

# Maxillary Reconstruction using a Mixture of Autogenous Bone and DynaGraft™ Putty

**Richard C. Bell, DMD**

M Sc, FRCD (C), Private practice, Kelowna, British Columbia

**Maxillary and mandibular osseous reconstruction is often necessary to aid the prosthetic rehabilitation of many types of patients. These include post-traumatic, atrophic and post-ablative defects. In these as well as other guided bone regeneration procedures, readily available and predictable materials can expand the surgeon's choices in treatment planning. As the following Case Report indicates, a mixture composed of autogenous bone and DynaGraft-D™ Putty demineralized bone matrix (DBM) in a reverse phase medium, (Keystone Dental, Inc., Burlington, MA) has shown promise for use in horizontal maxillary alveolar ridge reconstruction.**



**FIGURE 1**  
Removal of tooth fragments and debridement

A 32 year old female was referred to my Oral and Maxillofacial Surgery Clinic six weeks after a motor vehicle accident. As a result of this accident, she suffered a dento-alveolar fracture involving her four maxillary incisors and the supporting alveolar bone. Unfortunately, no treatment was initially rendered at the time of the accident and the segments were all loose and unsalvageable. The initial treatment plan was to remove the fractured roots, debride the area and perform a secondary autogenous bone grafting procedure once the soft tissue had healed.



**FIGURE 2**  
DynaGraft-D™ Putty in place for horizontal ridge preservation

Intravenous sedation was utilized when opening and debriding the affected area. The four incisor teeth and their fractured root segments were removed. A considerable amount of granulation tissue and fibrous tissue was also debrided from the wound. This left only the palatal component of the alveolus remaining. Much of the buccal component of the alveolus, although encased in fibrous tissue, was found to be vital. This bone was removed from the fibrous tissue and mixed with DynaGraft-D™ Putty in approximately a 1: 4 ratio. The graft was subsequently covered with a non-resorbable membrane, after which primary closure was achieved.

The patient tolerated the procedure well and experienced no postoperative complications. She had been forewarned about the possibility of additional bone grafting, however heal-



**FIGURE 3**  
Ridge preparation for implant placement (6 months post-op)



**FIGURE 4**  
Implants in situ

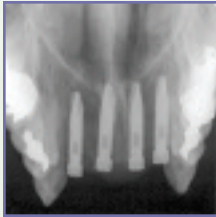


**FIGURE 5**  
Suturing after implant placement

ing progressed very well and no additional grafting was deemed necessary. Six months following the bone grafting procedure, four

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endosseous implants were placed in the anterior maxilla. The anterior ridge form was more than adequate for the placement of the implants and the bone proved clinically to be very solid.



Final radiographic evaluation

Radiographic assessment of the post-op results showed satisfactory bone healing, around the implants. The procedure of choice in this case avoided the need for any secondary autogenous bone harvesting and its inherent morbidity.

# Case Study