

Filling the Void, Bone Augmentation Basics

Presented by Jeffrey Turchi, DDS

Course Objectives

- Understand current bone grafting, socket preservation and ridge augmentation techniques and materials
- Identify the different types of grafts and materials, their characteristics, and the benefits/risks of each
- Learn how to implement this procedure in your practice

Bone Grafting Applications

- Socket preservation
- Periodontal defects
- Third molar extraction sites to support 2nd molars
- Ridge augmentation
- Defects following cyst removal / apicoectomies
- Sinus lifts
- Nerve repositioning
- **IMPLANT DENTISTRY!!!**

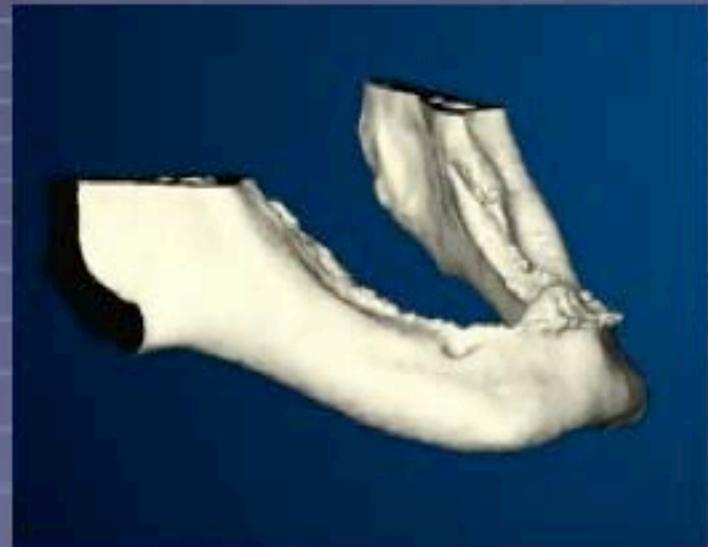
Why Preserve the Socket?



Dr. Jon Suzuki, Director of Graduate Periodontics at Temple University School of Dentistry states:

“...placing some type of graft material in the socket following every extraction is approaching standard of care status.”

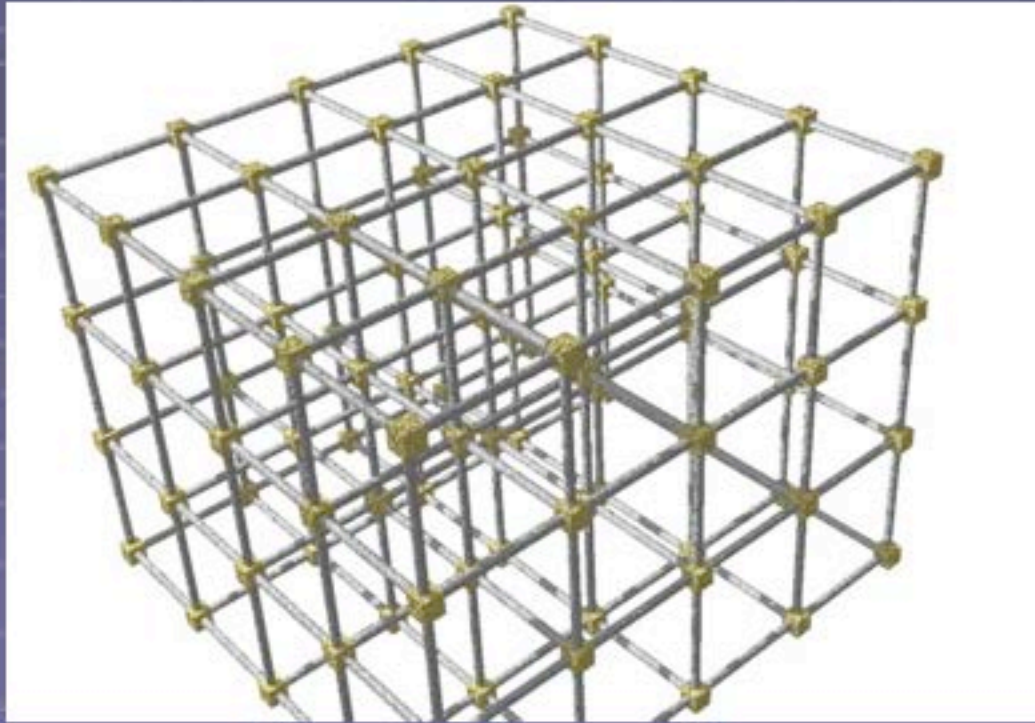
Why Augment the Alveolar Ridge?



