Advanced Orthobiologic Solutions
Intelligently designed to support bone healing.

ACTIVATE YOUR FUSION.
A force of nature against non-unions.

Literature shows that non-union rates are notoriously high for hindfoot and ankle fusions due to the physical challenges of those mobile areas: increased mechanical load, restricted blood supply and thin soft tissue coverage. That risk dramatically increases with patient co-morbidities. But it doesn’t have to be the case. Research shows that orthobiologics, including bone graft and bone graft substitutes, can help improve fusion rates. Although autograft is ideal, it has many limitations, including donor site morbidity, increased operative time and limited autograft material. That’s where we step in.

<table>
<thead>
<tr>
<th>Hindfoot and ankle fusions in healthy patients</th>
<th>Patients with co-morbidities such as diabetes and smoking</th>
</tr>
</thead>
<tbody>
<tr>
<td>10–18% non-union rate</td>
<td>41% non-union rate</td>
</tr>
</tbody>
</table>

Build new life at the site.

Biologically active grafts fused with superior handling characteristics.

To rebuild bone and revitalize tissue, the most viable solutions are full of life. That’s the science behind our next-generation portfolio of orthobiologics. They’re intelligently designed to nurture recovery through vitality, combining the power of biologically active cells and growth factors with superior handling characteristics. Our solutions stand up to every challenge and fill every void, helping to stimulate new life at the surgical site.

Activate your fusion with Medline UNITE orthobiologics.
Osteogenic Cells that differentiate and develop into osteoblasts which form new bone

Sources: Cells from autograft bone, bone marrow aspirate (BMA), cryopreserved allograft bone cells

Osteoinductive Stimulate Growth factors such as BMPs that recruit and stimulate a patient’s own cells to differentiate into osteoblasts

Sources: BMPs (growth factors) from allograft demineralized bone matrix

Superior Handling Shape Moldability and irrigation resistance to fill voids and defects of all shapes and sizes

Sources: Cortical Fibers, Synthetic Carriers

Osteoconductive Support Physical scaffold that supports cellular activity and bony ingrowth

Sources: Allograft bone chips, bone fibers, and synthetics/ceramics, such as β-TCP and HA

4 factors for better bone regeneration. Our advanced orthobiologics deliver on them all.
Activate the right bone grafting solution for every case.

<table>
<thead>
<tr>
<th>Graft texture</th>
<th>Synthetic Bioactive Putty</th>
<th>Demineralized Fiber Putty</th>
<th>Fiber Viable Bone Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIGLASS™</td>
<td>ACTISTIM™</td>
<td>ACTIVI™</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Osteoconductive</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoinductive</td>
<td>—</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Osteogenic</td>
<td>—</td>
<td>—</td>
<td>Yes</td>
</tr>
<tr>
<td>Osteostimulative</td>
<td>Yes</td>
<td>—</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Bioactive glass, beta tricalcium phosphate, hydroxyapatite</th>
<th>Allograft</th>
<th>Allograft</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Clinical applications</th>
<th>Situations where moldability, graft containment and irrigation resistance are the primary consideration (larger bone voids).*</th>
<th>Situations where the use of allograft is desired, but viable cells are not necessary (smaller voids in otherwise healthy patients).*</th>
<th>Situations where viable cells are desired (primary fusions for smokers and diabetics, revisions, and non-unions).*</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Storage</th>
<th>Ambient Temp</th>
<th>Ambient Temp</th>
<th>Cryopreserved (-75° C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>Ready to use</td>
<td>Ready to use</td>
<td>Thaw only (no mixing or decanting required)</td>
</tr>
</tbody>
</table>

*Based on a survey completed by surgeons.
Build bone with a pliable synthetic putty that mimics the power of nature.

Surgery-ready and designed to provide a rapid, bioactive response, optimized resorption profile and unparalleled handling characteristics.

- **Optimized combination** and ratio of biomaterials to support bone healing at all stages
- **Bioactive glass** kickstarts the healing process with an osteostimulative effect.
- **Controlled resorption profile** with biphasic granules (ß-TCP and HA components)
- **Highly moldable and waxy consistency** in a rapidly resorbing Alkylene Oxide Polymer carrier
- **Optimized granule structure and porosity** mimics human cancellous bone

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSBG0375</td>
<td>3.75 g</td>
</tr>
<tr>
<td>MSBG0750</td>
<td>7.5 g</td>
</tr>
</tbody>
</table>
Actively stimulate bone growth at the source.
100% human allograft fuses ideal biological properties with excellent handling characteristics to help aid in bone healing.

Deminerlized cortical fibers increase graft surface area to promote osteoconductivity, powered by the presence of bone morphogenetic proteins (BMP-2).

**Versatile graft option**
for small voids

**3D interwoven fiber scaffold**
ofers greater osteoconductive surface area vs. traditional crushed cancellous bone

**Improved handling and wicking**
vs. traditional putties and chips

**Carrier-free formulation** allows for immediate start to the bone healing process

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<tr>
<th>Item No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDBM1010</td>
<td>1 cc</td>
</tr>
<tr>
<td>MDBM1025</td>
<td>2.5 cc</td>
</tr>
<tr>
<td>MDBM1050</td>
<td>5 cc</td>
</tr>
<tr>
<td>MDBM1100</td>
<td>10 cc</td>
</tr>
</tbody>
</table>

'Demineralized Fiber Putty' is compared to 1-4mm cancellous chips.

