XenMatrix™ AB
Surgical Graft

Antibacterial-Coated Regenerative Collagen Matrix

Protection when and where it’s needed
XenMatrix™ AB Surgical Graft is the first antibacterial-coated, non-crosslinked porcine dermal graft proven to inhibit the colonization of MRSA, E. coli, and other bacteria in preclinical models. It uses a combination of well-characterized antibiotics, Rifampin and Minocycline, to offer an unmatched level of graft protection in challenging ventral hernia repair. In vitro testing demonstrated a significant (p<0.0001) zone of inhibition against the most common bacteria associated with hernia-related complications.

**Demonstrated Graft Protection**
Preclinical testing demonstrated that Rifampin and Minocycline provided immediate protection to the XenMatrix™ AB Surgical Graft for 7 days against MRSA, E. coli, and VRE, the most common bacteria associated with hernia related complications.*

**Early Clinical Data**
- Clinical data show XenMatrix™ AB was associated with a low rate of postoperative complications during the first 30 days.¹

**Demonstrated Preclinical Results**
- Preclinical data show XenMatrix™ AB completely inhibits bacterial colonization on the graft in the presence of MRSA and E. coli.**
- Preclinical data show XenMatrix™ AB exhibits a reduced inflammatory response when compared to an uncoated xenograft.³

* Preclinical data on file. May not correlate to results in humans.
** No hernia mesh is indicated for use in contaminated or infected fields.

⁴ ZOI preclinical information demonstrates the effectiveness of rifampin and minocycline against bacteria on the graft, not the surrounding tissues.
** Addressing Complex Problems

**Ventral Hernia Challenges**
- Challenging surgical environment
- Transient bacterial contamination occurs in every operation
- MRSA and E. coli are the most common bacteria associated with hernia-related complications

**Patient Grade Classification**

**GRADE 3**
Clean-Contaminated
Contaminated Dirty**
SSO = 46%

**GRADE 2**
Smoker • Obese • COPD • DM
History of Wound Infection
SSO = 27%

**GRADE 1**
Low Risk of Complications
No History of Wound Infection
SSO = 14%

**Two or more comorbidities may result in two-fold increase in wound morbidity**

Examples of comorbidities include:
- Obesity
- Chronic Obstructive Pulmonary Disorder (COPD)
- Immunosuppression
- History of smoking
- Prior hernia repair

As complexity of patient conditions increase, so does the risk for an SSI

It is estimated that more than 75% of all recurrences are due to infection and inadequate repair. Because of frequent recurrence, these hernias are associated not only with high rates of reoperation and morbidity but also with significant yearly health care expenditures. Every 1% reduction achieved through reduced recurrence rates in ventral hernia repair could potentially save an estimated $32 million in yearly procedure costs.

**No hernia mesh is indicated for use in contaminated or infected fields.**

3. Arielle E Kantners, BS, David M Krpata, MD, Jeffrey A Blatnik, MD, Yuri M Novitsky, MD, Michael J Rosen, MD, FACS. Modified Hernia Grading Scale to Stratify Surgical Site Occurrence after Open Ventral Hernia Repair. *2012 American College of Surgeons*, 215; 6 787-793
Preclinical Data

Zone of Inhibition
In a preclinical study using 70 standard Mueller-Hinton agar plates inoculated with either MRSA or E. coli, XenMatrix™ AB Surgical Graft demonstrated a significantly greater Zone of Inhibition (ZOI) against clinically-isolated MRSA, as compared to all other non-coated devices evaluated which demonstrated no ZOI.

[Image of agar plates with Zone of Inhibition results]

Repair Strength
Tissue ingrowth is required for a strong, long term repair. The repair strength of XenMatrix™ AB Surgical Graft is more than 3x stronger than native porcine abdominal wall at 12 weeks.

[Graph of repair strength at 12 weeks]

Handling Properties
XenMatrix™ AB Surgical Graft is thinner than XenMatrix™, which may contribute to improved handling and suturability.

