

Comprehensive Bone Regeneration Solutions



BIOHORIZONS[®]
SCIENCE • INNOVATION • SERVICE

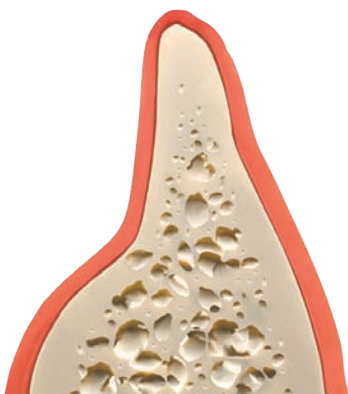




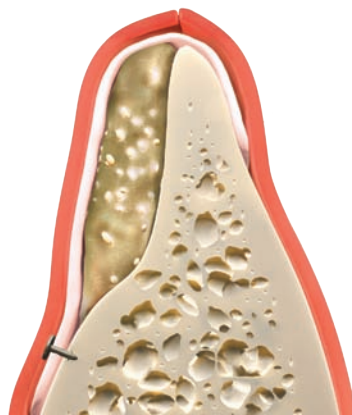
COMPREHENSIVE BONE REGENERATION SOLUTIONS

Achieving functional and esthetic results when placing a dental implant requires an adequate amount of quality bone. Many implant sites that are not suitable for dental implants due to inadequate bone height or width may be regenerated to allow successful implant placement. In fact, in the U.S. bone grafts are used in 49% of dental implant procedures to ensure sufficient bone height and width.¹

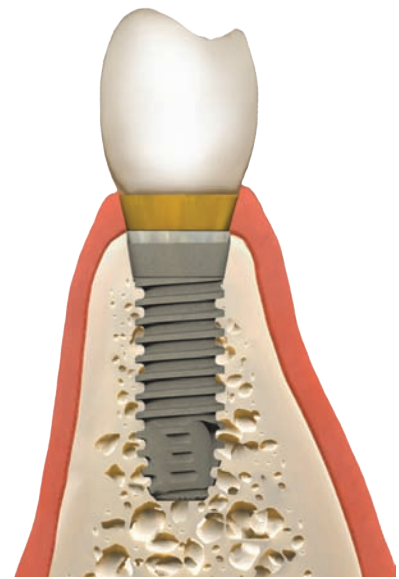
Our broad line of grafting products and ancillary instruments addresses all aspects of bone and soft tissue regeneration, allowing you to consistently achieve predictable clinical and esthetic results. The BioHorizons complete line of Regeneration products provides you with solutions to restore your patients to their intended functionality and appearance.



Inadequate bone width for successful implant placement.



Bone graft along with a membrane to contain the graft at graft site.



Adequate bone width regenerated for placement of a dental implant.

Excellent Biological Barrier

- Biocompatible acellular dermal matrix
- Supports regeneration of host bone
- Multiple sizes to adapt to defect site

Function and esthetics

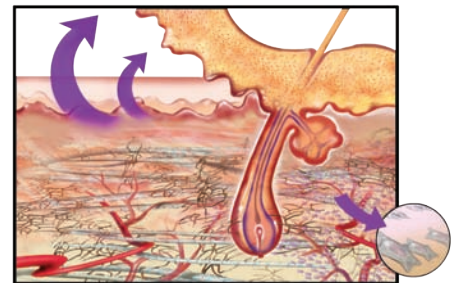
Guided Bone Regeneration (GBR) utilizing membranes can regenerate alveolar bone thereby widening the scope of implant indications. However membranes that resorb too slowly or do not resorb at all can lead to compromised esthetics and function. Conversely, AlloDerm GBR is remodelled into the host tissue producing **enhanced soft tissue and esthetics.**²

AlloDerm GBR technology

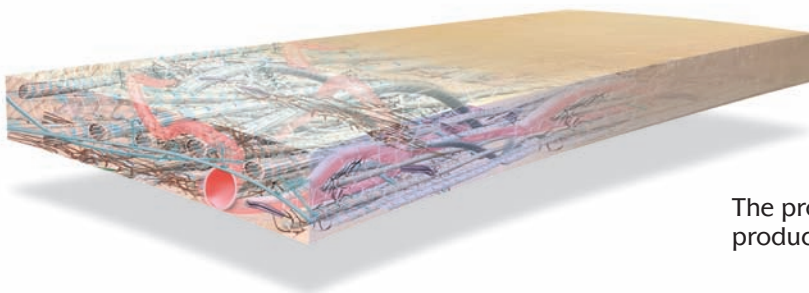
AlloDerm GBR allograft tissue is processed using LifeCell's patented matrix-preserving technology to remove epidermal and dermal cells, leaving behind an intact matrix consisting of collagens, elastin, vascular channels and proteins. The matrix supports the body's intrinsic tissue regeneration functions.

