

ALVEOLAR RIDGE PRESERVATION USING THE BIOACTIVE OSTEOGEN® BONE GRAFTING PLUG WITHOUT A MEMBRANE

OSTEOGEN® PLUG DELIVERY CASE REPORT FOR DOCTORS INFORMATION

Doctors: Please ask your patients if they are allergic to collagen. *Advise patients to avoid alcohol, mouthwash or chlorhexidine for two weeks **as this has been shown to be toxic to fibroblasts** and may retard healing and crestal bridging of soft tissue*.

Fig. 1: Extraction and Debridement

Following anesthesia, extract tooth using standard atraumatic flapless protocol. Thoroughly remove the granulation tissue and the entire pathologic periodontal ligament using the **Impladent Ltd Ultra Coarse Diamond BurSM**, see photo white X, removal of infected ligament. Flush socket and debride twice with normal saline.¹⁻³



Fig. 2: Generate Bleeding to Establish the RAP

Using the #6 carbide bur included in the UCD kit remove the **Lamina Dura** and make lingual or palatal holes in the lower half of the socket **where trabecular bone is available** to procure medullary blood from the Alveolar Process containing osteoclast cells (220µm) and osteoblasts to trigger the Regional Acceleratory Phenomenon (RAP).⁴ **Profuse bleeding will be absorbed by the hydrophilic OsteoGen® Plug and will help prevent dry socket. Do not hydrate the Plug prior to delivery.**^{5,6}



Fig. 3: Delivery and Initial Plug Compression

Antibiotics with low pH are not conducive to rapid bone formation. **Metronidazole** at pH 6.5 and above (concentration 5mg/mL) is biologically preferred and by injecting into the socket, and mesiodistally at the crest of **interdental septum**.⁷⁻⁸ Hold the OsteoGen® Plug with sterile tweezers, taper Plug apically and deliver into the socket. **Compact the plug aggressively.** The Plug should be large enough, initially with an excess of 3.0mm-5.0mm on average above occlusal plane, so that it can be compressed into and fill the entire socket to the **Soft tissue superior Level**. **Do not place Plug to the crestal bone height!**



Fig. 4: Final Compression: "Making a Membrane"

Plug compression is achieved by using a **Pluggers Instrument to align and compact the bone grafting crystals closer together creating a bioactive membrane barrier which controls migration of connective tissue.**⁹⁻¹¹ Must use more than one Plug for multiple roots. Fill and unite the Plug roots **superiorly at the root trunk to the level of the soft tissue crest.** Leave the top of the Plug intact so it can be compressed into the socket uniformly. No toothbrushing or waterpik for two weeks to yield rapid tissue healing crestally.



Fig. 5: Suturing; Radiolucent to Radiopaque

Passively crisscross suture over Plug, not through the Plug. Do not use Resorbable sutures. Membrane Not Required. Soft tissue should bridge across in 9-14 days*. The non-ceramic OsteoGen® crystals are a low-density graft material. Site will show radiolucent day of placement. Plug resorbs continuously in 3-5 months and longer and is replaced by host bone at a rate depending on the surgery and patient's age or metabolism. The site will become radiopaque and ready for implant placement. OsteoGen® crystals may be used to reinforce the implant osteotomy prior to implant installation.¹¹⁻¹³ After implant installation, place healing screw and place additional crystals crestally to prevent downward migration of epithelium and achieve primary closure.⁹⁻¹¹



Doctor please see videos online at www.impladentltd.com/OsteoGen-Plugs-p/op.htm

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