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Prospective observational registry study of Myriad™ Matrix and Myriad™ Morcells in soft tissue reconstruction

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Presenter Information

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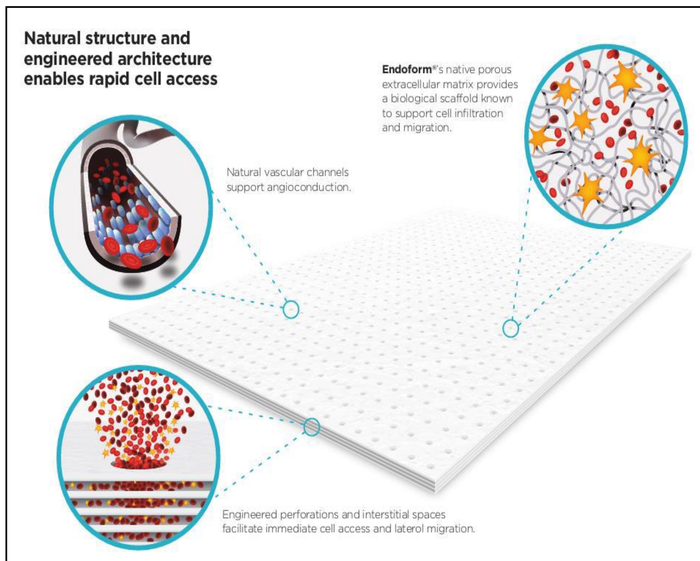
Introduction

Soft tissue reconstruction is a procedure that is fundamental to the practice of surgery. Due to the paramount importance of soft tissue repair, the need to improve this procedure through the use of modernized technologies is ever-present.

Myriad Matrix is an intact extracellular matrix (ECM) derived from ovine (sheep) forestomach tissue. This project is investigating if the use of this matrix is correlated to a quicker wound recovery time. Clinical data assessment will be conducted at the initial evaluation visit, intra-operative visit, and post-operative visit using a mobile software called TA APP. This software is designed to capture accurate, non-contact 3D images of the wound or soft tissue defect and securely document pertinent case information.

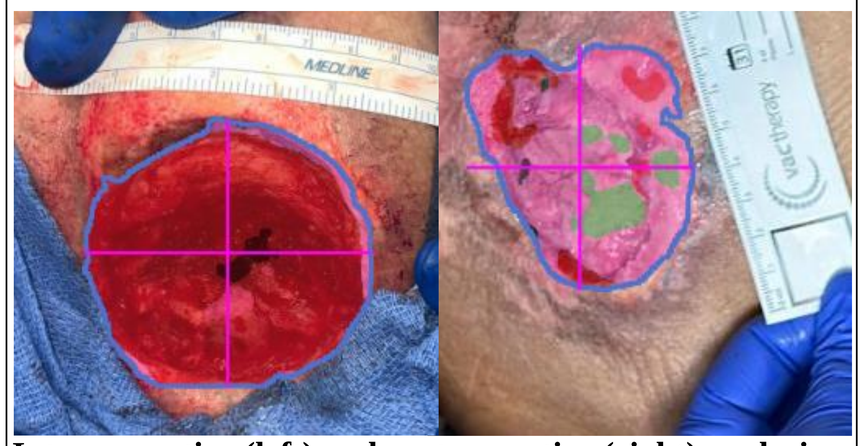
Engineered Tissue



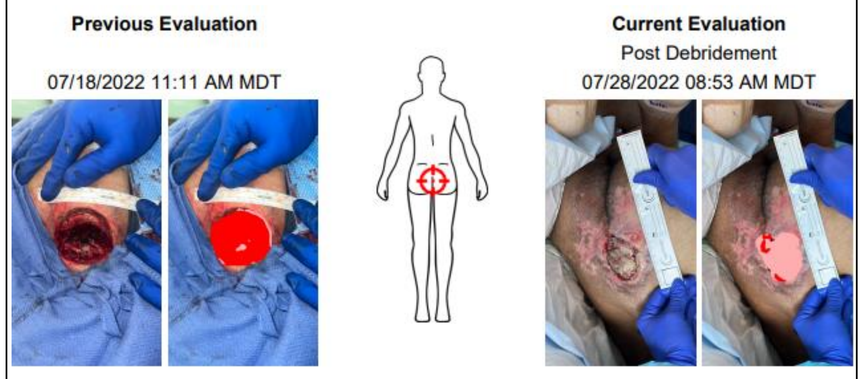
Myriad Matrix retains the innate biological structure of the native ECM-associated macromolecules, including elastin, fibronectin, glycosaminoglycans, and laminin. When rehydrated with wound exudate or sterile saline, Myriad Matrix transforms into a malleable and compliant sheet that naturally incorporates into the soft tissue defect over time.

Tissue Analytics Technology

3D modeling of wound to determine defect characteristics at initial visit

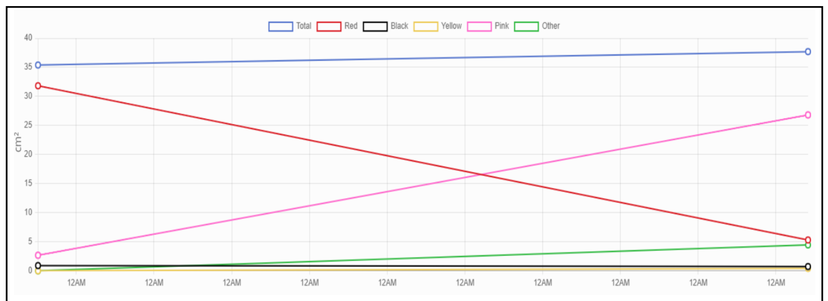


Intra-operative (left) and post-operative (right) analysis of tissue surface area



Intra-operative (left) and post-operative (right) comparison of red tissue to pink tissue ratio

Surface Area History



Initial data representing Total (blue), Red, Black, Yellow, Pink, and Other (green) tissue surface area progress

Total Area		37.7 cm²	+6.49%
Length		7.44 cm	+14.48%
Width		6.9 cm	-0.99%
Perimeter		29.69 cm	+13.91%
Red Tissue	5.3 cm²	14%	-75.85%
Black Tissue	0.73 cm²	2%	-0.61%
Yellow Tissue	0.41 cm²	1%	+1.09%
Other Tissue	4.45 cm²	12%	+11.8%
Pink Tissue	26.81 cm²	71%	+63.56%

Post-operative measurements and associated percent change from pre-operative measurements

Conclusion

Initial data from this singular patient displays a sharp transition from red granulation tissue toward pink epithelial tissue. This marked increase in pink tissue is suggestive of successful wound healing. However, additional data from an increased sample size is necessary before establishing a definitive correlation.

We will employ an observational clinical investigation via a prospective open-label registry study. Enrollment will require the subject to be receiving one of the following soft tissue reconstruction procedures: abdominal dehiscence, necrotizing soft tissue infection (NSTI), lower extremity complex non-healing wounds (limb salvage), pilonidal sinus disease, hidradenitis suppurativa reconstruction, or pressure injury reconstruction. This project aims to assess the safety and efficacy of utilizing Myriad Matrix and Morcells to provide a scaffold for cell repopulation and aid tissue formation across an array of various surgical procedures involving missing or damaged soft tissue.

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