# Design Matters Competitive Comparison

# Not all matrices are created equal

In benchtop testing, Integra DRT, PriMatrix and PolyNovo NovoSorb® Biodegradable Temporizing Matrix (BTM) were evaluated to compare physical and biological attributes.¹

Cell adhesion, migration, and proliferation are required for robust and efficient wound healing.<sup>2</sup> Physical properties of a matrix, such as hydrophilicity, conformability, and porosity are important factors to aid in the healing process.<sup>3</sup>



# **Matrix Comparison**

#### Integra® DRT

Collagen and Chondroitin-6-Sulfate with Silicone Layer

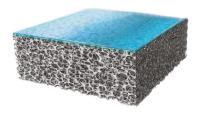


#### **PriMatrix®**

Bovine-derived
Dermal Repair Scaffold

#### NovoSorb<sup>®</sup> BTM

Biodegradable Polyurethane with Sealing Membrane



#### Silicone:

#### **Protects the Wounds**

- Provides immediate coverage, acting as temporary epidermal layer<sup>4</sup>
- Maintains a moist wound environment<sup>5</sup>
- Typically removed between 14-21 days

## Collagen and Chondroitin-6-Sulfate: Promotes Dermal Regeneration

- Bioengineered acellular matrix minimizes inflammatory response<sup>6,7</sup>
- 3D pore structure optimized for cellular and vascular ingrowth<sup>8,9,10</sup>
- Grows with the patient and helps restore function and joint mobility<sup>6,11</sup>

#### **Acellular Fetal Bovine Dermis**

- Collagen I and III are associated with wound healing and developing tissues<sup>12,13,14</sup>
- Robust structure for enhanced handling and tensile strength<sup>13,15,16</sup>
- Supports revascularization and re-epithelialization processes<sup>17,18,19</sup>

#### **Polyurethane Sealing Membrane**

- Temporary non-biodegradable layer limiting moisture loss
- Serves as a barrier to outside bacteria and closing wound<sup>20,21</sup>
- Typically removed between 3-5 weeks (i.e., 21-35 days)

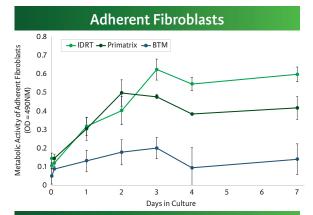
#### **Biodegradable Polyurethane Matrix**

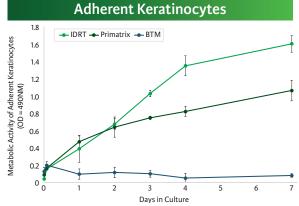
- Designed as a temporizing matrix
- Open cell structure with large chambers and pores
- Rigid mechanical properties

#### Adherence and Proliferation<sup>4,21,22,23</sup>

When compared to NovoSorb® BTM, cells seeded in Integra® and PriMatrix® demonstrated:

- ✓ Over 200% faster fibroblast adhesion
- ✓ Over 2X sustained fibroblast adherence levels
- ✓ **Over 2X** (Integra) and **over 1.5X** (PriMatrix) fibroblast proliferation
- ✓ Over 20X (Integra) and over 10X (PriMatrix) adherent keratinocytes





# **Physical Comparison**

# Not all matrices are created equal

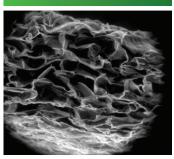
#### **Porosity**

The overall porosity and size distribution of pores may impact how cells migrate into a matrix to support a variety of essential cellular activities.<sup>5</sup>

Integra's bioengineered matrix and PriMatrix's dermal scaffold align to native human architecture with small, tight pore distribution allowing for cell migration, adherence, and proliferation.<sup>14</sup>

#### Integra® DRT

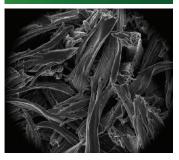
Collagen-C6S with Silicone Layer



Engineered design offers optimized pore size and structure, allowing cell migration, repopulation, and remodeling <sup>14</sup>

