

 **NeuraWrap**TM
nerve protector

*Solutions for peripheral
nerve surgery*

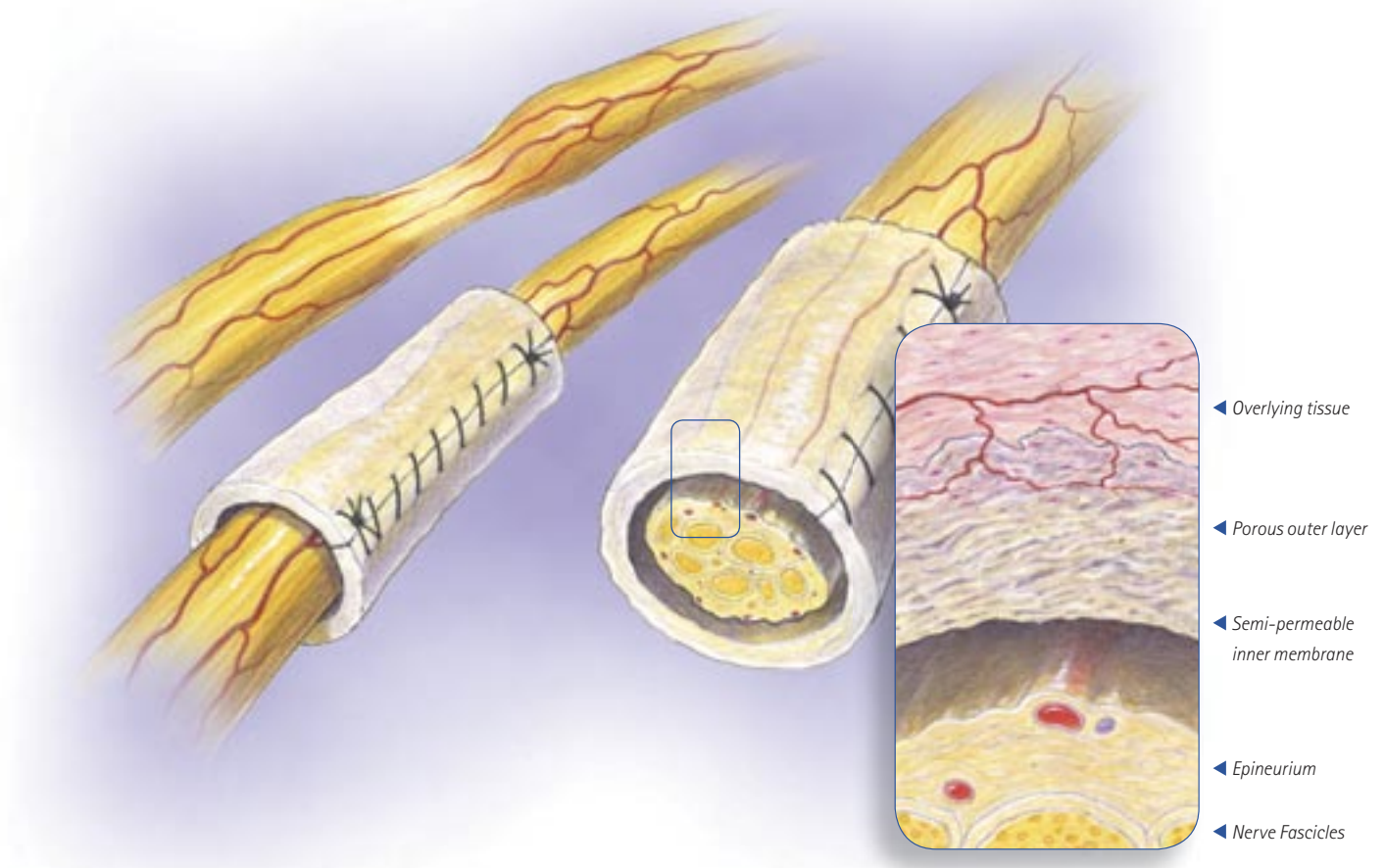
The latest innovation
in peripheral nerve
protection



