

# The Marriage of Clear Aligner Therapy and Restorative Care

by Benjamin Schwartz, DDS

The combination of Clear Aligner Therapy (CAT) with restorative care is a very effective one-two punch that many dentists can offer within their own practices. With proper training and appropriate case selection, dentists now have the ability to enhance their patients' smiles while vastly improving treatment outcomes. Herein we describe two cases in which we paired CAT and restorative care for some outstanding results.

## Case 1

A 27-year-old woman presented at our office, expressing annoyance at her existing dental crown on tooth #7. The tooth had been treated previously with a root canal and subsequent post-core and crown. Unfortunately, the post-core/crown complex kept coming dislodged and would never stay cemented in place.



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An intraoral radiograph revealed that the tooth had a vertical root fracture and was therefore not restorable (**Figure 1**). We performed a complete work-up and consulted with the patient, who at this point mentioned that she had always been very unhappy with the diastema between her front teeth.

After a thorough discussion regarding treatment options, she expressed the desire to proceed with an extraction and

implant placement. However, since she also wished to close the gap between her front teeth, we recommended treating both arches with CAT using Invisalign prior to implant treatment. It was clear that once the implant was placed, tooth movement would be much more restricted.

We took full arch impressions along with pre-treatment photographs. The existing crown was placed back into position for the impressions and digital photos (**Figure 2**).

We planned the sequence of treatment so that the patient's retained root would be removed on the day of Invisalign delivery. Composite material would be placed in the patient's aligners so that it would appear as though she had a tooth present during treatment. At the end of therapy, once no further maxillary movement was to occur, we would place a dental implant and allow it to osseointegrate.

When the patient returned following the fabrication of the aligners, we removed the remaining tooth structure and placed an allograft at the site of tooth #7. Approximately 1.0 mm of IPR was performed on the lower arch, and 0.6 mm of reduction on the maxillary arch. This created space for the teeth to fully retract without any interferences. We then placed attachments, delivered the aligners to the patient, and instructed her in their use.

The patient completed the Invisalign course without disruption over the course of a year, and was eager to begin the next phase of her treatment. We fabricated an implant guide and placed a Camlog 3.8×13 mm implant (**Figure 3**). The patient continued wearing her Invisalign trays with the composite tooth in the interim. She was given additional passive aligners that she would wear while allowing for the implant to heal. After a sufficient integration time of three months, we uncovered the implant and placed a fixed crown.

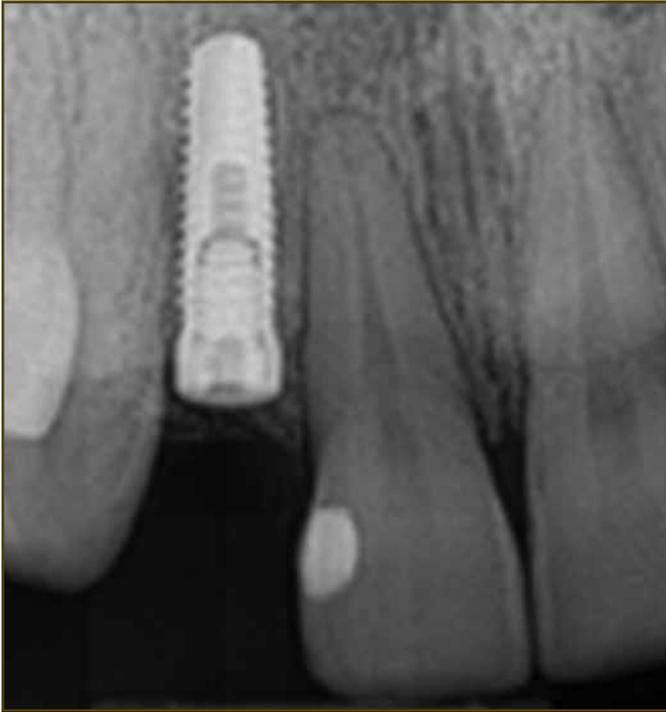
The final results left the patient ecstatic! Her troublesome, non-restorable tooth was a thing of the past, and her beautiful smile shone through (**Figure 4**).



**Figure 1:** intraoral view and radiograph of nonrestorable tooth #7.



**Figure 2:** pre-treatment images showing diastema between upper centrals.



**Figure 3:** Camlog dental implant placed.

## Case 2

A young gentleman walked into our office after recently moving into town. He wanted to “fix his smile” (**Figure 5**), as he was getting married in 10 months! To complicate matters, he worked full time as a sales representative, so he did not want anything obtrusive on his teeth while talking to clients. We discussed the patient’s goals and desires with him and then performed a full work-up.

