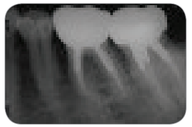
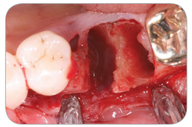
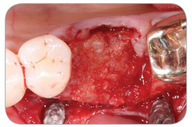


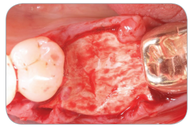
#19 Vertical root fracture



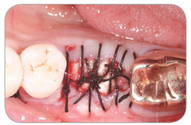
Complete resorption of the mesial buccal root



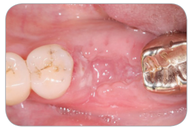
DynaBlast® placed in extraction socket



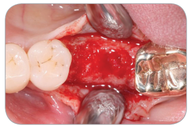
DynaMatrix® membrane placed



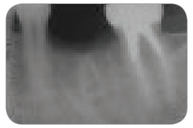
Sutured site



Soft tissue healing at 3 weeks



12 weeks complete socket reconstruction

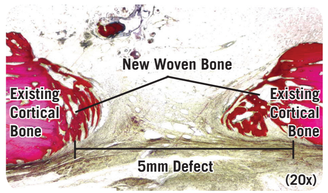


12 weeks post-op

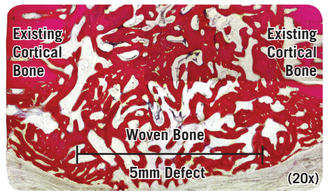
"I use DynaBlast® for all my bone grafting procedures. Both the DynaBlast® putty and paste consistently produce predictable clinical results"

-- Courtesy: Timothy M. Blieden, DDS, MS, PhD - Rochester, New York

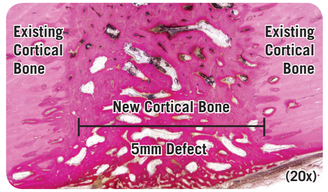
Pre-Clinical Performance - Demonstrated bone formation in a large load-bearing animal model



Minimal bone regeneration was observed within the defect. Healing was limited to the area adjacent to the existing cortical bone.



Prolific woven bone was seen bridging the defect at 8 weeks. Active remodeling was evident with no adverse inflammatory response.



16 weeks - Healing of defect demonstrated by the transformation of woven bone to new cortical bone

DynaBlast® Safety

Sterilization procedure for bone graft products

Keystone Dental bone graft products are produced in HEPA filtered clean rooms with environmentally/microbiologically monitored air. After final packaging, each product is sterilized to an assurance level of 10^{-6} using a validated procedure involving the use of electron beam (e-beam) irradiation. By incorporating e-beam sterilization as the last step of the manufacturing process, Keystone Dental provides bone graft products that feature the highest standards of safety—a primary concern of surgeons and patients alike.

Safety of Demineralized Bone Matrix

Keystone Dental takes many steps to ensure that the demineralized bone matrix (DBM) provided is of the highest quality and safety. This includes obtaining tissue from tissue banks that comply with all tissue banking standards as provided by the Food and Drug Administration (FDA) and the Clinical Laboratory Improvement Amendments (CLIA).

Donor Screening & Testing

Each lot of DBM is obtained from a single human donor and is not pooled with other donors. Potential tissue donors are rigorously screened by the tissue bank in compliance with FDA requirements, including serological testing performed by a CLIA certified laboratory.

REFERENCES

1. Wientroub S, Reddi AH. Influence of irradiation on the osteoinductive potential of demineralized bone matrix. Calif Tissue Int 1988; 42:255-60.

2. Scarborough NL, While EM, Hughes JV, et al. Allograft safety: viral inactivation with bone demineralization. Contemp Orthop 1995;31(4):257-61.