 **INTEGRA**TM

NeuraWrap™ Nerve Protector

The novel approach for treatment of nerve injury

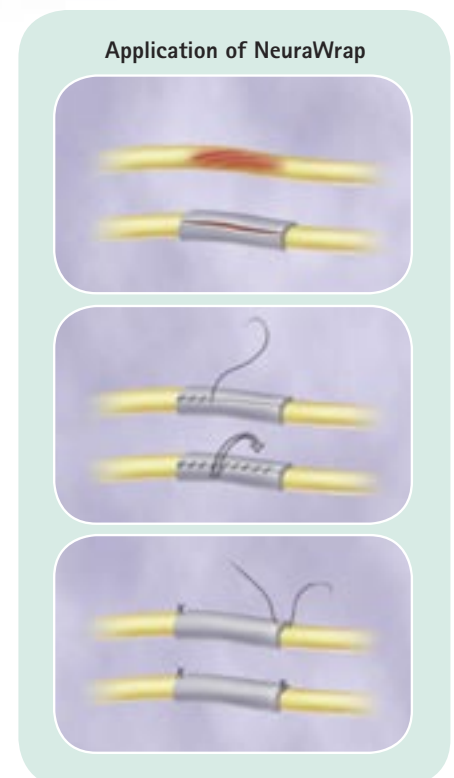


An innovative implant designed for the protection of injured peripheral nerves

- Isolates nerve tissue during the healing process¹
- Minimizes potential for neuroma formation
- Pliable and resilient once rehydrated²
- Collagen structure retains suture¹
- Recovers and maintains closure once placed around the nerve²

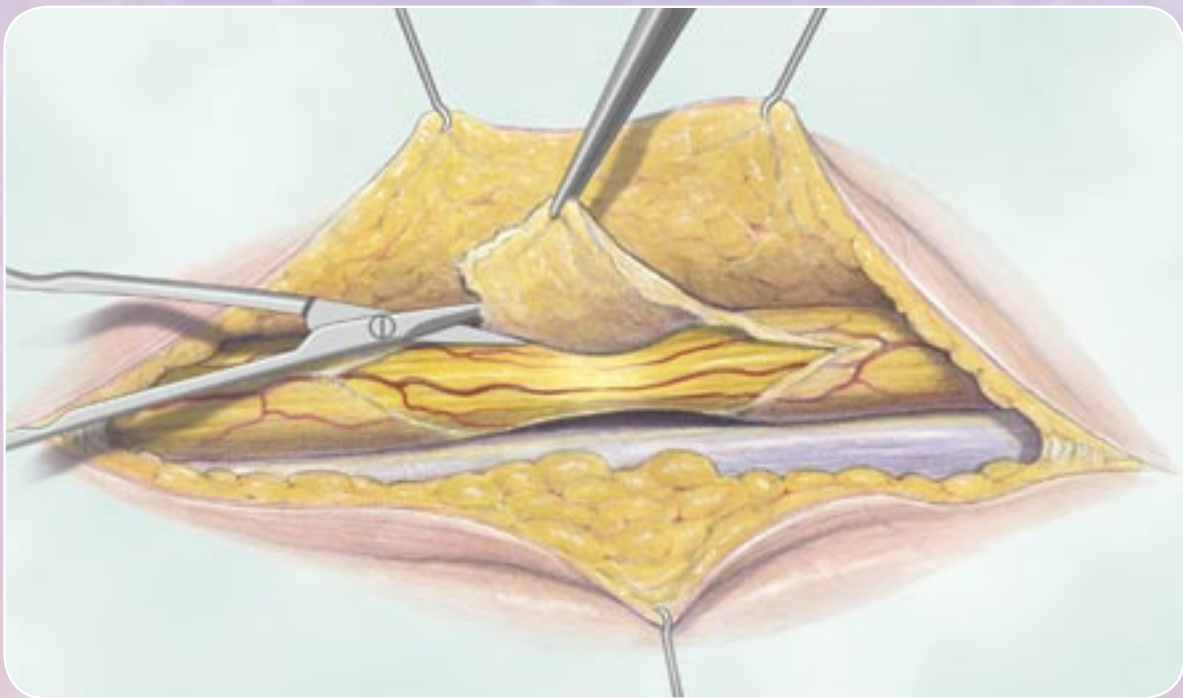
Protection with confidence

- Composed of highly purified type I collagen
- Biocompatible and completely absorbed via normal metabolic pathways¹
- Minimal potential for nerve entrapment
- Excellent tissue compatibility¹



