axoguard® nerve connector

advances in nerve coaptation: connector-assisted repair℠

See the difference. Experience the only small intestine submucosa coaptation aid for peripheral nerve repair.

revolutionizing the science of nerve repair™

axogen®

axogen's portfolio of products

options for no transection

1.  **axoguard®** nerve protector
2.  **avive®** soft tissue membrane

options for 0 mm to 5 mm

1. 
2. 

axoguard® nerve connector

options for 5 mm to 70 mm

1.  **avance®** nerve graft
2.  **avance®** nerve graft + **axoguard®** nerve connector
3.  **avance®** nerve graft + **axoguard®** nerve protector

options for 70 mm+

1.  **autograft** + **axoguard®** nerve connector
2.  **autograft** + **axoguard®** nerve protector

challenges in direct nerve repair

Concentrated **tension** at the coaptation site

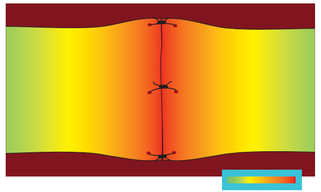
Tension leads to restricted blood flow and ischemia

- As little as 8% elongation decreases blood flow 50%[1]

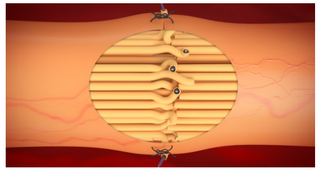
Direct repair may not remain tension free during full range of motion

Fascicular misalignment due to overtightening of sutures

Localised **inflammation** from sutures in the zone of regeneration[3]



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



Fascicular misalignment resulting from the over-tightening of suture.

Overtightened sutures leading to bulging fascicles at the coaptation.

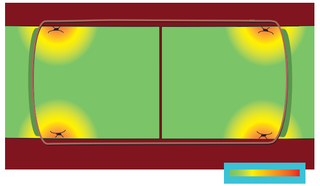
clinical benefits of a connector-assisted repair technique

Reduces tension and likelihood of tension-induced ischemia[1,2]

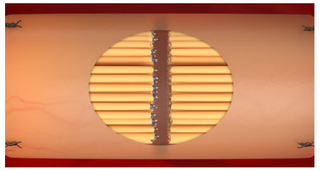
Reduces the negative inflammatory impact of sutures at the critical zone of regeneration by allowing for **suture placement away from the coaptation site**[3,4]

Allows for better alignment of nerve ends reducing the risk of forced fascicular mismatch[5]

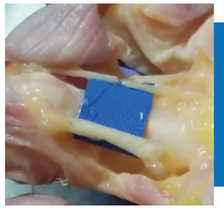
Provides a physical barrier reducing infiltration of surrounding tissues into the coaptation site and the potential for axonal sprouting outside the coaptation site[4,6]



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



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

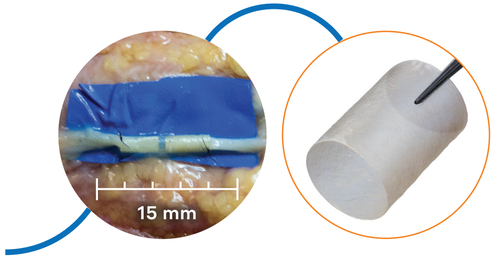


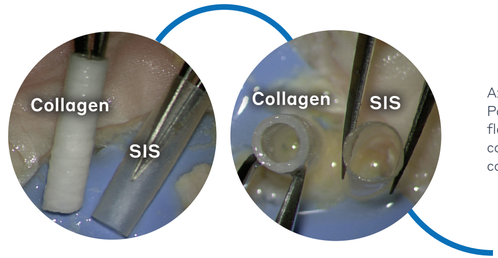
Direct repair (top) and Connector-Assisted Repair (bottom) during full finger extension.

Tension on the direct repair coaptation results in visible gaping and may limit revascularisation and axonal regeneration.

benefits of axoguard nerve connector

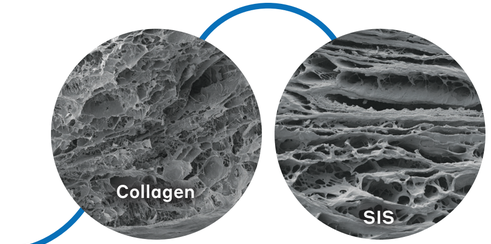
Axoguard Nerve Connector is semi-translucent, providing visualisation of the nerve ends during approximation.





Axoguard Nerve Connector's Porcine SIS material offers excellent flexibility and is semi-translucent compared to opaque competitive collagen products.

Axoguard Nerve Connector's porosity supports vascularisation and remodeling to form a new soft-tissue layer.[6-8]



axoguard nerve connector

ordering information

Code	Dimensions	Approximate size
AGX110-2	1.5 mm x 10 mm	
AGX210-2	2 mm x 10 mm	
AGX310-2	3 mm x 10 mm	
AGX410-2	4 mm x 10 mm	
AGX510-2	5 mm x 10 mm	
AGX610-2	6 mm x 10 mm	
AGX710-2	7 mm x 10 mm	

Code	Dimensions	Approximate size
AGX115-2	1.5 mm x 15 mm	
AGX215-2	2 mm x 15 mm	
AGX315-2	3 mm x 15 mm	
AGX415-2	4 mm x 15 mm	
AGX515-2	5 mm x 15 mm	

citations

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. Schmidhammer 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, Safa B, DeVinney E. Refinements of nerve repair with connector-assisted coaptation. *Microsurgery*. 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. Ko Y, et al. Growth Behavior of Endothelial Cells According to Electrospun poly(D,L-Lactic-Co-Glycolic Acid) Fiber Diameter as a Tissue Engineering Scaffold. *Tissue Eng Regen Med.* 2016;13(4):343-351.
8. Hddde JP, Record RD, Liang HA Badylak SF. Vascular endothelial growth factor in porcine-derived extracellular matrix. *Endothelium*. 2004;8(1):11-24.

indications and trademark disclaimers

Axoguard Nerve Connector

INDICATIONS FOR USE: The Axoguard Nerve Connector is indicated for the repair of peripheral nerve discontinuities with gaps up to 5 mm. The Axoguard Nerve Connector is supplied sterile and is intended for single use.

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

Disclaimer: Not all products are available internationally.

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Intended for distribution in the European Union

revolutionizing the science of nerve repair™

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