



## Case Study

# Placement of a Zimmer® Trabecular Metal™ Dental Implant with Simultaneous Ridge Augmentation and Immediate Non-Functional Loading Following Tooth Extraction and Orthodontic Treatment for Implant Site Development

Case # 1

Author: Dr. Suheil Boutros (USA)



## Case Study Dr. Suheil Boutros



**Pre-operative buccal view shows a missing maxillary right lateral incisor provisionally restored with a composite pontic veneer during adult orthodontic treatment for implant site development.**



## Case Study Dr. Suheil Boutros



**Pre-operative periapical radiograph shows the healed extraction site with the provisional composite pontic veneer in place supported by orthodontic wire.**



## Case Study Dr. Suheil Boutros

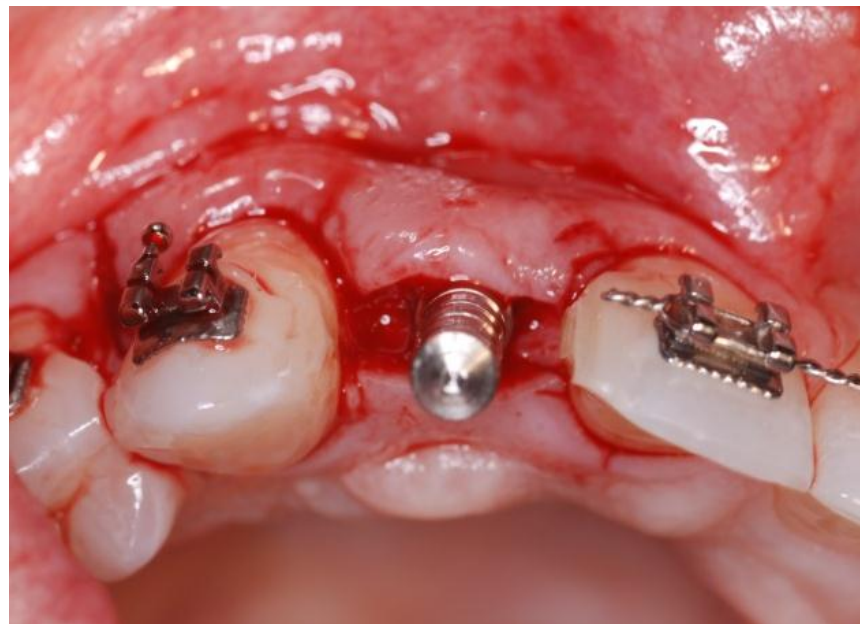


**Buccal view of the edentulous site after removing the provisional composite pontic veneer and orthodontic wire.**





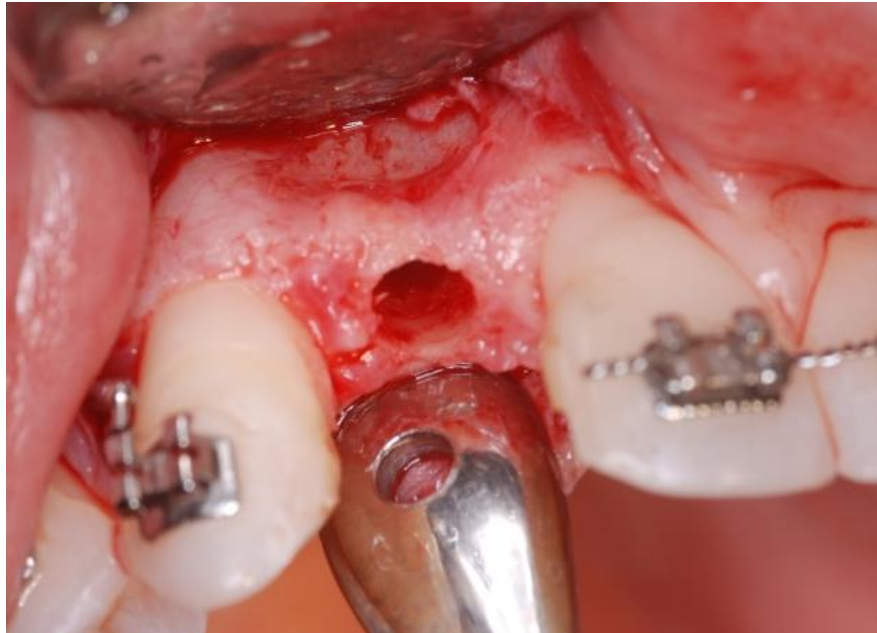
