

## Advances in Nerve Coaptation: Connector-Assisted Repair™

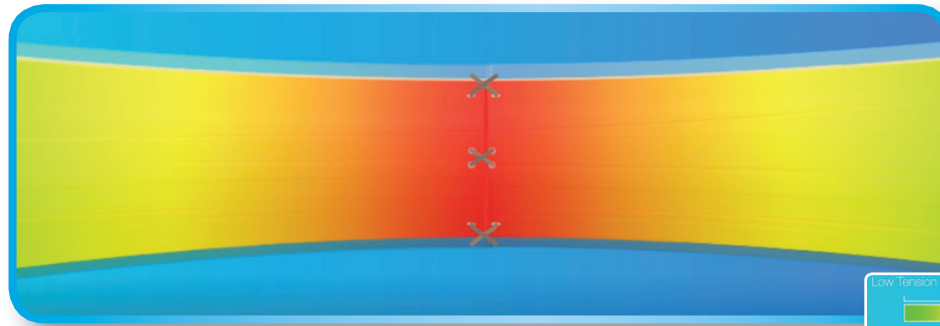


**SEE the DIFFERENCE. Experience the ONLY Small Intestine Submucosa  
Coaptation Aid for Peripheral Nerve Repair.**

It's time to rethink nerve repair.™

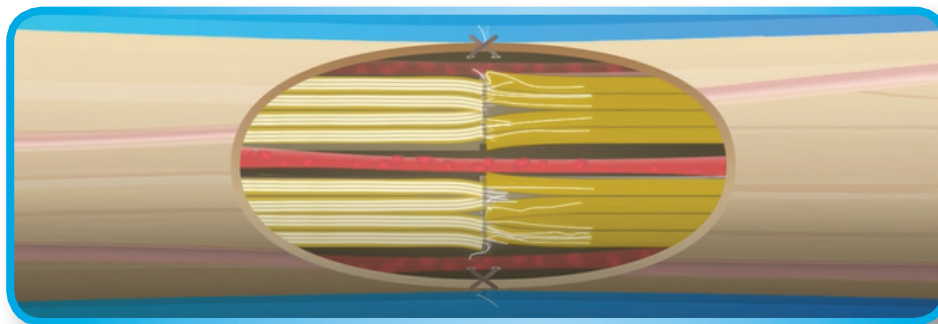
# Challenges in Direct Nerve Repair

- ✓ Concentrated **tension** at the coaptation site
- ✓ Tension leads to restricted blood flow and ischemia
  - As little as 8% elongation decreases blood flow 50%<sup>1</sup>
- ✓ Direct repair may not remain tension free during full range of motion

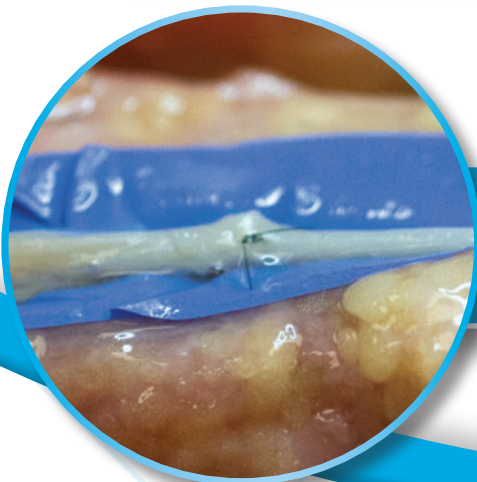


Tension map highlighting the localized tension at the coaptation site in direct repairs.

- ✓ Fascicular misalignment due to overtightening of sutures<sup>2</sup>
- ✓ Localized **inflammation** from sutures in the zone of regeneration<sup>3</sup>



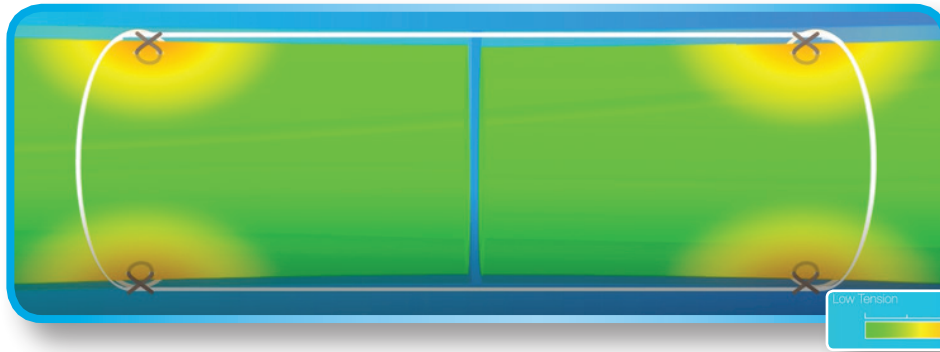
Fascicular misalignment resulting from the over-tightening of suture.



