

Welcome





WHY BIOLOGICS EXIST

<u>Synthetic</u> material has been associated with inflammation¹ and can erode into surrounding organs.²

<u>Absorbable mesh</u> has been associated with higher rates of surgical site infection and unplanned reoperation than polypropylene.³

Chronic inflammation



Synthetic mesh implanted in a mouse model.



Boulanger L, Boukerrou M, Lambaudie E, et al. Tissue integration and tolerance to meshes used in gynecologic surgery: an experimental study. Eur J Obstet Gynecol Reprod Biol. 2006;125(1):103-108.
Balla A, Quaresima S, Smolarek S, et al. Synthetic versus biological mesh-related erosion after laparoscopic ventral mesh rectopexy: a systematic review. Ann Coloproctol. 2017;33(2):46-51.
Sahoo S, Haskins IN, Huang LC, et al. Early wound morbidity after open ventral hernia repair with biosynthetic or polypropylene mesh. J Am Coll Surg. 2017;225(4):472-480.

THE SOURCE MATERIAL

Small Intestinal Submucosa (SIS) allows cells to infiltrate and remodel into well-vascularized tissue.⁴

SIS is made from the submucosal layer of the porcine small intestine. This layer survives one of the harshest environments in the body, where it supports rapid cell turnover.⁵



4. Nihsen ES, Johnson CE, Hiles MC. Bioactivity of small intestinal submucosa and oxidized regenerated cellulose/collagen. Adv Skin Wound Care. 2008;21(10):479-486. 5. Children's Hospital Los Angeles. Controlling cell turnover in the intestinal lining. Science Daily. https://www.sciencedaily.com/releases/2016/04/160405182950.htm. Published April 5, 2016. Accessed August 24, 2017.

submucosal layer



The SIS is processed in a way that retains its natural, three-dimensional structure and components.⁴



4. Nihsen ES, Johnson CE, Hiles MC. Bioactivity of small intestinal submucosa and oxidized regenerated cellulose/collagen. Adv Skin Wound Care. 2008;21(10):479-486.



Chronic Inflammation

Cross-linked mesh implanted in a mouse model.

<u>Cross-linked grafts</u>, however, have a changed structure. Cross-linked grafts have been associated with chronic inflammation and encapsulation.⁶







SIS does not contain a meaningful amount of elastin.⁹ Grafts that do, such as dermis-based grafts, can stretch and possibly result in failure.¹⁰



This histology shows a dermis-based graft after it was implanted in a patient's breast.





The body's signaling mechanisms help the patient's own cells infiltrate the scaffold and remodel the SIS material into natural host tissue.⁴



This histology shows SIS eight months after it was implanted in a patient.



The Biodesign graft (left) allows for the substantial growth of organized tissue, as seen in this biopsy sample, taken eight months after implantation⁷ (right).



Prior to implantation



8 months after implantation















Day 7



Week 8 Granulation tissue begins to form.



STRENGTH CHARACTERISTICS





PUBLISHED DATA





APPLICATIONS