#### **PriMatrix**®

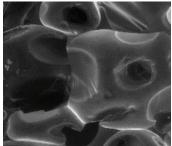
Bovine-derived Dermal Repair Scaffold



Biocompatible porous matrix, which provides the foundation for rapid cellular repopulation and tissue revascularization to support the wound healing process<sup>13,18,19</sup>

#### NovoSorb® BTM

Biodegradable Polyurethane



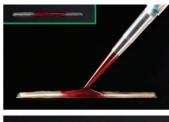
Wide range of larger pore sizes less ideal for cell migration, repopulation, and remodeling<sup>1</sup>

#### **Absorption**

Hydrophilic materials have an environment conducive for autologous blood, which contain essential cells and growth factors for infiltration, attachment, and repopulation.

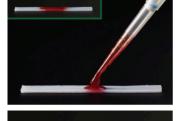
**Hydrophobic** materials create a challenging environment for blood to absorb and spread throughout the matrix.<sup>1,4</sup>

- Blood absorbed into Integra and PriMatrix exemplifies resilient hydrophilic properties.<sup>1,22</sup>
- BTM repelled blood, exhibiting hydrophobic properties.<sup>1,22</sup>



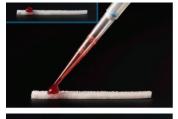


Bioengineered 3D matrix with an optimized design to help promote cellular ingrowth





Blood and cells are absorbed, providing a foundation for cellular repopulation and tissue revascularization<sup>4.5</sup>





Exhibits prolonged hydrophobic properties with blood beading on top of the matrix, resisting absorption

#### **Conformability**

High conformability allows matrices to contour to complex wound geometries for intimate contact, permitting cells to migrate, repopulate, and remodel. Both Integra and PriMatrix are substantially more conformable than BTM.<sup>1,22</sup>



Integra is approximately 9x more comfortable than BTM



PriMatrix is approximately 2X more conformable than BTM



BTM provides minimal conformability

#### **Brief Summary**

**Consult Package Insert for Full Information** 

## Integra® Dermal Regeneration Template Indications

Integra template is indicated for the postexcisional treatment of life-threatening full-thickness or deep partial-thickness thermal injuries where sufficient autograft is not available at the time of excision or not desirable due to the physiological condition of the patient. Integra template is also indicated for the repair of scar contractures when other therapies have failed or when donor sites for repair are not sufficient or desirable due to the physiological condition of the patient.

#### Warnings

Hemostasis must be achieved prior to applying Integra template. Inadequate control of bleeding will interfere with the incorporation of Integra template.

#### PriMatrix® Dermal Repair Scaffold

#### **Indications**

PriMatrix is intended for the management of wounds that include partial and full thickness wounds, pressure, diabetic, and venous ulcers, Second-degree burns, surgical wounds—donor sites/grafts, post-Moh's surgery, post-laser surgery, podiatric, wound dehiscence, Trauma wounds—abrasions, lacerations and skin tears, tunneled/undermined wounds, Draining wounds.

#### **Ordering Information**

Not all size options and configurations are shown

Product	Size	Solid	Meshed
IDRT	2x2in 4x5in 4x10in 8x10in	32021 34051 34101 38101	MDRT2021 MDRT4051 MDRT4101 MDRT8101
Bilayer	2x2in 4x5in 4x10in 8x10in	BMW2021 BMW4051 BMW4101 BMW8101	MWM2021 MWM4051 MWM4101 MWM8101
IWM	2x2in 4x5in 4x10in 8x10in	52021 54051 54101 58101	
(Thin)	2x2in 4x5in 4x10in	52021T 54051T 54101T	
IFWM	3сс	FWD301	
PMX	2x2cm 3x3cm 4x4cm 5x5cm 6x6cm 8x8cm 8x12cm 10x12cm 10x25cm 20x25cm	- 607-001-440 - 607-001-660 607-001-880 607-001-812 607-001-112 607-001-125 607-001-225	607-005-220 607-005-330 607-005-440 607-005-550 607-005-660 607-005-880 607-005-812 607-005-125

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