Overtightened sutures leading to bulging fascicles at the coaptation.

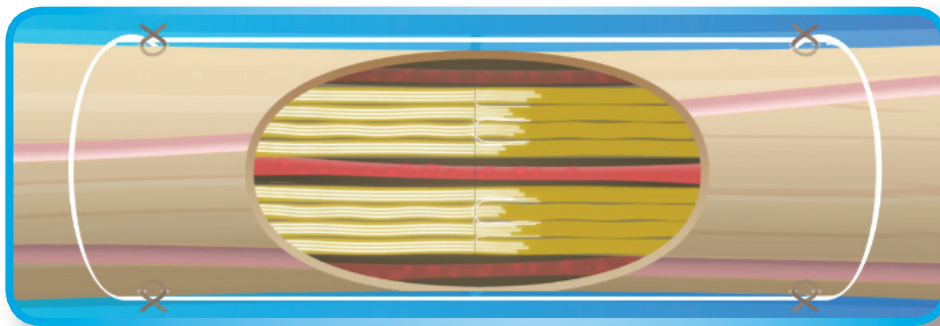
# Clinical Benefits of a **Connector-Assisted Repair™** Technique

- ✓ **Reduces tension** and tension-induced ischemia<sup>1,2</sup>
- ✓ Reduces the negative inflammatory impact of sutures at the critical zone of regeneration by allowing for **suture placement away from the coaptation site**<sup>4</sup>

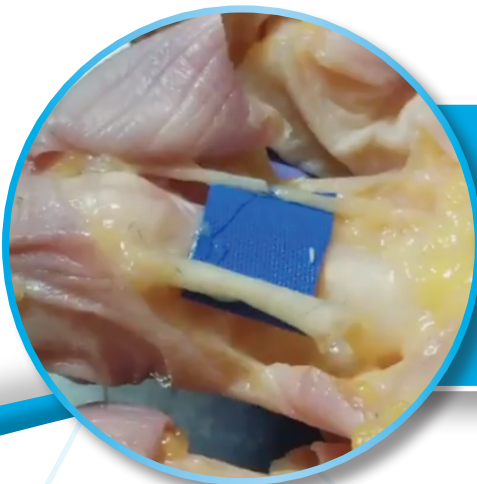


Tension map highlighting tension concentrated away from the coaptation site with a **Connector-Assisted Repair™**.

- ✓ Allows for **better alignment** of nerve ends reducing the risk of forced fascicular mismatch<sup>5</sup>
- ✓ Provides a **physical barrier** preventing infiltration of surrounding tissues into the coaptation site and the potential for axonal sprouting outside the coaptation site<sup>6,7</sup>
- ✓ **Reduces surgical repair time** by as much as 40%<sup>7</sup>



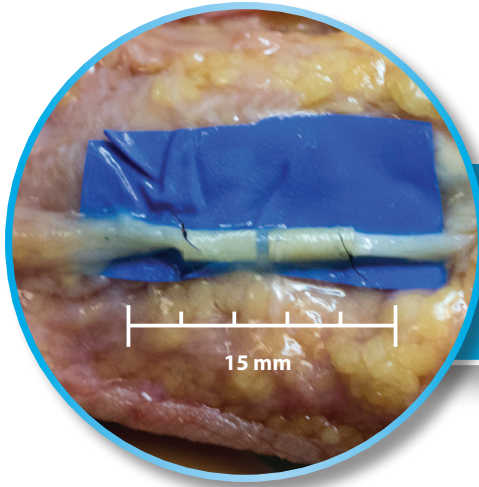
Fascicular alignment and appropriate axonal growth facilitated by a **Connector-Assisted Repair™**.



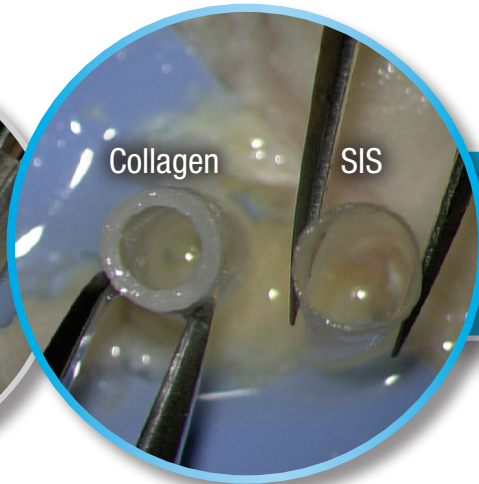
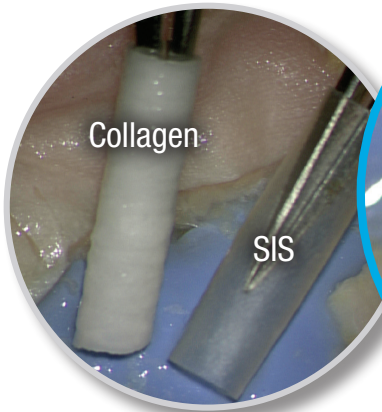
Direct repair (top) and **Connector-Assisted Repair™** (bottom) during full finger extension.