[Image of XenMatrix™ AB Surgical Graft being handled]

Repair Strength at 12 weeks

The chart above represents approximately 68% and 78% reduction in burst strength of XenMatrix™ AB Surgical Graft versus Strattice™. At 12 weeks, XenMatrix™ AB demonstrated a significantly lower strength reduction over time relative to Strattice™ (p<0.05).

Zone of Inhibition (ZOI) Study Results

- XenMatrix™ AB
- Strattice™
- Permacol™
- Surgimend™
- XCM™
- BIO-A™

Threshold

[Graph of Zone of Inhibition (ZOI) study results]

Handling Properties
XenMatrix™ AB Surgical Graft is thinner than XenMatrix™, which may contribute to improved handling and suturability.

[Image of XenMatrix™ AB Surgical Graft being handled]

Repair Strength at 12 weeks

The chart above represents approximately 68% and 78% reduction in burst strength of XenMatrix™ AB Surgical Graft versus Strattice™. At 12 weeks, XenMatrix™ AB demonstrated a significantly lower strength reduction over time relative to Strattice™ (p<0.05).

1 ZOI preclinical information demonstrates the effectiveness of rifampin and minocycline against bacteria on the graft, not the surrounding tissues.
Early Clinical Results

Early clinical outcomes of a novel antibiotic-coated non-crosslinked porcine dermal graft following complex abdominal wall reconstruction.

In this multicenter study by Baker, et. al., data suggest the use of XenMatrix™ AB Surgical Graft was associated with 0.0% SSIs at 6 months.¹

First Published XenMatrix™ AB Patient Data¹

- 6 month retrospective, multicenter review of 74 patients
- Large defects (median hernia size/area was 66 cm²)
- 21.6% had previous wound infection
- 21.6% had a violation of the gastrointestinal tract during hernia repair
- 10.8% required >1 piece of mesh
- 70.3% were performed open repair, 29.7% underwent laparoscopic repair

CDC Surgical Wound Classification

<table>
<thead>
<tr>
<th>Wound Classification</th>
<th>Number of Patients</th>
</tr>
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<tbody>
<tr>
<td>I. Clean</td>
<td>20 (27.0%)</td>
</tr>
<tr>
<td>II. Clean contaminated</td>
<td>9 (12.2%)</td>
</tr>
<tr>
<td>III. Contaminated*</td>
<td>6 (8.1%)</td>
</tr>
<tr>
<td>IV. Dirty infected*</td>
<td>4 (5.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>35 (47.3%)</td>
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Outcomes from 0-6 Months¹

<table>
<thead>
<tr>
<th>Surgical Site Occurrence</th>
<th>0-6 Months</th>
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<tbody>
<tr>
<td>Surgical Site Infection</td>
<td>5 (6.8%)</td>
</tr>
<tr>
<td>Seroma</td>
<td>7 (9.5%)</td>
</tr>
<tr>
<td>Recurrence</td>
<td>4 (5.4%)</td>
</tr>
<tr>
<td>Reoperation</td>
<td>2 (2.7%)</td>
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</table>


* No hernia mesh is indicated for use in infected fields.
## XenMatrix™ AB Surgical Graft

### A Complete Portfolio

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Quantity</th>
<th>Shape</th>
<th>Dimensions*</th>
<th>Coverage Area</th>
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<td>450 cm²</td>
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<td>Rectangle</td>
<td>7.9&quot; x 9.8&quot;  (20 cm x 25 cm)</td>
<td>500 cm²</td>
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<td>750 cm²</td>
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<td>Square</td>
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<td>900 cm³</td>
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<td>1350 cm²</td>
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* Thickness 1.8 mm to 2.5 mm

To learn more, contact your local BARD Representative or call 1.800.556.6275.

Please consult product labels and inserts for any indications, contraindications, hazards, warnings, precautions and instructions for use.

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