

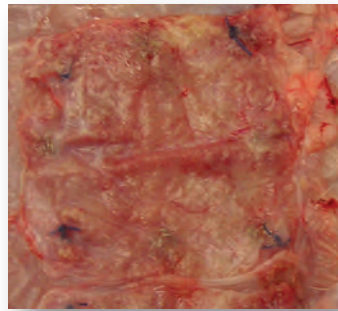
# SURGIMESH® WN

Non-Barrier Mesh

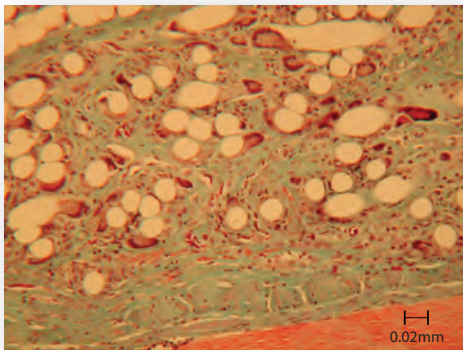
## Non-Woven Monofilament Microfiber Polypropylene Matrix

### Superior Patient Outcomes

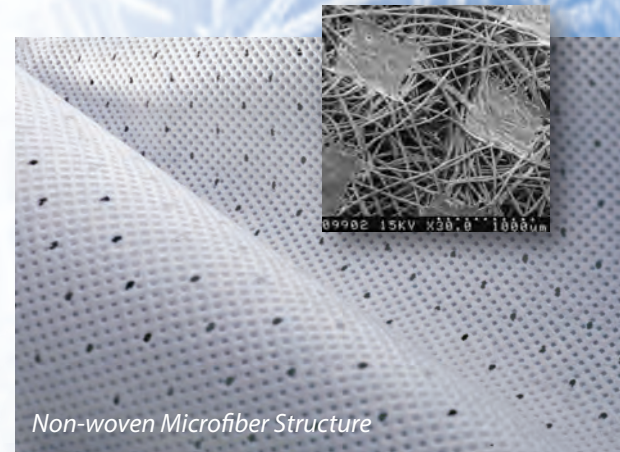
- No Chronic Mesh Pain <sup>1)</sup>
- No Foreign Body Sensation <sup>3,5)</sup>
- Reduced Risk of Recurrence <sup>3,5)</sup>
- Reduced Risk of Complication <sup>5)</sup>
- Rapid Return to Normal Activities



Minimal distortion and area change of WN mesh - rabbit abdominal wall model at 45 days post operative <sup>4)</sup>



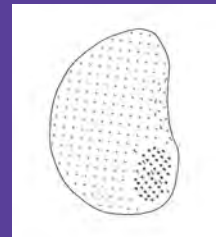
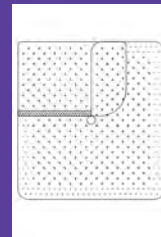
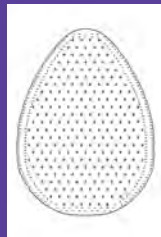
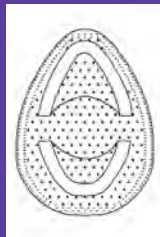
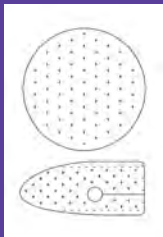
Cross section showing complete incorporation at 12 days - porcine model abdominal wall tissue section, trichrome stain



Non-woven Microfiber Structure

### Advanced Technology

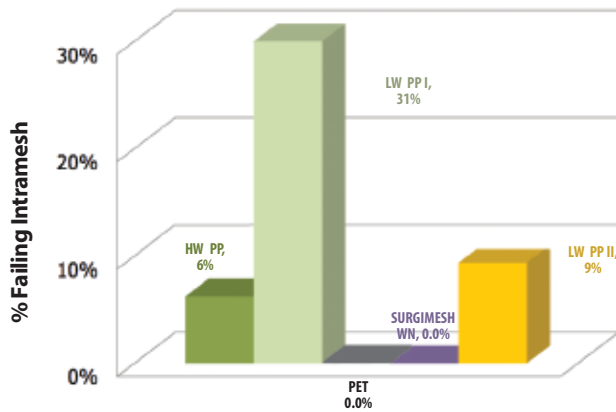
- Complete, Vascularized Incorporation @ 12 Days
- Conformable, High Strength Microfiber PP
- Minimal Distortion and Area Change
- One-Size-Fits-All for up to 75% Inventory Reduction