Tension on the direct repair coaptation results in visible gapping and may limit revascularization and axonal regeneration.

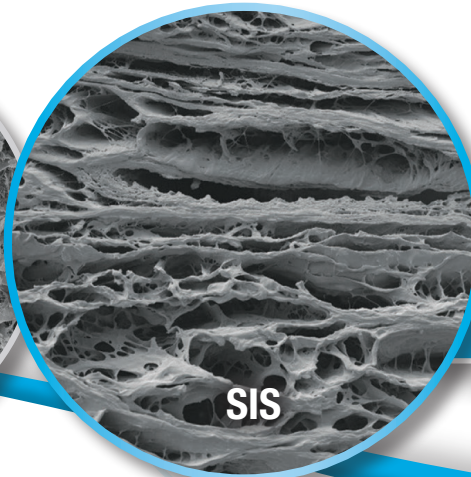
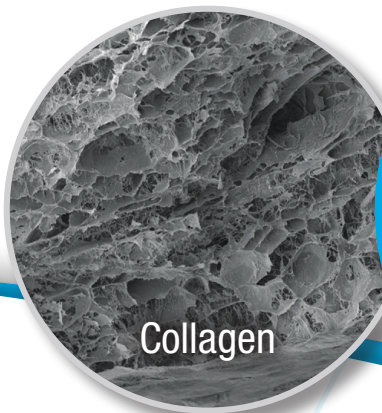
# Benefits of AxoGuard® NerveConnector



AxoGuard® Nerve Connector is semi-translucent, providing visualization of the nerve ends during approximation.



AxoGuard® Nerve Connector's Porcine SIS material offers excellent flexibility and superior semi-translucency compared to competitive collagen products.



AxoGuard® Nerve Connector's porosity supports revascularization and remodeling to form a new soft-tissue layer.

# AxoGen Nerve Repair Resources

## Advances and Best Practices in Nerve Repair Programs

AxoGen offers an unparalleled opportunity to come together with skillful surgeons and experience evidence-based advancements in peripheral nerve repair.

**Give us 1.5 days – we'll enhance the way you practice nerve repair:**

- ✓ Learn from global thought leaders
- ✓ Discuss current clinical literature
- ✓ Debate challenging cases
- ✓ Explore zone of injury on simulated trauma
- ✓ Practice cutting edge techniques in a cadaveric lab
- ✓ Take your nerve repair practice to the next level



You are the Future of **Nerve Repair**

**Don't miss this opportunity.**  
Email [events@AxoGenInc.com](mailto:events@AxoGenInc.com)  
for more detailed information.




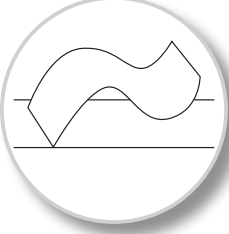

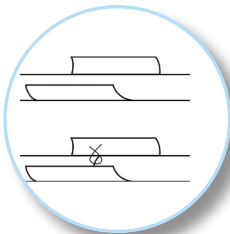

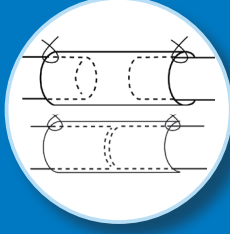

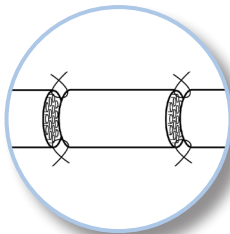
## Nerve Matters®

**Nerve Matters® is a private online community** designed exclusively for surgeons performing peripheral nerve repair. Nerve Matters® allows surgeons easy access to experts in the field of nerve repair for the simple exchange of ideas and experiences. Use the community to share your own experiences, pose a question to the experts or simply connect with colleagues.

The community is hosted by an independent, third party administrator, DocMatter.

Go to [www.docmatter.com/NerveMatters](http://www.docmatter.com/NerveMatters)  
and join the conversation.