## Case Study Dr. Suheil Boutros



**The edentulous ridge is surgically exposed and an osteotomy is sequentially prepared using internally irrigated drills in graduated diameters and copious external irrigation. During the procedure, a depth gauge is placed into the osteotomy to ensure parallelism with the adjacent dentition and to measure the depth of drill penetration.**



## Case Study Dr. Suheil Boutros



**Further flap reflection after preparation of the osteotomy reveals an undercut in the alveolar process.**



## Case Study Dr. Suheil Boutros

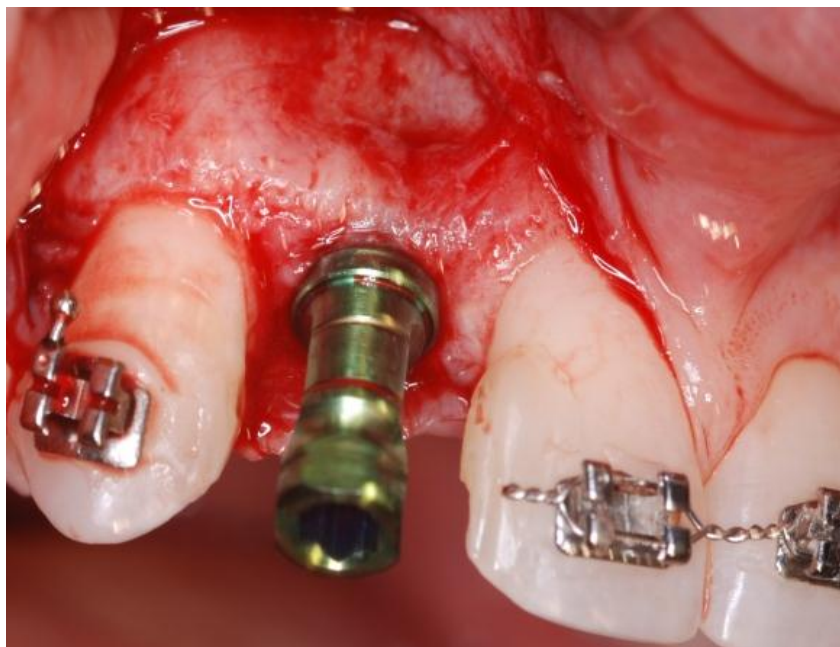


**A Zimmer® Trabecular Metal™ Dental Implant, 4.1 mm x 13 mm, is threaded into the osteotomy utilizing its fixture mount with a hex instrument and surgical screwdriver handle.**





## Case Study Dr. Suheil Boutros



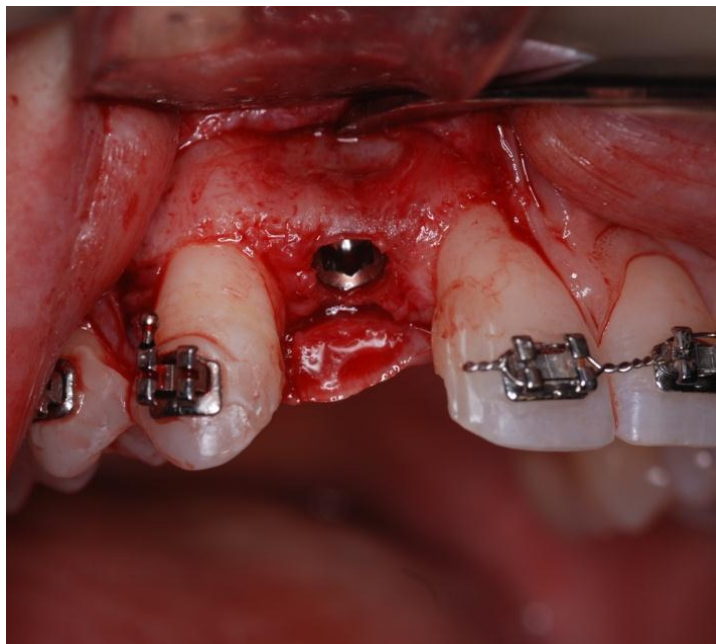
**Buccal view shows the *Zimmer® Trabecular Metal™* Dental Implant fully seated in the osteotomy.**

