

# TREATMENT PLANNING CONSIDERATIONS IN A FULL-MOUTH REHABILITATION: A CASE PRESENTATION

ACCE-94

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## Abstract

In the Primary Care Units (PCUs) at Penn Dental Medicine, treatment planning traditionally takes place after all data collection is completed and before initiating any treatment. Once the plan is selected and signed it is executed to case completion.

However, while in the Vulnerable Population Honors program, we have encountered many cases that are not straightforward in planning and execution, and many have required reconsidering the original plan during treatment. As a result, these complex treatment plans were sequenced in the following phases: urgent, disease control, re-evaluation, rehabilitation, and maintenance.

Such is the case presented here: a full-mouth rehabilitation replacing four quadrants of fixed prostheses. This patient presented to the Vulnerable Populations clinic seeking comprehensive care to restore masticatory function and esthetics. To address her chief complaint, diagnostic data collection was completed, including restorative and periodontal examinations, as well as diagnostic casts taken. Currently, this patient is still in the re-evaluation/rehabilitation phase.

The aim of this case study is to present an approach to a clinically complex case following a treatment planning sequencing that is highly individualized to this refugee patient. It will also examine etiology and modifying factors, as well as the patient's response to initial care, and her ability to understand and employ preventive strategies. Finally, this case presentation hopes to highlight how all these factors collectively influence the final treatment decisions.

## Clinical Presentation

A 39-year-old female Afghan refugee patient presents to PDM-Vulnerable Populations clinic with chief complaint: "My teeth don't hurt but I want to check all other teeth for cavities. I had some crowns done in Afghanistan about 6 to 7 years ago and I need to check them".

Upon clinical and radiographic examination (Figure 1), revealed existing porcelain fused to metal (PFM) fixed dental prostheses in all quadrants with recurrent decay, open margins and exposed metal on occlusal surfaces. In addition, there is evidence of attrition on #8-10 and #23-26, class 2 fractures on #8 and #25, and caries of dentin on #6DL, #9DL, #10M. Periodontal evaluation showed moderate gingivitis—including BOP, inflammation and erythema—due to poor margins of existing restorations causing inability to clean under and around FDP.



Figure 1. Initial FMX

We used an interpreter service (speaking Dari) to discuss our findings with the patient, reinforcing the need to properly perform oral hygiene at home. Using a mirror, we demonstrated how to properly do so, using Superfloss, Listerine and CLX/Hydrogen peroxide rinses. In addition, we explained that all FDPs will need to be evaluated individually after disease elimination was completed and before a treatment plan could be finalized. Patient appeared to understand but due to potential mistranslation we continued to reiterate these steps at future visits.

The approach to evaluation and treatment sequencing was as follows:

- (1) Section each FDP at the most distal abutment tooth → evaluate most distal abutment → if restorable, remove caries (if present) and temporize; if non-restorable, plan for extraction
- (2) After assessing restorability of all four distal abutments, remove all other existing FDP abutments (one quadrant at a time) and determine restorability → if restorable, remove caries (if present) and temporize; if non-restorable, plan for extraction
- (3) If most distal abutment of FDP is molar, plan to restore with a new FDP
- (4) If (3) is not the case and most distal abutment is a premolar, plan for removable partial denture

It is important to note that implant placement and restoration with fixed, implant-supported prostheses could have been an option in this case as well. However, our main objective to suit the patient's goals was to provide her with masticatory function and occlusal stability in the shortest amount of time.



Figure 2. Panoramic

## Results

After initial prophylaxis and reinforcement of the importance of oral hygiene at each visit, there was reduction in the inflammation and erythema around existing prosthesis in all quadrants. This improvement resulted in a mild gingivitis, which would not resolve completely until all defective prosthesis are replaced and crown margins sealed.

