

Flat sheet design | optimized handling properties | versatile anatomical positioning

## The first SIS and hyaluronate biomaterial to address peripheral nerve injuries.

### key advantages

#### Optimized handling properties

- Flat sheet configuration and larger sizes offer flexibility in surgical application
- Easy suture penetration
- Quick to hydrate

#### Double sided HA-based gel layer

- Forms lubrication layer reducing friction through traumatic tissue beds
- Provides buffer to help prevent over-tightening

#### Reformulated SIS is an optimal ECM to rebuild mesoneurium

- Superior M2 macrophage response promotes tissue remodeling compared to crosslinked collagen devices<sup>1</sup>
- Extracellular matrix (ECM) promotes vascularization of material<sup>1,2</sup>

#### Short- and long-term protection

- Gel layer is present during critical scar formation phase
- ECM layer vascularizes and remodels into a mesoneurium-like layer<sup>2</sup>
- Throughout healing, nerve can glide through the tissue bed without attachment to adjacent soft tissues<sup>3</sup>

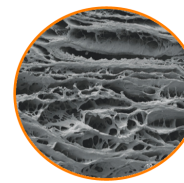


**HA**

gel present during height of scar formation

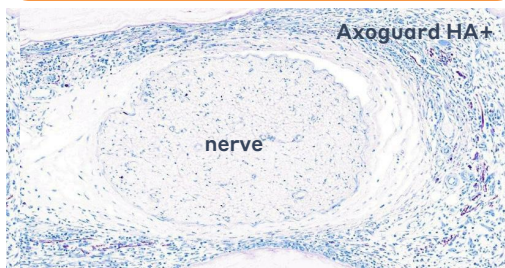


**quick & easy hydration, placement, and securing with preserved tensile strength**



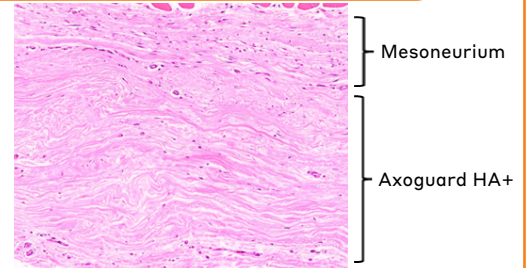
**ECM layer that favors pro-healing M2 macrophage response**

### Non-constricting protection...



Toluidine-blue histology 7 days after implant showing no constriction of the nerve<sup>3</sup>

### With site specific remodeling

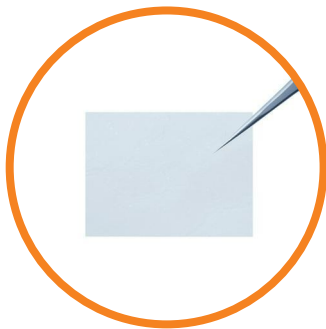
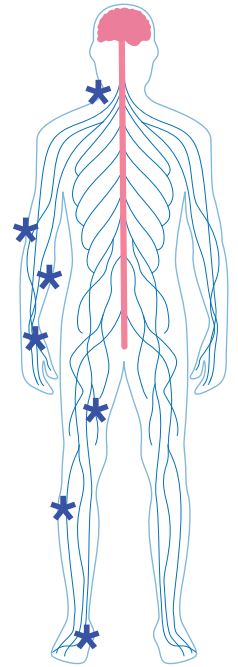


H&E histology after 16 weeks demonstrates remodeling as mesoneurium-like tissue layer begins to form<sup>3</sup>

# Axoguard HA+ Nerve Protector can protect nerves from soft tissue attachments, secondary issues caused by scarring, and mechanical irritation from adjacent implants.

## Applications suitable for Axoguard HA+ Nerve Protector include:

- spinal accessory nerve after neck dissection
- radial nerve laying on metal plating for humeral shaft and olecranon fractures
- ulnar nerve during a revision cubital tunnel release or transposition
- median nerve through the carpal tunnel in revisions
- traumatic injuries of the sciatic nerve
- common peroneal nerve after tibial plateau fractures
- tibial nerve through tarsal tunnel in revisions



Code	Dimensions
AGHA12	1 cm x 2 cm
AGHA22	2 cm x 2 cm
AGHA24	2 cm x 4 cm
AGHA36	3 cm x 6 cm
AGHA48	4 cm x 8 cm

## references

- Zhukauskas R, Fischer DN, Deister C, Alsmadi NZ, Mercer D. A comparative study of porcine small intestine submucosa and cross-linked bovine type I collagen as a nerve conduit. *J Hand Surg Glob Online*. 2021; 3(5): 282-288. doi:10.1016/j.jhsg.2021.06.0
- Kokkalis ZT, Pu C, Small GA, Weiser RW, Venouziou AI, Sotereanos DG. Assessment of processed porcine extracellular matrix as a protective barrier in a rabbit nerve wrap model. *J Reconstr Microsurg*. 2011; 27(1): 19-28. doi:10.1055/s-0030-1267379
- Data on file

## indications and trademark disclaimers

### Axoguard HA+ Nerve Protector

INDICATIONS FOR USE: Axoguard HA+ Nerve Protector is indicated for the management of peripheral nerve injuries where there is no gap.

CONTRAINDICATIONS: This device is derived from porcine source and the lubricant coating is composed of sodium hyaluronate and sodium alginate. The device should not be used for patients with known sensitivity to porcine, alginate, or hyaluronate materials.

visit our  
website  
for more  
information



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