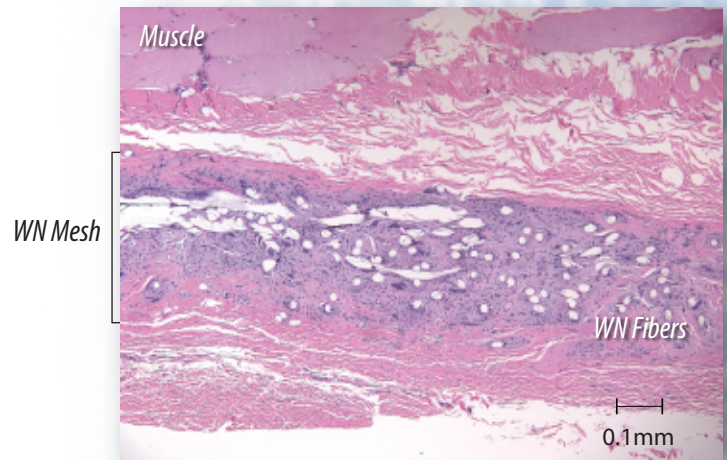
# Superior Incorporation ..... Superior Outcome

**Tissue Incorporation:** complete and highly fibrous integration of WN into the surrounding muscle and fascial tissue planes produces repair sites which are reported to be pain free<sup>1)</sup> and non-palpable<sup>3)</sup> post operatively.

**Healed Tissue – Mesh Fiber Failure Rate<sup>2)</sup>**



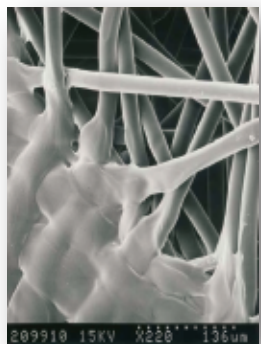
Anterior abdominal wall rabbit model at 180 days post operative<sup>4)</sup>



Anterior abdominal wall rabbit model at 180 days post operative showing excellent fibrous incorporation of WN mesh<sup>4)</sup>, H&E stain

**Healed Strength:** the high strength and well integrated tissue incorporation of WN leads to 0% failure within the matrix of WN vs. knitted mono-filament structures which tend to pull away in areas of poor healing and fat intrusion.

**Mesh Integration:** the non-woven matrix of WN guides the healing response, insuring high healed strength and preventing the deposition of fat within the healed non-woven WN mesh, unlike knitted meshes which allow fat penetration that can lead to weakness or recurrence<sup>6)</sup>.

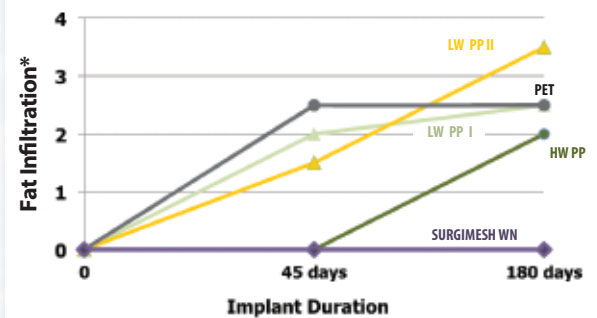


SURGIMESH Matrix

## Non-Woven Microfiber Matrix Mesh Technology

SURGIMESH products present a 3D matrix to tissues which allows complete and full incorporation of the mesh into surrounding tissues with sufficient vascularization to support the ingrown tissue. This is evidenced by histological cross sections which show full incorporation in 12 days. Being composed of non-woven microfibers of polypropylene, the tissue response to SURGIMESH is very diffuse, primarily being composed of fibrous connective tissue. This new type of structure represents a material which heals very strongly to surrounding tissues while remaining flexible and not leading to patient discomfort. Achieving full tissue incorporation helps integrate the matrix intimately into the surrounding tissues and protect the matrix in the event of microbial challenge.

**Mesh Fat Infiltration Vs Time<sup>2)</sup>**



\*Graded response: none (0), minimal (1), mild (2), moderate (3) and marked (4).

### References:

- 1) Smietanski, M, et.al., Polypropylene vs. ePTFE vs. WN mesh for Lichtenstein inguinal hernia repair, unpublished manuscript, 2004
- 2) D'Angelo, R., Volker, F., Mechanical and Histopathologic Assessment of Surgical Mesh, Dartmouth Surgical Research Lab and Flagship Biosciences, LLC, Data on file
- 3) Surgeon Testimonials - SURGIMESH, Data on File
- 4) Test model as used in Novitsky, YW, et.al., Comparative Evaluation of Adhesion Formation, Strength of Ingrowth, and Textile Properties of Prosthetic Meshes After Long-Term Intra Abdominal Implantation in a Rabbit, J Surg Res, vol. 140, p. 6-11, 2007
- 5) Smietanski, M, et.al., Five-year results of a randomized controlled multi-centre study comparing heavy-weight, knitted vs. low-weight, non-woven polypropylene implants in Lichtenstein hernioplasty, Hernia, vol. 15, no. 3, 2011
- 6) Cobb, W., et.al., Central mesh failure with lightweight mesh: a cautionary note, Hernia, vol. 13 Suppl 1, p. S-38, 2009