AlloDerm GBR minimizes challenges

Wound dehiscence and membrane exposure are particular concerns in GBR procedures, and can lead to a reduction in the amount of regenerated bone. However, AlloDerm GBR exposed during a GBR procedure has been shown to maintain the barrier function thus allowing the body to regenerate underlying bone.³



Processing of AlloDerm GBR - Removal of epidermis and cells

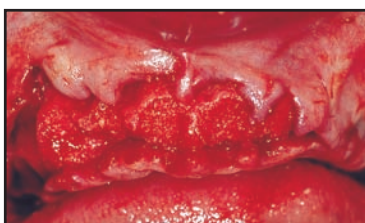


The processing of AlloDerm GBR produces an intact regenerative matrix.

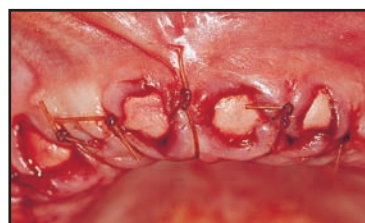
Guided Bone Regeneration

AlloDerm GBR is a biocompatible regenerative tissue matrix (*thickness range: 0.5 - 0.9mm*) that readily adapts to graft sites and can also be secured with sutures or tacks.

Photos courtesy of Dr. Craig Misch, Sarasota, Florida



Extraction sites grafted with Grafton® DBM



AlloDerm GBR in place as barrier membrane



Excellent hard and soft tissue results

AlloDerm GBR is not available in all countries.

Clinically Proven Bone Graft Substitute

- Validated for osteoinduction in an *in vivo* model
- Superior osteoconduction through Bone Fiber Technology
- Multiple forms offer excellent handling characteristics
- Biocompatible with a history of safety⁴

Multiple forms of GRAFTON DBM

Different formulations allow clinicians to use GRAFTON DBM (demineralized bone matrix) in a wide range of defects. GRAFTON DBM is available as Matrix Plugs, Putty in a jar or syringe, Flex, and Paste in a syringe.

Osteoinductive

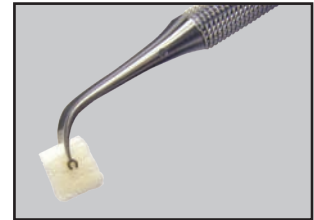
GRAFTON DBM has been proven osteoinductive in the athymic rat model and has the most robust osteoinductive response of all the DBM product offerings tested.^{5,1} Only GRAFTON DBM is indicated as a bone void filler, bone graft extender and bone graft substitute.⁶

Osteoconductive

GRAFTON DBM incorporates patented DBF (demineralized bone fibers) technology to ensure superior osteoconductivity. Studies show that a graft material which provides a scaffolding for new bone to build upon helps in the healing process.⁷

Multiple applications

- Extraction site grafting
- Sinus grafting
- Periodontal regeneration
- Ridge Augmentation



GRAFTON DBM Matrix Plugs - network of DBM Fibers



GRAFTON DBM Putty - network of DBM Fibers



GRAFTON DBM Flex - network of pressed DBM Fibers

Ref. Code	Description
GR-MTX	Matrix Plugs: 8mm x 8mm x 10mm (box of 5)
GR-PT.5	Putty in a Jar: 0.5cc
GR-PT1	Putty in a Jar: 1.0cc
GR-PT2.5	Putty in a Jar: 2.5cc
GR-PT5	Putty in a Jar: 5.0cc
GR-SYR.25	Putty in a Syringe: 0.25cc (box of 2)

Ref. Code	Description
GR-FL1.5	Flex Sheet: 1.5cm x 1.5cm
GR-FL2.5	Flex Sheet: 2.5cm x 5.0cm
GR-GEL0.5	Gel in a Syringe: 0.5cc
GR-GEL1	Gel in a Syringe: 1.0cc
GR-PLUS1	Paste in a Syringe: 1.0cc
GR-PLUS5	Paste in a Syringe: 5.0cc

