Immediate tooth replacement with the Hahn Tapered Implant and BruxZir Anterior Solid Zirconia

Author: Timothy F. Kosinski, DDS, MAGD

With more patients seeking dental implant treatment, it’s no surprise that a growing number of clinicians are providing this service. The increased demand for implant therapy can be attributed in part to the improved predictability brought about by innovations in implant design. Additionally, due to advancements in all-ceramic restorative materials, providing aesthetic results is easier than ever before. By utilizing the most advanced implants and restorative materials, even experienced implantologists have the potential to benefit from an improved clinical workflow and more aesthetic results.

The case report that follows demonstrates immediate tooth extraction and placement of a Hahn Tapered Implant (Glidewell Direct; Irvine, Calif.) in the area of a lateral incisor. A temporary bridge, custom implant abutment and a highly aesthetic final crown are utilized to facilitate a natural-looking final restoration.

Case report

A 40-year-old male presented with no medical complications and desired a nice smile for his business interactions. His maxillary left lateral incisor had fractured, with the patient’s excessive parafunction likely a contributing factor. Endodontic evaluation had determined that the lateral incisor was untreatable. The patient accepted a treatment plan in which the lateral incisor would be extracted and an implant immediately placed. Designed to achieve the maximum primary stability needed for immediate extraction and implantation cases, a Hahn Tapered Implant was selected for the procedure.

To begin treatment, the non-restorable lateral incisor was extracted atraumatically. Removing the tooth in this manner maintained the facial plate of bone as well as the interseptal bone that helps support the interdental papillae. A pilot drill was utilized to create the initial osteotomy approximately 3 mm apical to the adjacent cementoenamel junction, and a 3.5-mm-diameter Replace Select™ drill (Nobel Biocare, Yorba Linda, Calif.) was used to complete preparation of the implant site. Note that the Hahn Tapered Implant is compatible with widely used surgical instrumentation.

As the implant was threaded into place, its prominent buttress threads engaged the palatal wall firmly. This simplified the effort of preserving the facial plate and positioning the implant in a manner that would foster an aesthetic outcome. The tapered body of the implant eased placement within a maximum amount of bone, and its widened apex helped establish excellent stability.

Radiography confirmed the implant was placed in an optimal position. A transitional bridge was fabricated to minimize speech problems, help support the soft tissue and maintain a natural emergence profile during the healing period. After four months of healing, the temporary bridge was removed and an open-tray final impression was taken.

An Inclusive® Zirconia Custom Abutment with titanium base was produced by the lab and maintained a natural emergence profile upon delivery. BruxZir® Anterior, a monolithic zirconia material specially formulated for the smile zone, was chosen for the final restoration because of its strength and lifelike esthetics. The crown, which was digitally designed and milled using CAD/CAM technology, exhibited a precise fit. Final radiography illustrated superb bone preservation at the implant site (Fig. 1). Optimal soft-tissue contours were particularly evident around the beveled edge of the Hahn Tapered Implant. The patient was very pleased with the final restoration (Fig. 2).

Conclusion

The high primary stability, optimal positioning and simplified surgical protocol facilitated by the Hahn Tapered Implant make it ideal for a wide range of indications, including immediate extraction cases and restorations in the smile zone. When combined with BruxZir Anterior and zirconia hybrid custom abutments, a predictable restoration can be delivered that mimics the esthetics of the tooth being replaced.

See more of this case by visiting www.inclusivemagazine.com.