Bone loss is continuous and inevitable

Bone in edentulous areas resorbs 0.5 to 1.0 mm per year

Characteristics of Graft Materials



Osteoconductive:

These materials act as a framework for new bone to grow into at its normal healing rate, 6-8 months, but will assist in maintaining socket height and width.

Characteristics of Graft Materials



Osteoinductive:

These materials stimulate bone to grow at an advanced rate. Added ingredients increase speed of healing.

Osteoinductive “Additives”

Two common ingredients in osteoinductive materials:

1) Bone Morphogenetic Proteins (BMP):

- Extracted from human tissue or synthetically fabricated in the lab
- Expensive, but stimulate bone to grow faster

2) Platelet-derived growth factors (PDGF):

- Naturally occurring proteins that regulate cell growth and division
- Expensive, but stimulate bone to grow faster

Types of Bone Grafts

- **Autografts (same patient's bone)**
- **Allografts (cadaver bone)**
- **Xenografts (animal bone or collagen)**
- **Alloplasts (synthetic material)**

Autografts (Same Patient)

- Also referred to as “autogenous” or “autologous” grafts.
- Source: patient’s own bone, usually harvested from their palate, hip, chin, or pelvic crest.
- Long considered to be the “Gold Standard” for bone grafting.

Allograft (Cadaver) Examples



(Demineralized Freeze Dried Bone)

DFDB crystals



Puros[®] Block (Zimmer)

Xenograft (Animal) Example

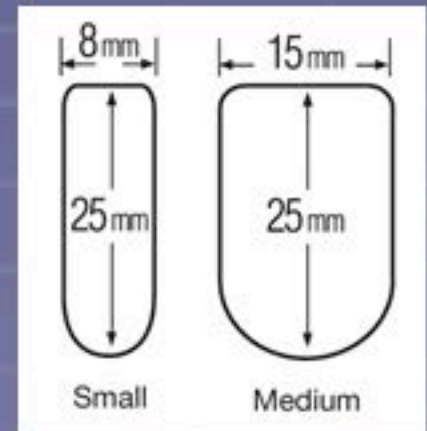
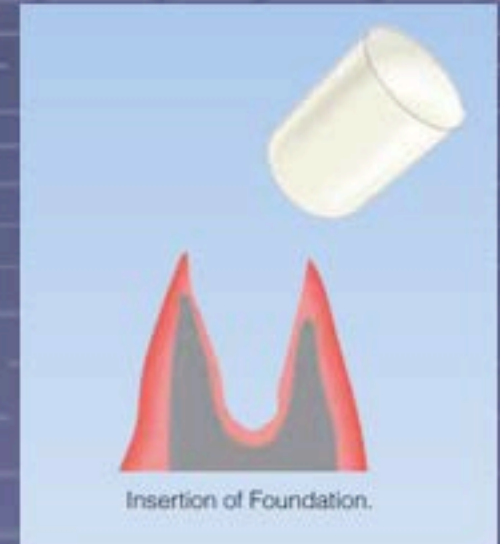


Powder (minerals of bovine bone) and sterile saline



Bio-Oss[®] (Osteohealth[®])