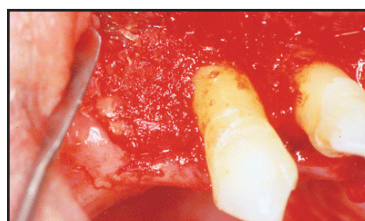
Periodontal Regeneration

Post-op histological analysis indicates presence of bone and periodontal ligament opposite the notch demonstrating GRAFTON DBM's ability to induce periodontal regeneration.⁸

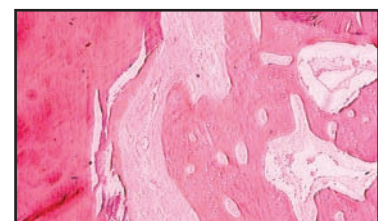
Photos courtesy of Dr. James Mellonig, San Antonio, Texas



Pre-op probing depth > 10 mm



The tooth was given a reference notch, the defect was filled with GRAFTON DBM



Post-op histology showing bone and PDL opposite reference notch

GRAFTON DBM is not available in all countries.

Function Follows Form

- Biocompatible mineralized allograft bone chips
- Controlled remodeling and resorption rate
- Space and volume maintenance
- Preferred particle size range (600 - 1250 microns)

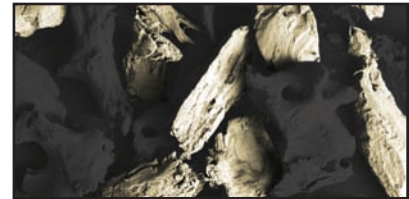
Ideal particle size - ideal composition

MINEROSS is a mixture of mineralized allograft cortical and cancellous bone chips. The slower resorbing cortical component maintains space and volume while the cancellous chips provide a relatively faster resorbing osteoconductive scaffold for the rapid ingrowth of bone cells that deposit new bone and remodel the graft into host bone.

MINEROSS offers the convenience of having cortical and cancellous chip combination in one vial. MINEROSS has demonstrated excellent outcomes in a wide range of bone regeneration procedures.

Multiple applications

- Ridge and sinus augmentation
- Socket grafting
- Periodontal defects
- Grafting for implant placement
- Composite grafting with GRAFTON DBM



Cortical chips provide space maintenance function

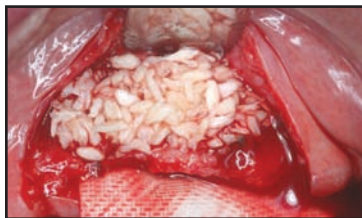


Cancellous chips provide osteoconductive scaffold

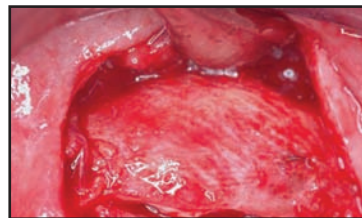
Ref. Code	Description
MO-C0.5	Vial: 0.5cc
MO-C1.0	Vial: 1.0cc
MO-C2.5	Vial: 2.5cc

MINEROSS facilitates new bone formation through retaining the inherent osteoconductive properties of human bone. MINEROSS serves as a scaffold for the in-growth of bone cells which replace and ultimately remodel the graft into host bone.

Ridge Augmentation

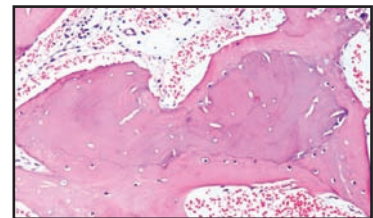


Defect site treated with MINEROSS



5 month post-op demonstrating increased bone width

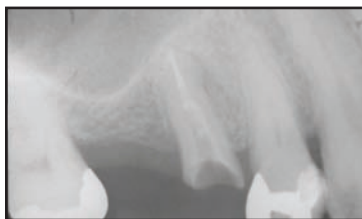
Photos courtesy of Dr. Yuval Zubery, Israel



Post-op histology illustrating vital bone around residual MINEROSS particles

Bone Regeneration

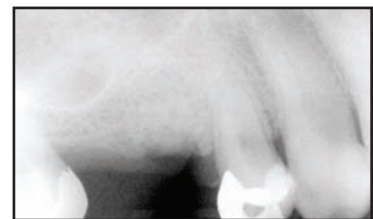
Photos courtesy of Dr. Michael Reddy, Birmingham, Alabama



Pre-op radiograph indicating lack of bone structure



Defect site treated with MINEROSS



Post-op radiograph indicating increase in bone structure

MINEROSS is not available in all countries.