3. Mellonig JT, Prewett AB, Moyer MP, et al. HIV inactivation in a bone allograft. J Periodontal 1992;63(12):979-83.

HISTOLOGY

"Histological Screening of Graft Materials Using An Ovine Model Phase 1 – 6 treatment 4 and 4A vs. Empty and Autograft Filled Defects"
PI - Donna L. Wheeler, PhD Department of Mechanical Engineering/Biomedical Engineering Colorado State University
I (surgical aspect) – A Simon Turner, B.V.Sc., MS. Orthopedic Bioengineering Research Lab, Colorado State University. November 22, 2004

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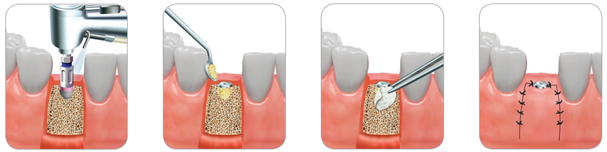
DynaBlast®

A powerful 2-in-1 solution

DynaBlast® is an allograft material that contains both demineralized and mineralized bone in a proprietary, Reverse Phase Medium carrier. DynaBlast® stimulates new bone growth while providing a natural structural scaffold to support new bone formation.

Implant Dehiscence



1. Implant Placement
2. Dehiscence grafting
3. Membrane positioning
4. Closure

Extraction Socket

1. Atraumatic Tooth Extraction
2. Syringe graft material into extraction socket
3. Primary closure

Signals

Proven osteoinductive properties of demineralized bone stimulates the growth of new bone. [1-3]

Cells

Patient's own osteoblasts, osteoclasts and mesenchymal stem cells integrate with DynaBlast graft material

Scaffolds

Mineralized cancellous chips in this unique formulation provide the osteoconductive elements to encourage the attachment of osteogenic precursor cells. Scaffold maintains volume of the defect site while anchoring surrounding cells.

Dependable Bone Growth

DynaBlast® is a powerful 2-in-1 combination of osteoconductive and osteoinductive elements[1-3] to promote new bone growth. Demineralized bone provides active signals to stimulate bone regeneration and mineralized cancellous chips provide a natural structural scaffold to encourage the attachment of osteogenic precursor cells.

Indications for Use

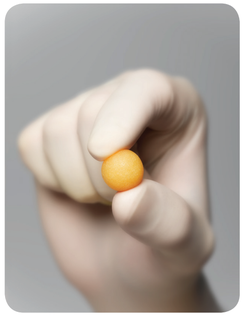
- Filling of defects after tooth resection, apicoectomy and cystectomy
- Filling of extraction sockets to enhance preservation of the alveolar ridge
- Elevation of maxillary sinus floor

Designed to Stay in Place

The proprietary Reverse Phase Medium carrier thickens at body temperature, resists both irrigation and suction and allows for guided clot formation and easy vascularization. DynaBlast® stays in place, with no bone chips migrating from the site—alleviating possible irritation and patient concern.

1. Clokie C, Urist MR. Bone Morphogenetic Protein Excipients: Comparative Observations on Poloxamer. Plast Reconst Surg 2000;105: 628.
2. Coulson R, Clokie C, Peel S. Collagen and a Thermally Reversible Poloxamer Deliver Demineralized Bone Matrix (DBM) and Biologically Active Proteins to Sites of Bone Regeneration. Proc Portland Bone Symp 1999. p. 619-637.
3. Kay, JF. Validated Assay for Measuring Osteoinductivity of Human Demineralized Bone Matrix, Integra OrthoBiologics Publication.

DynaBlast® Provides a Unique Bone Growth Dynamic



Easy Handling

DynaBlast® is available as a moldable putty or a flowable paste in a prefilled syringe. Both are premixed for easy application without refrigeration - no additional time required for thawing, mixing or setting the material.

DynaBlast® Demateralized Bone Matrix with Cancellous Bone	Catalog Number
DynaBlast® paste (in syringe) 0.5cc	10.210.1050
DynaBlast® paste (in syringe) 1.0cc	10.210.1060
DynaBlast® paste (in syringe) 3.0cc	10.210.1070
DynaBlast® putty (in vial) 1.0cc	10.220.1030
DynaBlast® putty (in vial) 2.5cc	10.220.1040
DynaBlast® putty (in vial) 5.0cc	10.220.1050