

## OsteoGraf®/LD-300

Dennis G. Smiler, D.D.S., Encino, California

Not every patient that presents in my office for a tooth extraction is an implant candidate. Not every patient knows what he or she wants to do - or will do in the future. What they do know, is they need a tooth removed and they want the best treatment possible.

Over the past few years, I have realized the importance of ridge maintenance and preservation. I have learned that patients may reappear in my office years after an extraction, inquiring about endosseous implants or, after being referred to me by their general practitioner, complaining about their loose and ill-fitting dentures or partials. What I have also learned is that grafting fresh extraction sockets not only maintains the alveolar ridge, but offers preservation for future prosthetic requirements.

A 31-year old male patient presented in my office with a fracture of the maxillary right central incisor. After clinical examination and radiographs, it was determined the crown of the tooth was fractured and the root surface was exposed in the socket. The removal of the tooth was scheduled, but the patient was undecided at that time about which restorative treatment option he would accept. Therefore, it was imperative to preserve the ridge and reduce the risk of any bone resorption or loss of dimension.

The maxillary right central incisor tooth was removed. The socket was aggressively curetted

and copiously irrigated (Figure 1). A molt curette was positioned at the level of the mucogingival junction to check for fenestration of the bony walls. A large fenestration was detected on the labial aspect of the socket increasing the risk of resorption and distortion to the alveolar ridge if left ungrafted.

A synthetic resorbable hydroxylapatite, OsteoGraf®/LD-300 (CeraMed Dental, Lakewood, CO) was used to graft the socket. The graft material was wetted prior to placement with a sterile saline solution and packed into the prepared socket (Figure 2). The material was packed firmly but not tightly allowing for vascularity into the graft up to the alveolar crest. To contain the graft material, a small piece of CollaTape® (Sulzer Calcitek, Carlsbad, CA) was placed directly over the graft material and adapted to the socket walls. Since re-adaptation of the tissue was impossible, a calcium sulfate material, Capset® (LifeCore BioMedical, Chaska, MN) was mixed and adapted over the CollaTape (Figure 3). Although the tissue was not sutured, by utilizing these two containment materials, the risk of graft material loss had been minimized.

Prior to the extraction of the tooth, a temporary "flipper" had been fabricated. The

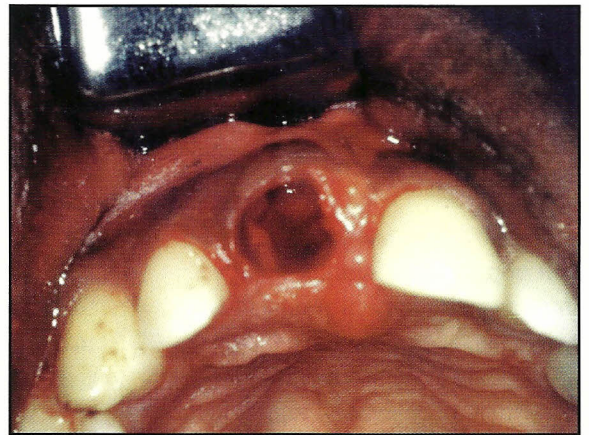


Figure 1. The socket prepared for grafting.

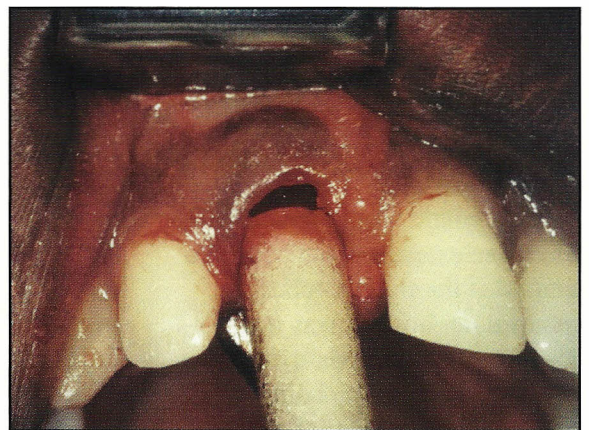


Figure 2. OsteoGraf®/LD-300.