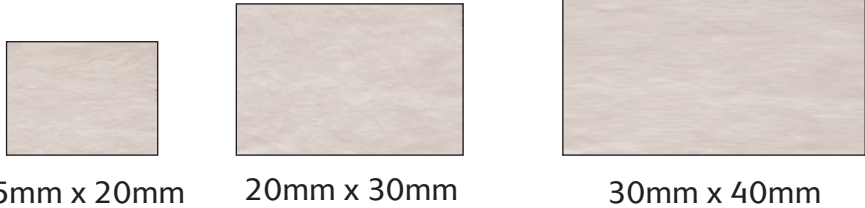
Merging Cell Biology & Technology

- Highly purified biocompatible Type I Collagen membrane of bovine origin
- Predictable resorption time of 26-38 weeks⁹
- Cell occlusive membrane prevents soft tissue ingrowth
- Macromolecular pore size allows vital nutrient diffusion
- Favorable handling characteristics for various procedures
- Resists tearing while suturing



Ref. Code	Description
RCM-ML1520	Resorbable Collagen Membrane: 15mm x 20mm
RCM-ML2030	Resorbable Collagen Membrane: 20mm x 30mm
RCM-ML3040	Resorbable Collagen Membrane: 30mm x 40mm

Mem-Lok is available in these convenient sizes. Examples are shown to scale.



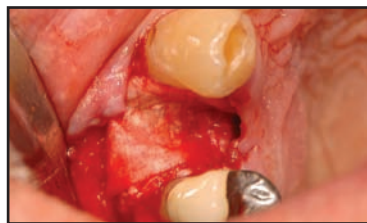
Extraction Socket Grafting for Ridge Preservation

Biological barrier membrane with mechanical strength and resorption kinetics optimized for guided bone regeneration.

Photos courtesy of Dr. Lewis C. Cummings, Kingwood, Texas



Extraction site with advanced bone loss extending to distal surface of canine



Defect is grafted with MinerOss and covered with Mem-Lok membrane



4 month post-op demonstrating excellent soft tissue healing

References

1. IDATA RESEARCH INC., 2006
2. Novaes AB, Souza SL. Acellular dermal matrix graft as a membrane for guided bone regeneration: A case report. *Implant Dent* 2001 Sept; 10(3):192-195.
3. Park SH, Wang HL. Management of localized buccal dehiscence defect with allografts and acellular dermal matrix. *Int J Periodontics Restorative Dent* 2006 Dec; 26(6):589-595.
4. NAMS Study # 7613
5. Data on File. 04-007A Summary report osteoinduction of competitor materials in the athymic rat. GRAFTON DBM Gel as compared to the osteoinductivity of Osteofil®, Dynagraft® II, Allomatrix®, DBX®, Accell® DBM 100, Integro® DBM and Orthoblast® II when measured in the athymic rat.
6. GRAFTON DBM forms and GRAFTON Plus DBM Paste are FDA 510(k) cleared for use as a bone void filler, bone graft extender and bone graft substitute.
7. Martin GJ, Boden SD, Titus L, Scarbrough NL. New formulations of demineralized bone matrix as a more effective graft alternative in experimental posterolateral lumbar spine arthrodesis. *Spine* 1999 Apr; 24(7):637.
8. Hartman G, Mills M, Cochran D, Mellonig JB. Histological evaluation of GRAFTON in human periodontal intraosseous defects. Submitted to *Int J Periodontics Restorative Dent* 2004.
9. JB Ulrich, G Zudlich, HB Lin, ST Li. Prediction of In Vivo Stability of a Resorbable, Reconstituted Type I Collagen Membrane by In Vitro Methods. 2000 Society World Biomaterials Congress Transactions, Sixth World Biomaterials Congress Transactions.

* Not a predictor of human performance.

Mem-Lok is not available in all countries.

GBR INSTRUMENTATION

AutoTac® System Kit

- Efficient “no touch” tack system
- Convenient one-handed delivery system
- Effective stabilization of membrane

The BioHorizons AutoTac System Kit efficiently and effectively fixes membranes to underlying bone with the push of a button on the patented AutoTac Delivery Handle. The 2.5mm titanium alloy tacks remain securely in place through the healing process.



