Endobon® Xenograft Granules With OsseoGuard® And OsseoGuard Flex® Barrier Membranes

Tissue Management Treatment Solutions
Bone Graft Substitute

- Bovine-derived hydroxyapatite that has been fully deproteinized by a two-step, high temperature process for safety.
- An essentially non-resorbable material that is ideally suited for regeneration of bone defects when effective space maintenance is required.
- Osseoconductive due to the interconnecting micro and macro pores for bony integration, which facilitate graft stability and vascular ingrowth\(^1\).
- Packaged in easy to open dishes. Large volumes (5 ml and 8 ml) are individually packaged in 1 ml containers for sterility.

Endobon Xenograft Granules Adhere to one another when hydrated for easy transfer to the defect.

Manufacturer: Biomet France Sarl

Small Granules

500–1000 µm particle size typically preferred for grafting smaller defects, such as in extraction sockets.

Large Granules

1000–2000 µm particle size typically preferred for grafting large defects, such as sinus elevations because less material is needed with larger-sized particles.

Endobon Xenograft Granules Are Indicated For Dental And/or Oral Surgical Procedures, Such As:

- Alveolar ridge augmentation/reconstruction
- Filling of bone defects after root resection, cystectomy and apicectomy
- Filling socket after tooth extraction
- Sinus elevation

SEM images of Endobon Xenograft Granules at 20x and 100x showing the micro and macro pores in the particles.

OsseoGuard Membranes

Barrier Membranes

- Resorbable collagen membranes designed for optimal strength, resorption, handling and biocompatibility.
- Made of highly purified collagen from safe bovine sources.
- A proprietary manufacturing process provides both membranes with a long resorption profile (6–9 months); well suited for Guided Bone Regeneration (GBR) procedures.
- OsseoGuard Membranes provide a protective barrier against soft-tissue invasion of a defect space.
- Two different levels of flexibility for ease of use in various clinical scenarios.
- Ability to tack or suture if desired.
- Three sizes are supplied sterile and are in double peel pouches for different defect sizes.

OsseoGuard

Slightly more rigid for space maintenance.

OsseoGuard Flex

Intact tissue membrane for a higher degree of flexibility. Performs when primary closure has not been achieved.2*

Indications:

- Extraction sockets
- Localized ridge augmentation
- Alveolar ridge reconstruction
- GBR in dehiscence defects
- GTR in periodontal defects

Manufacturer: Collagen Matrix, Inc., Oakland, NJ

* Clinical experience with OsseoGuard Flex has shown that the membrane shows no signs of inflammation or infection in cases where primary closure has not been achieved. The exposed area is healed by soft tissue covering the exposure within a few weeks while the membrane maintains its barrier function.

2. Clinical cases on file with Zimmer Biomet Dental
Osseoguard Membrane

• The Osseoguard Membrane is designed for combined strength, resorption and handling.
• Made of highly purified Type I collagen, derived from bovine Achilles tendon.

This provides:

• Combined strength to support suturing and good handling characteristics.
• A long resorption profile (6–9 months) suited for the healing time required in many GBR procedures.³

Manufacturer: Collagen Matrix, Inc., Oakland, NJ

Clinical Images Provided By: Dr. Francisco Enrile, Huelva, Spain.

The OsseoGuard Flex Membrane performs when primary closure has not been achieved.2
The OsseoGuard Flex Membrane is designed for combined strength and drapability, resorption and handling.
Made from highly purified intact bovine dermis tissue composed of Type I and Type III collagen.

This provides:
- Flexibility to drape over the defects.
- A long resorption profile (6–9 months) suited for the healing time required in many GBR procedures.4
- The ability to aid in gingival healing even when left exposed in a posterior molar extraction site.5

Manufacturer: Collagen Matrix, Inc., Oakland, NJ

** Primary closure is recommended. If exposed, resorption time will be shorter.
† Dr. del Castillo has a financial relationship with Zimmer Biomet Dental resulting from speaking engagements, consulting engagements and other retained services.
Case Studies

Anterior Ridge Augmentation

Fig. 1: Extraction sockets of the four maxillary incisors and immediate implant placement.

Fig. 2: Grafting with Endobon Xenograft Small Granules covered by an OsseoGuard Resorbable Collagen Membrane.

Fig. 3: The soft-tissue flaps were closed and sutured.

Fig. 4: Clinical appearance of soft tissue showing excellent soft-tissue healing after four months.

Fig. 5: Clinical appearance of the regenerated site at four months after removing the remnants of the membrane.

Fig. 6: Occlusal view after four months.

Post-Extraction Defects in the Aesthetic Zone

Fig. 7: Post-extraction defects in the maxilla right central and lateral incisor area.

Fig. 8: Occlusal view of the extraction site defects.

Fig. 9: Facial view of dehiscence defects after implant placement.

Fig. 10: Occlusal view of implants and defects.

Fig. 11: Grafting with Endobon Xenograft Small Granules covered by an OsseoGuard Resorbable Collagen Membrane.

Fig. 12: Regeneration at four months after removing the remnants of the membrane.

Clinical Images Provided By: Dr. Xavier Vela†, Barcelona, Spain

† Dr. Xavier Vela has a financial relationship with Zimmer Biomet Dental resulting from speaking engagements, consulting engagements and other retained services.
**Histological Study of Endobon Xenograft Granules in Sinus Floor Augmentation**

“**The Clinical and Histological Efficacy of Xenograft Granules for Maxillary Sinus Floor Augmentation**”

A study led by Dr. Myron Nevins at the Harvard School of Dentistry published in The International Journal Of Periodontics & Restorative Dentistry (2011 Jun;31(3):227-235), highlights the positive results that clinicians achieved when using Endobon Xenograft Granules in patients requiring sinus augmentation procedures prior to implant placement.

**At six months postoperatively, the following observations were made:**

- Bone formation at the osteotomy site ranging from 16.2% to 43.6% was observed in all patients.
- Histologic evaluation showed Endobon Xenograft Granules to be integrated and surrounded by woven bone and in close contact with the particles.
- No inflammatory cells were present and there were no signs of Xenograft resorption.
- Evidence was observed of woven bone undergoing remodeling and maturing to well-organized lamellar bone. Some areas of the newly formed bone were undergoing remodeling, maturing from woven bone (WB) to well-organized lamellar bone (LB).

**Scientific References**

Ordering Information

**OsseoGuard and OsseoGuard Flex Barrier Membranes**

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<thead>
<tr>
<th>Size (mm)</th>
<th>OsseoGuard Membrane</th>
<th>OsseoGuard Flex Membrane</th>
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<tbody>
<tr>
<td>15 x 20 mm</td>
<td>OG1520</td>
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<td>30 x 40 mm</td>
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Shelf Life: 3 Years

**Endobon Xenograft Granules**

<table>
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<tr>
<th>Volume (ml)</th>
<th>Small Granules 500–1,000 μm</th>
<th>Large Granules 1,000–2,000 μm</th>
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<tbody>
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Shelf Life: 18 Months

Manufacturer: Collagen Matrix, Inc., Oakland, NJ

Manufacturer: Biomet France Sarl.

Want To Facilitate Re-Growth Of Bone And Soft Tissue? Consider Zimmer Biomet Dental Regenerative Options.

Contact us at 1-800-342-5454 or visit zimmerbiometdental.com

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