Figure 3. CollaTape® and Capset® contain the graft material.



# Case study

patient was discharged with the temporary appliance, appropriate home care instructions, and a postoperative appointment in one week.

With the consumer awareness and popularity of endosseous implants, the patient returned to my office approximately four months after the removal of the maxillary right central and requested additional information on implants. He was no longer satisfied with the removable appliance. A three-unit bridge was not the ideal treatment plan since it would involve the preparation of the virgin adjacent teeth.

Treatment options were presented to the patient and he elected for a single tooth implant. Since the extraction site had been grafted at the time of tooth removal, an implant was now a viable treatment modality without concern for adequate bone or compromised angulation of the implant.

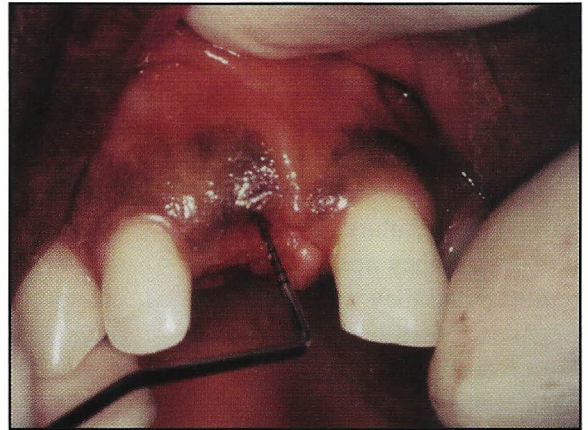
The tissue was firm and healthy with the extraction socket defect eliminated by the bony fill of the graft material (Figure 4). A pilot drill was used to establish the inclination as well as the depth of the proposed implant. To determine the correct position of the axial inclination a parallel pin was

placed into the osteotomy created by the pilot drill.

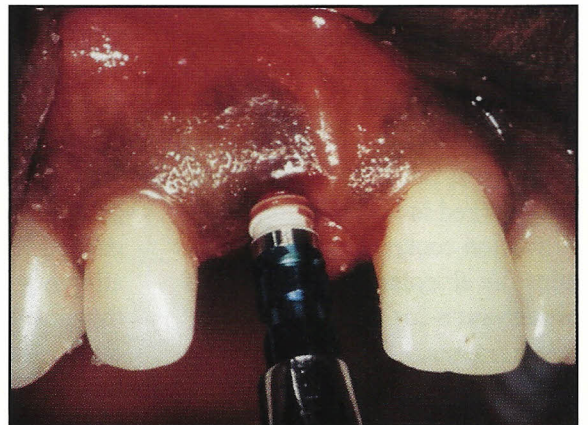
Progressive bone-spreading osteotomes were used to further develop the recipient site to accommodate the implant. A 3.8 Steri-Oss implant (Yorba Linda, CA) was positioned so the machine collar was at the level of the bone to achieve the most esthetic results for the patient (Figure 5). The final restoration was fabricated and cemented approximately five months after implant placement and integration (Figure 6).

Although this patient eventually elected for implant restoration, the ideal recipient site had been created when the socket was grafted with a synthetic, resorbable hydroxylapatite. Even if this patient had not considered implants, the alveolar ridge would still have been maintained and preserved aiding in prosthetic retention and function.

Grafting fresh extraction sites has become a routine part of my practice. It enables me to offer my patients a variety of restorative options both immediately and in the future. ☺



**Figure 4.** 4 months after extraction and socket graft.



**Figure 5.** Placement of the implant.



**Figure 6.** The final restoration.

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12860 West Cedar Drive  
Lakewood, CO 80228  
800 426-7836  
303 985-0800