Figures 3-5. Extraoral



Figures 6-10. Intraoral



### UR Quadrant (fully restored)

#2-5 FDP sectioned

- #2 restorable (existing amalgam and caries removed, reused existing PFM crown as provisional and cemented using IRM)
- #4 and #5 restorable
- Restored as: #2-4 zirconia FDP and #5 single zirconia crown
- At last visit, noted a new carious lesion on #6 F, which will be addressed at next visit by new providers



Figure 11. Right molar BW (pre-RCT)

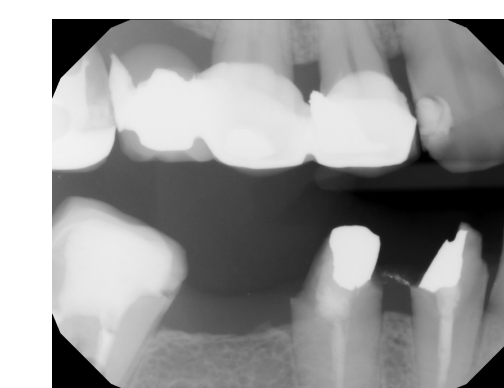


Figure 12. Right molar BW (post-RCT; #28 and #29 evaluation)

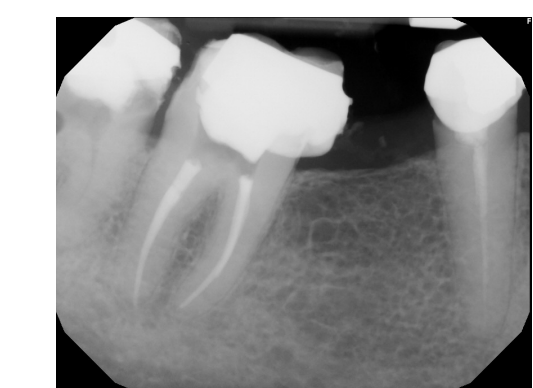


Figure 13. #31 PA

### UL Quadrant (partially evaluated)

- #11-15 FDP sectioned
- #15 restorable (planned for single crown)
- #14 had recurrent DO caries under existing PFM crown → restored using amalgam due to difficult isolation
- Plan (tentative): #11-14 FDP and #15 single crown (premolars needs to be further evaluated by next providers)

### LL Quadrant (partially evaluated)

- #18-20 sectioned
- #18 carious, non-restorable (planned for EXT)
- #19 pontic removed
- Polished distal of #20 existing PFM crown

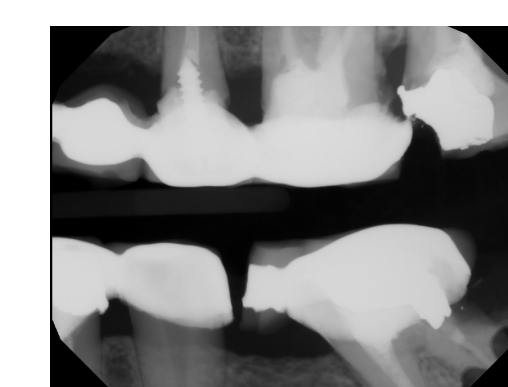


Figure 14. Left molar BW (pre-#18 EXT)

### LR Quadrant (partially evaluated)

- #28-32 FDP sectioned
- #32 non-restorable (plan to EXT)
- #31 restorable → removed existing build-up and MO caries, RCT re-treatment, integrity provisional
- Sectioned #30 pontic and polished distal of #29 abutment (initially)
- #28 and #29 restorable → BUT guarded prognosis due to limited tooth structure remaining, #29 PAP; both were provisionalized with Integrity

**Plan for lower arch:** Removable partial denture due to left most distal extension being #20 and guarded prognosis of #28 and #29.

## Conclusions

Throughout the past year, this case has presented a challenge due to the complexity of treatment planning, sequencing, as well as language and cultural barriers with our patient. By reinforcing how to maintain proper oral hygiene at home, this patient was able to address the etiology that resulted in moderate gingivitis and caries. Although the patient is not yet caries free, there has been a noticeable improvement in gingival inflammation and erythema. We expect that once the existing prosthesis are removed and replaced by better marginally fitting ones, in addition to the continued reinforced oral hygiene at home, the patient will be restored to a functional masticatory and better esthetic occlusion. We hope that this case shows the individuality of each patient we treat and the importance of understanding and addressing the etiology and modifying factors affecting our patient's oral health and their influence on treatment planning.

## Acknowledgements

We want to wholeheartedly thank Dr. Olivia Sheridan, Director of the Vulnerable Populations Honors Program, who has supported us not just during this case but all throughout the past year. Her leadership and guidance has been invaluable to our professional development, we are extremely grateful for the time we got to spend together and all we have learned from her.