

Replacement of Failed Implant with Simultaneous Guided Bone Regeneration

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This case illustrates successful guided bone regeneration with a bone graft substitute used in conjunction with implant placement.



FIGURE 1
Pre-operative panoramic radiograph



FIGURE 2
Fractured implant removed

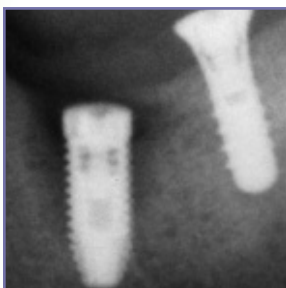


FIGURE 3
Post-surgical radiograph of implant placement in area #19

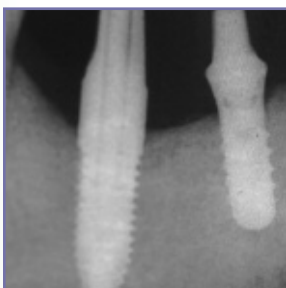


FIGURE 4
Radiograph taken at time of impression (3 months post surgery)

A 49 year old male patient presented for a single Straumann® RN 4.8mm x 10mm dental implant in the edentulous mandibular area of #19 (FIGURE 1). The implant was placed and healing progressed without complications. Approximately 6 months after final seating of the implant retained crown, the patient returned with a fractured mandibular second molar (#18). This root canal treated tooth had fractured vertically and was replaced with a Straumann 4.1mm x 10mm dental implant. At the time the patient presented for this fractured tooth, it was noted that the neck of the 4.8mm implant had also fractured and the abutment had loosened. The broken implant was trephined out (FIGURE 2) and a Straumann WN 4.8mm implant was placed, but the implant did not integrate and was shortly removed. Approximately four months passed before an implant procedure would be attempted again.

After anesthesia, a flap was made in preparation for placement of a Nobel Biocare 5.0mm x 13mm Replace® Speedy dental implant. A large granulation was removed from the socket area and DynaBlast™ (Keystone Dental, Inc., Burlington, MA) bone graft substitute was placed in the area after site preparation and prior to implant placement. While DynaBlast is composed of both demineralized and mineralized bone in RPM, (reverse phase medium – a bioresorbable carrier with increased viscosity at higher temperatures) the graft site will appear relatively radiolucent immediately post-surgery (FIGURE 3). However, the graft site will increase in radiodensity as healing continues, providing a radiographic indicator of bone growth.

The area was allowed to heal for three months before restoration of the implants began. A radiograph taken at the time of impression illustrates the outstanding integration around the Nobel Biocare Speedy implant where the DynaBlast was placed (FIGURE 4). The implants were restored with splinted cement retained crowns.



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