

Evolving Implant Design. The NobelActive Implant: Case Presentation

Gary Orentlicher, DMD
Scarsdale, New York

Matthew Teich, DDS
White Plains, New York

Immediate Implant Placement, Maxillary Anterior Tooth

A 50-year-old male in good medical and dental health presented for replacement of tooth No. 9 because of a root fracture of the previously endodontically treated tooth (Figure 1 through Figure 3). Clinical examination revealed a normal dentition with no significant periodontal or occlusal issues. Tooth No. 9 presented with a normal zone of attached tissue and adequate gingival symmetry to the adjacent central incisor. The tooth had undergone prior treatment with root canal therapy and placement of an endodontic post/core and a porcelain-fused-to-metal crown. Due to the lack of infection and the excellent bone and gingival architecture,

it was decided that this patient was a good candidate for immediate extraction, immediate implant placement, and immediate provisional restoration. A NobelActive™ (Nobel Biocare™) implant was chosen because of the ability to redirect the implant if necessary, the implant's high degree of primary stability at the time of insertion, and the characteristics of the internal implant platform.

Using standard techniques, tooth No. 9 was first extracted atraumatically. Using the established technique for the immediate placement and redirection of a NobelActive implant, an RP 4.3-mm x 13-mm implant was placed (Figure 4 through Figure 6), followed by placement of an immediate temporary abutment with bone graft material (DynaBlast™, Keystone Dental, Burlington, MA) (Figure 7), and the



Figure 1 Preoperative intraoral frontal photograph of tooth No. 9.



Figure 2 Preoperative occlusal photograph of tooth No. 9.



Figure 3 Preoperative radiograph reveals fractured tooth No. 9.



Figure 4 Initial 2-mm osteotomy (see Figure 5 for illustration of surgical technique).



Figure 5 Redirection of the implant in an anterior tooth extraction socket.

fabrication and insertion of an immediate provisional restoration (Figure 8 through Figure 10). On insertion, the implant was stable to 60 Ncm of torque, measured with a manual torque wrench.

Four months postoperative, an open-tray implant-level impression was made and tooth No. 8 was prepared for a porcelain veneer. A zirconia abutment (Procera™ Zirconia, Nobel Biocare) was fabricated and inserted for implant No. 9 (Figure 11). A definitive zirconia-based crown layered with feldspathic porcelain was then fabricated and cemented provisionally. Tooth No. 8 was restored with a matching porcelain veneer that was bonded in place using the authors' standard bonding protocol (Figure 12 and Figure 13).

This case illustrates the use of the NobelActive implant's unique design characteristics, the technique for placement of an immediate implant in an anterior maxillary extraction site, the ability to redirect the implant, and the high initial stability in the successful immediate restoration of a fractured anterior tooth.



Figure 6 Insertion of a NobelActive implant (4.3 mm x 13 mm) using the surgical driver and manual insertion technique. The implant was redirected into proper position.



Figure 7 Immediate temporary abutment in place with bone graft material between the buccal plate and implant.



Figure 8 Immediate provisional restoration of tooth No. 9 at time of surgery.



Figure 9 Postoperative periapical radiograph with the immediate temporary abutment and provisional restoration in place.



Figure 10 Provisional restoration of tooth No. 9 at 4 weeks postoperative.



Figure 11 Four months postoperative. Procera Zirconia abutment in place, tooth No. 9. Veneer preparation, tooth No. 8.



Figure 12 Final porcelain restorations.



Figure 13 Postoperative radiograph.