Xenograft (Collagen) Example

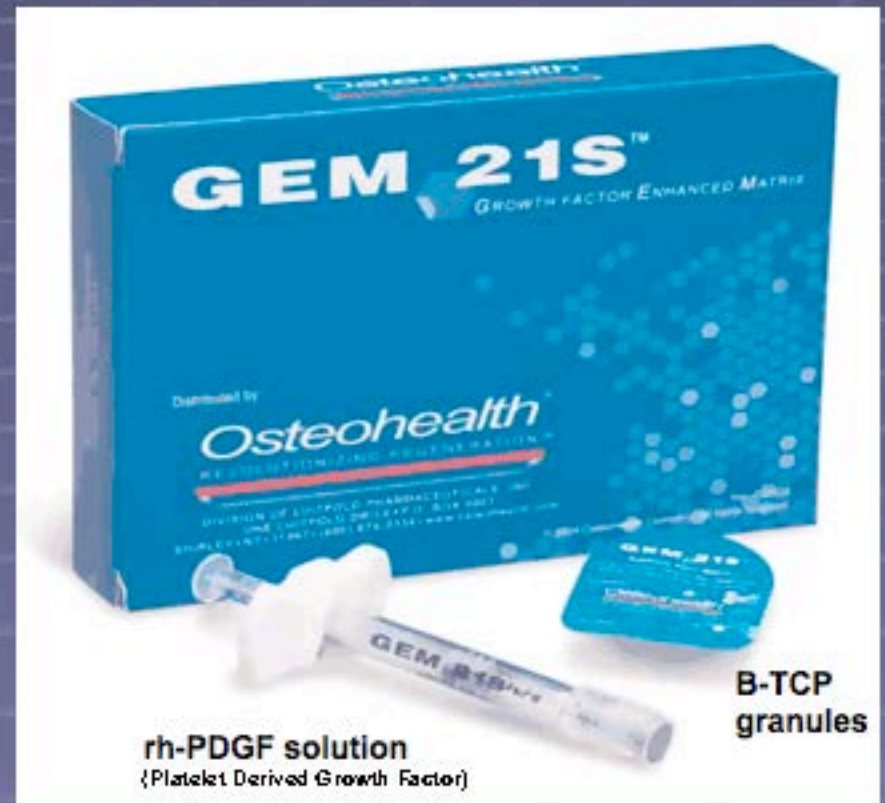


Foundation™ (J. Morita USA)

Alloplast (Synthetic) Examples



Bioplast® (Kerr)



Gem 21S™
(Osteohealth®)

A Win / Win for Dentist & Patient

- Preserves ridge/socket after any permanent tooth extraction
- Higher level of patient care
- Increase production
- 3rd molars

ROI – Increasing Production

- Typical fees for ridge preservation are anywhere from \$200-\$400 per socket
- As an example, J. Morita's Foundation costs a dentist approximately \$45 for a small plug (anterior teeth) and \$90 for the medium plug (posterior teeth)
- Clearly, providing this service can benefit your bottom line – in addition to protecting your patient's health

Insurance Codes

U.S.

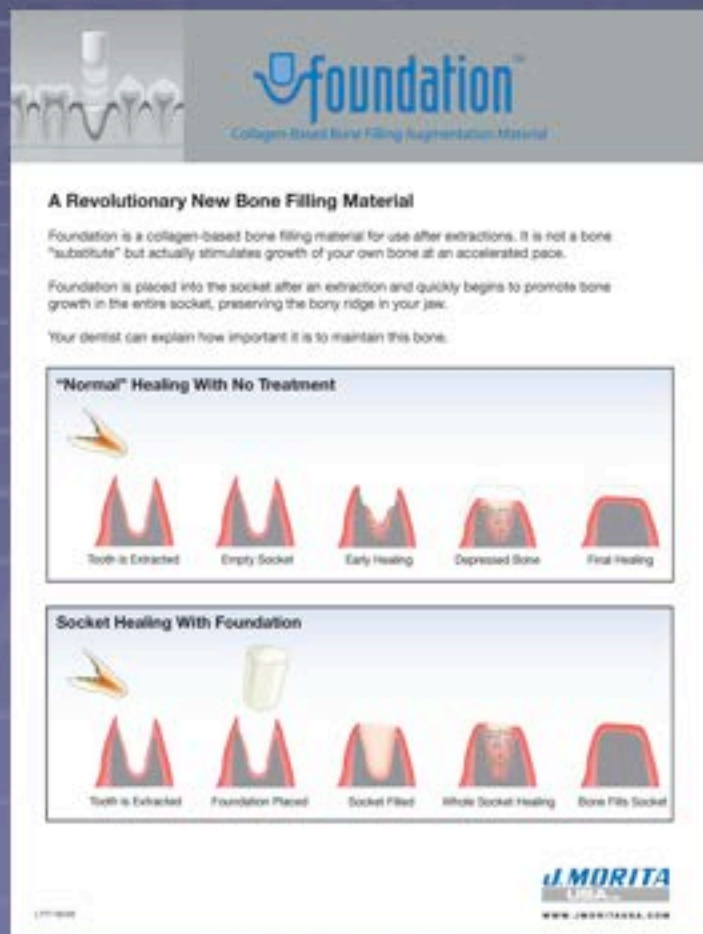
ADA-CDT Code #7953: "Ridge Preservation Bone Graft"