Ref. Code	Description
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400-270	AutoTac System Kit includes:
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- | | |
|--|--|
| | <ul style="list-style-type: none">• Delivery Handle• Autoclavable Titanium Tack Cassette (pre-loaded with 21 Titanium Tacks)• Forceps• Sterilization Tray |
|--|--|

Bone Fixation Screw Kit

- Compact kit that is conveniently organized
- Drills may be used with both latch-type and friction grip handpieces
- Precise engineering to ensure effective delivery of screw

The BioHorizons Bone Fixation Screw Kit is precision-machined with titanium alloy components and is immensely helpful for stabilizing block grafts in onlay bone grafting procedures. The kit is conveniently organized for efficient retrieval of instruments and screws. Cortical bone drills (for both latch-type and friction-grip handpieces), flexible titanium mesh and multiple screw sizes offer the versatility to meet clinical demands.

Ref. Code	Description
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160-900	Bone Fixation Screw Kit includes:
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- | | |
|--|---|
| | <ul style="list-style-type: none">• 24 Screws<ul style="list-style-type: none">- (6) 1.4 x 8mm Micro Screws- (6) 1.4 x 10mm Micro Screws- (6) 2.0 x 10mm Mini Screws- (6) 2.0 x 12mm Mini Screws• Flexible Micro Mesh• Comprehensive Instrument Set• Screwdriver Body• Autoclavable Screw Block with Lid |
|--|---|

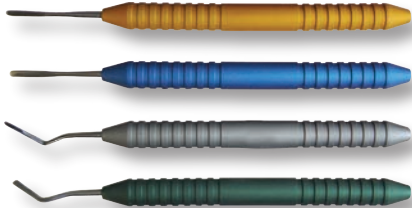


AutoTac System Kit and Bone Fixation Screw Kit are not available in all countries.

BONE GRAFTING INSTRUMENTS

Bone Grafting Instruments

- Complete line of Bone Regeneration instruments
- Broad range of instruments to meet surgical needs
- Superior instrument design, materials and technology



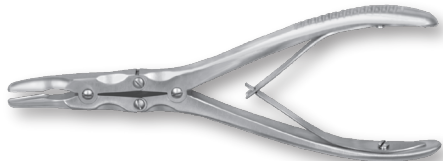
Periostome Set

Available in 4 different blade configurations - thick, thin and angled - and are color coded for easy identification. Gold and blue periostomes are indicated for buccal and lingual sides of the tooth. Gray and green periostomes are for the mesial and distal side of the tooth. Purchased as a complete set or individually.



Membrane Placement Instrument

Combination pointed and curved narrow placement design is ideal for use with periodontal membranes. The pointed end allows for membrane manipulation. The curved end is used for membrane positioning in and around flaps.



Double Hinged Rongeur

Used for trimming and recontouring alveolar and cortical bone. Also used to harvest bone from donor sites. The double action mechanism permits greater force to be exerted at the tip with minimal force at the handles.



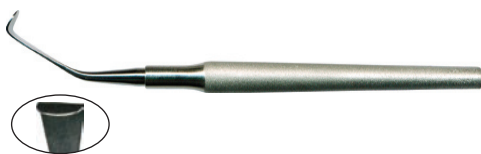
Bone Mill

Hand-held bone mill used to create particulate bone from harvested autogenous bone.



Bone Grafting Syringe

Introduces graft material into the recipient site. 7mm diameter tube for injecting large amounts of bone material. Curved end facilitates introduction of the graft in difficult to reach areas.



Misch Sinus Graft Retractor

Permits easy access and reflection of the mucosal flap along the zygomatic arch to expose the sinus window. 10mm flare.



Trephines

For use in harvesting autogenous bone. Set includes 6 trephines (2mm, 4mm, 6mm, 8mm, 10mm and 12mm) and autoclavable bur cushion. May also be purchased individually. Bur cuts to a maximum depth of 9.8mm. Used with latch-type contra-angle handpieces.

Please ask your BioHorizons product support specialist for more information on these and many other BioHorizons instruments. Products shown not to scale.



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Not all products shown or described in this literature are available in all countries.
GRAFTON® DBM and MINEROSs® are processed by Osteotech, Inc. AlloDerm® and AlloDerm® GBR™ are processed by LifeCell.
Mem-Lok® is manufactured by Collagen Matrix, Inc.

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