

Surgical templates

A nice woman came to the office recently, and when I entered the room, it was obvious she was in great emotional distress.

She told me that she had recently experienced failure of a fixed partial denture. The FPD had connected the maxillary right first molar to the right first premolar, replacing the missing second premolar. She said she had been told that the first molar had been destroyed by caries, and it was subsequently removed. Following healing, she had a consultation with a surgeon who explained her options for therapy, which included no replacement, a removable partial denture, a larger fixed partial denture, or dental implants.

Following appropriate consideration, she decided to have implants (to be placed in the first molar and second premolar sites and restored as independent units), which agreed with the surgeon's suggestion. The surgeon placed the implants and sent her to her restorative dentist after an appropriate healing time and a second surgery for uncovering.

At their first visit, the restorative dentist fabricated provisional restorations. According to the patient, it took most of the day and numerous attempts to provisionalize her implants.

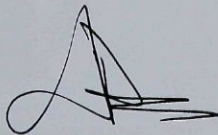
The patient said she did not look at the provisionals until she got home. When she did she became very concerned with the esthetics of the restorations. Her biggest concern was that the "teeth" were much longer than her teeth on the opposite side. A secondary concern was food impaction on the palatal side of the provisionals.

My initial clinical examination confirmed that the provisionals were indeed longer than the teeth on the opposite side. This was apparent clinically because of her high lip line. Photographs produced by the patient clearly demonstrated that the pontics on her fixed partial denture were the same length as the teeth on the opposite side.

The patient was referred for radiographs of the areas, including tomograms. These films clearly demonstrated that the implants had been placed at an acute angle to the crest of the ridge, thus resulting in the longer provisional restorations as well as the difficulty in fabricating her provisionals. Further evaluation of the radiographs revealed adequate bone in the appropriate plane to have placed the implants in a more ideal orientation. A telephone consultation with the surgeon led to the discovery that he had used neither tomograms nor a template and had "freehanded" the placement of the implants.

Collecting the needed clinical and radiographic information takes time, as does the fabrication of a surgical template, but if these steps had been taken, this woman would not be facing removal of the successfully integrated implants and placement of others at the correct inclinations.

Contacts with dental laboratories reveal that the case described here is not unusual and that most misplaced implants occur when templates are not used. Surgical templates are not always necessary, but when used, they make the surgery simpler for the surgeon, simpler and less expensive for the restorative dentists, and the result more predictable for the patient.



Thomas G. Wilson, DDS
Editor-in-Chief