Canada

72431- Alveolar Bone Preservation-Xenograft (first socket)

72439- Alveolar Bone Preservation- Xenograft (each additional socket)

Patient Education



foundation
Collagen-Based Bone Filling Augmentation Material

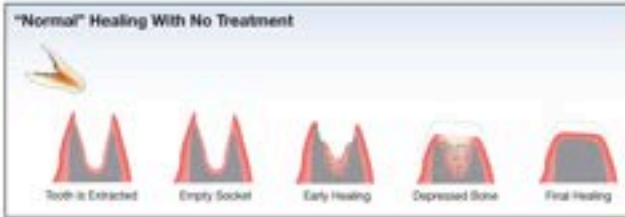
A Revolutionary New Bone Filling Material

Foundation is a collagen-based bone filling material for use after extractions. It is not a bone "substitute" but actually stimulates growth of your own bone at an accelerated pace.

Foundation is placed into the socket after an extraction and quickly begins to promote bone growth in the entire socket, preserving the bony ridge in your jaw.

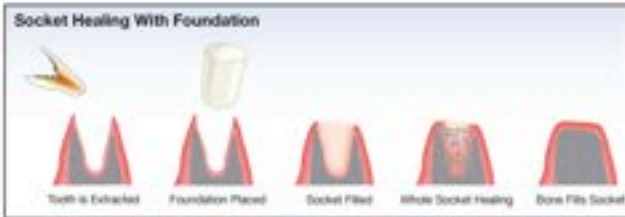
Your dentist can explain how important it is to maintain this bone.

"Normal" Healing With No Treatment



1. Tooth is Extracted 2. Empty Socket 3. Early Healing 4. Depressed Bone 5. Final Healing

Socket Healing With Foundation



1. Tooth is Extracted 2. Foundation Placed 3. Socket Filled 4. Whole Socket Healing 5. Bone Fills Socket

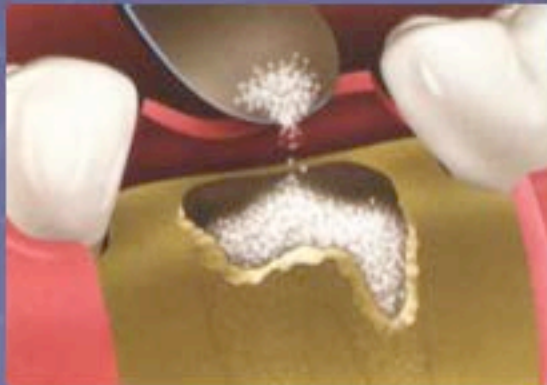
J. MORITA
U.S.A.
WWW.JMORITAUSA.COM

Sample of patient education form

- Education is key! Patient Education forms (available from some manufacturers) help patients understand the value of socket preservation.
- A valuable tool especially for patients who will pay out of pocket for this procedure.

Patient Education

Another example of helpful images to facilitate patient education.



Summary

- Bone grafting, socket preservation, and ridge augmentation have become key parts of dentistry, especially for implantology.
- New materials are making these procedures simpler without sacrificing predictability.
- Grafting/preservation/augmentation may soon become a routine procedure not only for the specialist, but also for the general practitioner.

Next: Video Presentation

- The overview portion of this CE course is now complete.
- Next, please watch the online video demonstrating a clinical application of a collagen-based, bone augmentation material.