**Note that the fixture mount has achieved parallelism with the adjacent teeth.**





## Case Study Dr. Suheil Boutros



**The fixture mount is removed from the implant and prepared for use as a provisional abutment.**

**Note the implant's lead-in bevel and internal hex connection.**



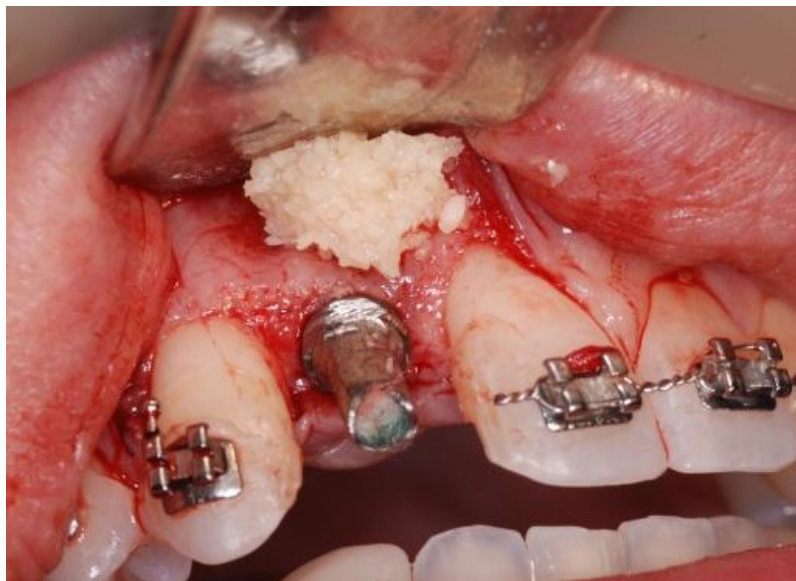
Case Study Dr. Suheil Boutros



***Puros*<sup>®</sup> Cortico-Cancellous Particulate Allograft is hydrated prior to use.**



## Case Study Dr. Suheil Boutros



The prepared fixture mount is attached to the implant and its screw access hole is occluded with composite material. *Puros* Cortico-Cancellous Particulate Allograft is placed in the ridge defect and covered with a barrier membrane.



## Case Study Dr. Suheil Boutros



**A composite crown is provisionally cemented onto the temporary abutment. The soft tissues are mobilized for tension-free closure and sutured around the provisional restoration.**





**Case Study**    **Dr. Suheil Boutros**



**Buccal view of the surgical site at suture removal 14 days post-operative.**



## Case Study Dr. Suheil Boutros



**Post-operative periapical radiograph shows the implant and provisional restoration in place.**



**Case Study**    **Dr. Suheil Boutros**



**3 month post-operative buccal view of restoration.**



**Case Study**    **Dr. Suheil Boutros**



**3 month post-operative buccal view of restoration.**





## Case Study Dr. Suheil Boutros



**3 month post-operative periapical radiograph showing implant and final restoration.**



**Case Study**    **Dr. Suheil Boutros**



**10 month post-operative buccal view of surgical site.**



**Case Study**    **Dr. Suheil Boutros**



**10 month post-operative full buccal view.**



## Case Study Dr. Suheil Boutros



**10 month post-operative periapical radiograph shows the implant and final restoration.**