

Peripheral nerve repair solutions

Soft tissue portfolio



Nerve conduit portfolio

NeuroMatrix Collagen Nerve Conduit

NeuroMatrix is the first generation nerve conduit in the Stryker portfolio.

Designed for peripheral nerve repair

- Provides an encasement for peripheral nerve injuries and protection of the neural environment.
- Semi-permeable structure allows diffusion of nutrients and neurotrophic factors into the conduit, and provides a barrier to larger, scar-forming cells.^{1,7}
- \bullet Type 1 Collagen is better accepted by soft tissue than PGA-based conduits. 10
- Expected to completely resorb in about 8 months after implantation.^{7,8}

Alternative to autograft

- Use of NeuroMatrix or Neuroflex removes the risk of donor-site morbidity, scarring, and neuroma formation.^{3,4}
- \bullet Eliminates the OR time required for harvesting an autograft. 4

Efficiency

- Offers an efficient entubulation technique.
- Room temperature storage and three-year shelf life.
- Six standard sizes allow for accurate size-matching.

Tensionless repair

- Use of a nerve conduit offers a tensionless repair option when direct suture is not possible.⁴
- Studies suggest that regenerating axons accurately align themselves across a confined gap without the approximation of nerve fascicles.^{1,4,7}



Neuroflex Flexible Collagen Nerve Conduit

Neuroflex maintains all of the characteristics of NeuroMatrix with the addition of enhanced flexibility.

Flexible

- When flexed, Neuroflex has been shown to bend up to approximately 60 degrees without forming an occlusion.²
- Corrugated sides allow for additional flexibility.⁹

Variety of clinical applications

- First nerve conduit with an indication to reduce the formation of symptomatic or painful neuromas.⁵
- Designed to be an interface between the nerve and the surrounding tissue to prevent the ingrowth of scar tissue.



Nerve protection

NeuroMend Collagen Nerve Wrap

Provides a protective environment around injured peripheral nerves.

Designed for nerve protection

- NeuroMend provides an interface between the nerve and surrounding tissue.⁶
- Composed of semi-permeable, biocompatible, Type I Collagen which is completely resorbable.^{1,6}

Self-curling design

- Allows for 25% of the conduit to wrap over itself, potentially eliminating the need for a running suture.
- Designed to unroll and self-curl to better match the dimensions of the nerve and offers the ability to wrap nerves from 2.0mm to 12.0mm in diameter.



 $^{1. \}quad \text{Li ST. Peripheral Nerve Repair with Collagen Conduits. Clinical Materials 9 (1992) 195-200}.$

^{2.} Li St., Yuen D., Jenssen JR., A semipermeable, Kink Resistant Type I Colalgen-based Nerve Guide for PNS Repair. Collagen Matrix, Inc. 2003.

^{3.} Taras, John, Vipul Nanavati, and Pamela Steelman. "Nerve Conduits." Journal of Hand Therapy 18.2 (2005): 191-97.

Weber, Robert, Warren Breidenbach, Richard Brown, Michael Jabaley, and Daniel Mass. "A Randomized Prospective Study of Polyglycolic Acid Conduits for Digital Nerve Reconstruction in Humans." Plastic and Reconstructive Surgery 106.5 (2000): 1036-045.

Collagen Matrix Press Release.

^{6.} NeuroMend Instructions for Use MS326, Rev 1.

^{7.} The results of preclinical and in vitro studies may not be indicative of human clinical outcomes

^{8.} Animal study data on file at Collagen Matrix, Inc.

^{9.} U.S. Patent #6,716,225, Implant Devices for Nerve Repair, 2004.

^{10.} Waitayawinu T, Parisi D, Miller B, Luria S, Morton H, Chin S, Trumble T. A Comparison of Polyglycolic Acid Versus Type I Collagen Bioabsorbable Nerve Consuits in a Rat Model: An Alternative to Autografting. Journal of Hand Surgery 2007 Dec; Vol. 32A No. 10:1521-9.

NeuroMatrix

| Ref # | Inner diameter | Length |
|---------|----------------|--------|
| CNC2025 | 2.0mm | 2.5cm |
| CNC2525 | 2.5mm | 2.5cm |
| CNC3025 | 3.0mm | 2.5cm |
| CNC4025 | 4.0mm | 2.5cm |
| CNC5025 | 5.0mm | 2.5cm |
| CNC6025 | 6.0mm | 2.5cm |



Neuroflex

| Ref # | Inner diameter | Length |
|----------|----------------|--------|
| CNCF2025 | 2.0mm | 2.5cm |
| CNCF2525 | 2.5mm | 2.5cm |
| CNCF3025 | 3.0mm | 2.5cm |
| CNCF4025 | 4.0mm | 2.5cm |
| CNCF5025 | 5.0mm | 2.5cm |
| CNCF6025 | 6.0mm | 2.5cm |



NeuroMend

| Ref # | Wrap size | Length | Diameter of injured nerve |
|----------|-----------|--------|---|
| CNW4025 | 4.0mm | 2.5cm | 2.0 - 3.0mm* 4.0mm max (no overlap) |
| CNW4050 | 4.0mm | 5.0cm | 2.0 - 3.0mm* 4.0mm max (no overlap) |
| CNW6025 | 6.0mm | 2.5cm | 3.0 - 4.5mm* 6.0mm max (no overlap) |
| CNW6050 | 6.0mm | 5.0cm | 3.0 - 4.5mm* 6.0mm max (no overlap) |
| CNW12025 | 12.0mm | 2.5cm | 6.0 - 9.0mm* 12.0mm max (no overlap) |
| CNW12050 | 12.0mm | 5.0cm | 6.0 - 9.0mm* 12.0mm max (no overlap) |



Trauma & Extremities

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^{*} 25% overlap is recommended - the max diameter requires the wrap to meet end-to-end which may require a running suture technique.