# The AxoGen Platform

Proaction	Protection	Connection	
  <p>Use <b>AVIVE® Soft Tissue Membrane</b> to address injured soft tissues by providing a resorbable cover to modulate inflammation.</p>	  <p>Use <b>AxoGuard Nerve Protector</b>, a minimally processed porcine extracellular matrix, to wrap and protect injured peripheral nerves.</p>	  <p>Use <b>AxoGuard Nerve Connector</b>, the only minimally processed porcine SIS ECM, to aid coaptations.</p>	  <p>Use <b>Avance Nerve Graft</b>, a processed human nerve allograft, to bridge nerve gaps up to 70 mm.</p>

## Ordering Information

Code	Size
AGX110	1.5 mm x 10 mm
AGX210	2 mm x 10 mm
AGX310	3 mm x 10 mm
AGX410	4 mm x 10 mm
AGX510	5 mm x 10 mm
AGX610	6 mm x 10 mm
AGX710	7 mm x 10 mm

Code	Size
AGX115	1.5 mm x 15 mm
AGX215	2 mm x 15 mm
AGX315	3 mm x 15 mm
AGX415	4 mm x 15 mm
AGX515	5 mm x 15 mm
AGX615	6 mm x 15 mm
AGX715	7 mm x 15 mm

### Avance® Nerve Graft

**REGULATORY CLASSIFICATION:** Avance® Nerve Graft is processed and distributed in accordance with US FDA requirements for Human Cellular and Tissue-based Products (HCT/P) under 21 CFR Part 1271 regulations, US State regulations and the guidelines of the American Association of Tissue Banks (AATB). Additionally, international regulations are followed as appropriate. Avance® Nerve Graft is to be dispensed only by or on the order of a licensed physician.

**INDICATIONS FOR USE:** Avance® Nerve Graft is processed nerve allograft (human) intended for the surgical repair of peripheral nerve discontinuities to support regeneration across the defect.

**CONTRAINDICATIONS:** Avance® Nerve Graft is contraindicated for use in any patient in whom soft tissue implants are contraindicated. This includes any pathology that would limit the blood supply and compromise healing or evidence of a current infection.

### AxoGuard® Nerve Connector

**INDICATIONS FOR USE:** United States: AxoGuard® Nerve Connector is indicated for the repair of peripheral nerve discontinuities where gap closure can be achieved by flexion of the extremity. The device is supplied sterile and is intended for one-time use.

**CONTRAINDICATIONS:** This device is derived from a porcine source and should not be used for patients with known sensitivity to porcine material.

**REFERENCES:** 1. Lundborg G, Rydevik B. Effects of stretching the tibial nerve of the rabbit: a preliminary study of the intraneural circulation and the barrier function of the perineurium. *J Bone Joint Surg Br.* 1973 May;55(2):390-401. 2. Schimidthammer R. Alleviated Tension at the Repair Site Enhances Functional Regeneration: The Effect of Full Range of Motion Mobilization on the Regeneration of Peripheral Nerves—Histologic, Electrophysiologic, and Functional Results in a Rat Model. *J Trauma.* 2004 Mar;56(3):571-84. 3. Postlethwait RW. Human tissue reaction to sutures. *Ann Surg.* 1975 Feb;181(2):144-50. 4. Ducic I. Microsurgery. Refinements of nerve repair with connector-assisted coaptation. 2017 Mar;37(3):256-263. 5. Evans PJ. Selective reinnervation: a comparison of recovery following microsuture and conduit nerve repair. *Brain Res.* 1991 Sep 20;559(2):315-21. 6. Kokkalis ZT. Assessment of processed porcine extracellular matrix as a protective barrier in a rabbit nerve wrap model. *J Reconstr Microsurg.* 2011 Jan;27(1):19-28. 7. Boeckstyns ME. Collagen conduit versus microsurgical neuroorrhaphy: 2-year follow-up of a prospective, blinded clinical and electrophysiological multicenter randomized, controlled trial. *J Hand Surg Am.* 2013 Dec;38(12):2405-11.

### AxoGuard® Nerve Protector

**INDICATIONS FOR USE:** United States: The AxoGuard® Nerve Protector is indicated for the repair of peripheral nerve injuries where there is no gap. The device is supplied sterile and is intended for one-time use.

**CONTRAINDICATIONS:** This device is derived from a porcine source and should not be used for patients with known sensitivity to porcine material.

### AVIVE® Soft Tissue Membrane

**REGULATORY CLASSIFICATION:** AVIVE® Soft Tissue Membrane is processed and distributed in accordance with US FDA requirements for Human Cellular and Tissue-based Products (HCT/P) under 21 CFR Part 1271 regulations, US State regulations and the guidelines of the American Association of Tissue Banks (AATB). Additionally, international regulations are followed as appropriate. AVIVE® Soft Tissue Membrane is to be dispensed only by or on the order of a licensed physician.

**INDICATIONS FOR USE:** AVIVE® Soft Tissue Membrane is processed umbilical cord intended for homologous use as a soft tissue covering.

**CONTRAINDICATIONS:** AVIVE® Soft Tissue Membrane is contraindicated for use in any patient in whom soft tissue implants are contraindicated.



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