maxillary anterior teeth are having severe attrition. To restore the esthetics, it was planned to give crowns in maxillary anterior. To fabricate the prosthesis, crown lengthening was needed. Gingivectomy was performed followed by the prosthesis.



Figure 15: Pre-operative front profile



Figure 16: Gingivectomy procedure



Figure 17: Prosthesis irt maxillary anterior



Figure 18: Post-operative front profile

### CASE REPORT 3:

A 29-year-old male patient came with a chief complaint of a fractured tooth. On clinical examination, Ellis class 3 fracture was seen in the right maxillary central incisor (figure 19). As the length of the clinical crown after fracture was short, the teeth was extruded with the help of metal brackets (Figures 20 & 21). After extrusion, to maintain the biological width<sup>9</sup>, a labial flap from the maxillary anterior was raised and bone reduction was done concerning the right maxillary central incisor (Figures 22 & 23). To get a proper gingival line, gingivectomy was done in the maxillary upper anterior (Figures 24 & 25). The final permanent cap was placed with post and core (figure 26).



Figure 19: Pre-Operative



Figure 20: Metal brackets placed



Figure 21: Teeth extruded





Figure 22: Biological width



Figure 23: Bone reduction



Figure 24: Uneven gingival line



Figure 25: Gingivectomy done



Figure 26: Post-operative

## DISCUSSION:

Clinicians need to join periodontal and prosthetic strategies in co-ordinated way to advance the best clinical result. The preservation and upkeep of the natural dentition in a healthy state is the fundamental goal shared by all clinical dental phases. The periodontium must remain healthy in order for the prosthesis to last for a long time. Prostheses need to be carefully managed in a number of areas to ensure that they work in harmony with the periodontal tissues around them in order for the periodontium to remain healthy. As a result, the care of healthy teeth requires both prosthodontic and periodontal dentistry. In point of fact, the foundation of providing the patient with holistic care is a carefully constructed interdisciplinary approach that includes an accurate diagnosis and comprehensive treatment planning.

## CONCLUSION:

A healthy periodontium is a prerequisite for success with fixed prosthodontic treatment. Without a strong interdisciplinary relationship between periodontics and prosthodontics, the esthetic, functional and/or biological outcome may be compromised and necessitate extensive and expensive retreatment.

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