As can be seen from his pre-treatment images (**Figure 6**), the patient’s arches displayed moderate crowding. In addition,

he was missing tooth #3, which called for a dental implant, while many of his old bonded restorations needed to be replaced. He also required a veneer on tooth #25 owing to a previous root canal and subsequent darkening of the tooth that was incapable of being masked or corrected with internal bleaching. Quite a lot to do with very little time!

The patient did not wish to “drill down” all his maxillary teeth for relatively quick, esthetic veneers, but did want a nice smile for his upcoming wedding. After a thorough review of the choices available, including traditional and lingual fixed braces, he was eager to begin Clear Aligner Therapy (CAT). We advised him that the treatment would not be fully completed by his wedding date, but that we would improve his smile as much as possible by that time.

We planned the CAT so that the maximum amount of tooth movement would be accomplished in the shortest period of time, with only 0.3 mm of IPR needed in the maxillary arch and no IPR needed in the mandibular arch. This would then leave us a brief period to perform the necessary restorative care to enhance his smile as much as possible before his wedding. After the wedding, the patient would then return for additional aligners to finalize tooth movements.

By orchestrating the movements of teeth, we planned to place a dental implant in site #3 during the aligner treatment. We waited a few weeks to allow the patient to get comfortable with his aligner therapy before placing the implant. Placing the implant early saved time by allowing for osseointegration to occur while the rest of the therapy was being carried out, so that the implant would be ready to restore in time for the wedding. In addition, the mandibular arch required fewer aligners than the maxillary, which gave us some time to restore tooth #25.



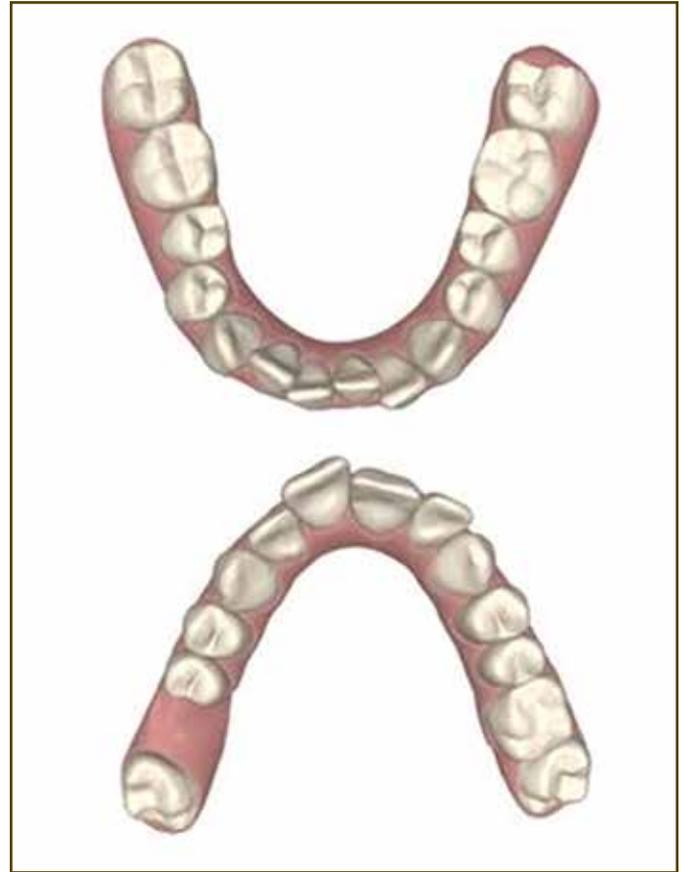
**Figure 4:** final result showing closed diastema and restored implant.



**Figure 5:** anterior view showing crowding and overlapping of teeth.

The aligner therapy proceeded smoothly and uneventfully during the course of the almost 10 months that we had, and although the patient's tooth movements were not fully completed, we were able to begin restoring his smile with new bonded restorations, a veneer, and a restored dental implant. This was performed 6 weeks prior to his wedding, so that any changes or adjustments would be completed before the big day. By the time his wedding date approached, he had a very nice smile to show off and be proud of (**Figure 7**). He was thrilled and couldn't stop smiling! Once he returns from his honeymoon, additional aligners will be fabricated for refinement and finishing touches.

As the cases above show, the marriage of CAT with restorative dentistry allows for better treatment outcomes and more predictable outcomes. Proper planning and execution allow sequential treatment to be performed in a calculated, logical, and carefully planned manner. More importantly, our patients were elated with their results—which made the entire process more enjoyable! ■



**Figure 6:** pre-treatment occlusal view of both arches.



**Figure 7:** pre-refinement photo showing a much improved smile within a short period of time.