*M greater surface area to volume ratio.*
Fiber Viable Bone Matrix

Restore vitality with bone-building living cells.
Quality and quantity for unparalleled results. State-of-the-art processing technology is used to preserve a healthier population of 650,000 viable allograft cells per cc, building a solid grafting foundation with a 3D interwoven fiber scaffold.

Unique processing technology protects healthy cell population and viability by reducing cell-damaging processing steps.*

Greater osteogenic potential and cell proliferation capability vs. traditionally processed cellular bone allografts*

Greater osteoinductive potential and BMP-2/BMP-7 levels vs. traditional demineralized bone

3D interwoven fiber scaffold offers greater osteoconductive surface area versus traditional crushed cancellous bone

Improved handling, wicking and mixing vs. traditional cellular allografts

<table>
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<tr>
<th>Item No.</th>
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</tr>
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<tr>
<td>MVBG0010</td>
<td>1 cc</td>
</tr>
<tr>
<td>MVBG0020</td>
<td>2 cc</td>
</tr>
<tr>
<td>MVBG0050</td>
<td>5 cc</td>
</tr>
<tr>
<td>MVBG0100</td>
<td>10 cc</td>
</tr>
</tbody>
</table>

** Including MSCs, osteoprogenitors and osteoblasts.
Grow new possibilities with our complete suite of orthobiologic solutions.

**DBM Gel Paste**
Extrudable and injectable for confined spaces. Ideal for smaller, distal extremity applications.

**Amnion Solutions**
- **Item No.** MALQ1005D
  - **Description:** Ambient Liquid
  - **Size:** 0.5 mL
- **Item No.** MALQ1010D
  - **Description:** Ambient Liquid
  - **Size:** 1.0 mL
- **Item No.** MALQ1020D
  - **Description:** Ambient Liquid
  - **Size:** 2.0 mL
- **Item No.** MA832
  - **Description:** Dual Layer Patch
  - **Size:** 2 x 3 cm
- **Item No.** MA833
  - **Description:** Dual Layer Patch
  - **Size:** 4 x 4 cm
- **Item No.** MA834
  - **Description:** Dual Layer Patch
  - **Size:** 4 x 6 cm
- **Item No.** MA835
  - **Description:** Dual Layer Patch
  - **Size:** 4 x 8 cm

**Cancellous Chips**
100% human allograft
- **Item No.** MCAN0050
  - **Description:** 1-4mm
  - **Size:** 5 cc
- **Item No.** MCAN0100
  - **Description:** 1-4mm
  - **Size:** 10 cc
- **Item No.** MCAN0150
  - **Description:** 1-4mm
  - **Size:** 15 cc
- **Item No.** MCAN0300
  - **Description:** 1-4mm
  - **Size:** 30 cc
- **Item No.** MCAN1100
  - **Description:** 4-10mm
  - **Size:** 10 cc
- **Item No.** MCAN1150
  - **Description:** 4-10mm
  - **Size:** 15 cc
- **Item No.** MCAN1300
  - **Description:** 4-10mm
  - **Size:** 30 cc
Ready when you are.

Pre-Hydrated Reconstructive Bioimplants

**Pre-hydrated for speed and strength**
Bioimplants are processed, packaged and stored fully hydrated for immediate use.
- Eliminates idle time
- Preserves structural integrity of the graft
- Reduces the likelihood of intra- and post-operative graft crumbling and subsidence

**Pre-shaped for stronger performance**
Made of dense cancellous bone, each bioimplant is pre-shaped to eliminate the time and waste of cutting a bone block.
- Withstands the physical demands placed on structural grafts
- Full incorporates and resorbs
- Removes easily if needed

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<thead>
<tr>
<th>Item No.</th>
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<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MWCT0005</td>
<td>Cotton</td>
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</tr>
<tr>
<td>MWCT0006</td>
<td>Cotton</td>
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<td>MWCT0007</td>
<td>Cotton</td>
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<td>8MM</td>
</tr>
<tr>
<td>MWEV0010</td>
<td>Evans</td>
<td>10MM</td>
</tr>
<tr>
<td>MWEV0012</td>
<td>Evans</td>
<td>12MM</td>
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<td>Utility</td>
<td>12MM</td>
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<td>MWMP0011</td>
<td>MTP Revision</td>
<td>11MM</td>
</tr>
<tr>
<td>MWMP0018</td>
<td>MTP Revision</td>
<td>18MM</td>
</tr>
</tbody>
</table>

Associated instrumentation

**Articulating Pin Distractor**
Allows you to adjust the correction, while providing unobstructed access to the osteotomy.

**Wedge Trials**
Allows you to view the correction visually and fluoroscopically before selecting the appropriate size wedge.

**MTP Reamers**
Cup, Cone and Acorn reamers allow you to match up the graft and the patient’s bone for a perfect fit.
REFERENCES.


To learn more or schedule a case, contact your Medline UNITE Representative or visit medlineunite.com.