Factors for success in peripheral nerve surgery







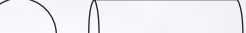

Following peripheral nerve surgery, injured nerves are exposed to a number of influences that can lead to unfavorable clinical outcomes.^{3,4} Poor outcomes can be attributed to scar formation around the nerve, scarring within the nerve, and tethering of the nerve to surrounding tissue.⁵ Isolation of a nerve from its surrounding environment may prevent scar ingrowth, minimize the potential for nerve entrapment, concentrate growth factors at the injury site, and provide guidance for regenerating nerve fibers.^{6,7} Nerve protection may be desirable in a number of clinical situations: following decompression of recurrent carpal or cubital tunnel syndrome, to isolate nerves that lie in a highly traumatized wound bed and for nerves that have been partially severed.



Reliable biological performance

NeuraWrap nerve protector is designed to provide an interface between the nerve and the surrounding tissue. NeuraWrap remains in place during the active phase of tissue healing and is completely resorbed after tissue response has resolved. The porous outer layer of NeuraWrap comprises a tubular matrix that mechanically resists compression from surrounding tissue and excludes scar tissue ingrowth. The semi-permeable inner membrane allows passage of small molecules (i.e. water, ions, metabolites, nutrients), but prevents the escape of endogenous growth factors (i.e. Nerve Growth Factor)! NeuraWrap provides a new alternative for the treatment of peripheral nerve injuries.

Integra™ NeuraWrap Ordering Information

CATALOG NUMBER	SIZE	UNIT/CASE	ACTUAL SIZE (Length shown at 2cm)
NW320	3mm (ID) x 2cm (length)	1	
NW340	3mm (ID) x 4cm (length)	1	
NW520	5mm (ID) x 2cm (length)	1	
NW540	5mm (ID) x 4cm (length)	1	
NW720	7mm (ID) x 2cm (length)	1	
NW740	7mm (ID) x 4cm (length)	1	
NW1020	10mm (ID) x 2cm (length)	1	
NW1040	10mm (ID) x 4cm (length)	1	

DESCRIPTION

NeuraWrap™ nerve protector is an absorbable collagen implant that provides a non-constricting encasement for injured peripheral nerves for protection of the neural environment. NeuraWrap is designed to be an interface between the nerve and the surrounding tissue. When hydrated, NeuraWrap is an easy to handle, soft, pliable, nonfriable, porous collagen conduit. The wall of the conduit has a longitudinal slit that allows NeuraWrap to be spread open for easy placement over the injured nerve. The resilience of the collagen conduit allows NeuraWrap to recover and maintain closure once the device is placed around the nerve. NeuraWrap is provided sterile, non-pyrogenic, for single use only, in double peel packages in a variety of sizes.

INDICATIONS FOR USE

NeuraWrap is indicated for the management of peripheral nerve injuries in which there has been no substantial loss of nerve tissue.

CONTRAINDICATIONS

NeuraWrap is not designed, sold or intended for use except as described in the indications for use and is contraindicated for patients with a known history of hypersensitivity to bovine derived materials.

ADVERSE EVENTS

Possible complications can occur with any peripheral nerve surgical procedure including pain, infection, decreased or increased nerve sensitivity, and complications associated with use of anesthesia.



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References:

- 1 Data on file, Integra LifeSciences Corporation.
- 2 NeuraWrap Instructions for Use, Integra LifeSciences Corporation; 2004.
- 3 Haupt WF, Wintzer G, Schop A, et al.: Long-term results of carpal tunnel decompression: Assessment of 60 cases. *J Hand Surg* 1993; 18B:471.
- 4 Yu GZ, Firrell JC, Tsai TM: Pre-operative factors and treatment outcomes following carpal tunnel release. *J Hand Surg* 1992; 17B:646.
- 5 Mackinnon SE: Secondary carpal tunnel surgery. *Neurosurg Clin North Am* 1991; 2:75.
- 6 Xu J, Sotoreanos DG, et al.: Nerve wrapping with vein grafts in a rat model: A safe technique for the treatment of recurrent chronic neuropathy. *J Recon Micro Surg* 1998; 14:323-329.
- 7 Danielsson P, Dahlin L, et al.: Tubulization increases axonal outgrowth of rat sciatic nerve after crush injury. *Exper Neuro* 1996; 139:238-243.