

Dental Products Report

Creating bone...alone

Foundation bone augmentation material simplifies filling extraction sockets

By Dr. Jeffrey L. Turchi. Information provided by J. Morita USA Inc. Images provided by Dr. Edward Marcus.



Collagen-based bone filling augmentation material

Features

- Made from bovine atelo-collagen, which minimizes antigenicity
- Stimulates growth of the patient's own bone at an accelerated rate
- Available in a solid, bullet-shaped plug for easy placement and handling
- No need for using multiple products or placing membranes

Packaging

Bullet-shaped plugs in two sizes:

- Small (S)—8 mm x 25 mm (10 units per box)
- Medium (M)—15 mm x 25 mm (5 units per box)

J. Morita USA Inc.



Fig. 1 Tooth No. 12 is so badly decayed it is diagnosed as "non-restorable."

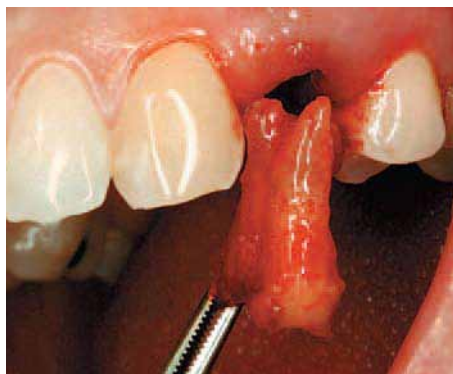


Fig. 2 The root tip is extracted.



Fig. 3 Curettage of the socket is important.



Fig. 4 Small-size Foundation is selected for the job.

Placement of some type of bone graft or augmentation material into extraction sockets rapidly is approaching "standard of care" status, according to Dr. Jon Suzuki, postdoctoral director of the Periodontal program at Temple University School of Dentistry. Indeed, advances in implant dentistry have served to make this discipline the treatment of choice for many patients and practitioners. The preservation and augmentation of the alveolar ridge by bone grafting or other methods is regarded as critical for the future of implant success.

Foundation bone augmentation material provides an easy, economical, and effective method of maintaining and/or augmenting bone growth in the extraction socket. Approved for sale recently throughout the United States and Canada after being used with great clinical success in Japan since 1998, the product is a collagen-based bone filling augmentation material indicated for use after extractions. It is not a bone substitute; rather, it stimulates growth of the patient's own bone at

an accelerated pace.

Foundation is placed into the socket following an extraction. The surrounding cells and capillaries gradually infiltrate the product, and as the extraction socket heals, it is filled with new augmented bone. There is no need to remove the product once it is placed, and no membrane is needed. Foundation is helpful in maintaining bone following any permanent extraction, including bone behind the second molar after removal of wisdom teeth. The product helps promote the faster growth of bone, which allows earlier placement of implants.

The bovine collagen that serves as the product base is taken only from animal skin that is considered "no risk" for Bovine Spongiform Encephalopathy (BSE)—"Mad Cow Disease"—by the European Agency for the Evaluation of Medicinal Products (EMA), the U.S. Food and Drug Administration (FDA), and the U.S. Department of Agriculture (USDA). The majority of the collagen is made into a framework or scaffolding for the bone to

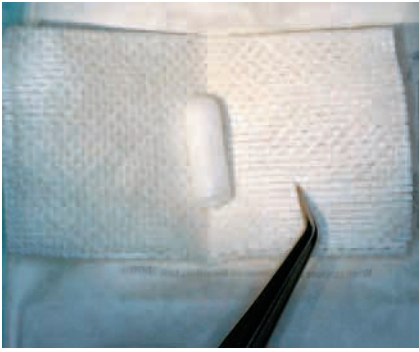


Fig. 5 The small-size plug is carefully placed on a 2 x 2 gauze pad.

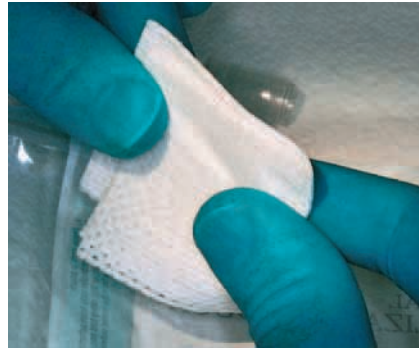


Fig. 6 To simplify this case, the plug is molded by hand into the shape of a root tip.



Fig. 7 After shaping, the plug resembles the root tip that was extracted (see Fig. 3).



Fig. 8 The shaped Foundation plug inserted into the extraction socket, shown halfway complete.



Fig. 9 After the plug is gently condensed into the socket, it fills with blood...



Fig. 10...gradually infiltrating the plug. The socket then fills with new augmented bone...



Fig. 11 ... as it heals. Above: 2 weeks' post-operative healing.



Fig. 12 12 Weeks post-operative.



Fig. 13 12 Weeks post-operative, implant placed.



Fig. 14 X-ray confirming full bone growth and implant placement.

grow into. The remainder of the collagen is treated in a way that stimulates attraction of bone growth cells. This quality is known as chemotaxis. All the collagen then is joined back together and formed into a solid, bullet-shaped plug that allows easy placement into the extraction socket. Foundation comes in two sizes: small (8 mm x 25 mm), and medium (15 mm x 25 mm).

Filling extraction sockets

The following is a step-by-step procedure that illustrates the use of Foundation bone augmentation material. The patient in this case presented with tooth No. 12, which was badly decayed and diagnosed as “non-restorable” (Fig. 1).

1. Use a periosteal elevator to initiate the atraumatic removal of tooth No. 12, continue by extracting the root tip (Fig. 2).
2. Perform curettage of the socket (Fig. 3). Note: Curettage is a critical step when using Foundation.
3. Select small-size Foundation (8 mm x 25 mm) for use (Fig. 4).
4. Using forceps, place the small-size plug on a 2 x 2 gauze pad (Fig. 5). Note: Do not touch plug with bare hands.
5. Although not mandatory, the Foundation plug can be shaped to mimic the

root tip (Fig. 6). Figure 7 shows how the small-size plug now resembles the root tip extracted in Step 2 (see Fig. 2).

6. Insert the Foundation plug into the socket. Figure 8 illustrates the insertion of the plug nearly halfway complete.
7. After placement, the plug is gently condensed into the socket, and it fills with blood (Fig. 9). Note: Contact with bone and blood are crucial when using Foundation (Fig. 10). During post-operative healing, the socket fills with new augmented bone.
8. Figure 11 shows post-operative healing at 2 weeks.
9. Post-operative healing at 12 weeks (Fig. 12), after implant placement (Fig. 13).
10. Figure 14 shows full bone growth and implant placement.

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