REAXON® NERVE GUIDE

NERVE CONDUIT MADE OF CHITOSAN

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Chitosan is made from chitin which can be found in nature in the exoskeleton of arthropods.

REAXON® NERVE GUIDE – CHITOSAN FOR ACTIVE NERVE REGENERATION

Chitosan Properties:

- Bioactive – supports nerve regeneration equivalent to the autograft[1]
- Antiadhesive – inhibits scar tissue and neuroma formation[2]
- Antibacterial – limits or prevents infection[3]
- Biocompatible – prevents irritation and inflammation[4]
- Hydrogel – facilitates the transport of nutrients and oxygen[5]

[1] Haastert-Talini et al. Chitosan tubes of varying degrees of acetylation for bridging peripheral nerve defects. Biomaterials 2013; 34: 9886-9904.
[2] Marcol et al. Reduction of post-traumatic neuroma and epineural scar formation in rat sciatic nerve by application of microcrystallic chitosan. Microsurgery 2011; 31: 642-649.
[3] Rabea et al. Chitosan as antimicrobial agent: application and mode of action. Biomacromolecules 2003; 4: 1457-1465.
[4] The biocompatibility of Reaxon® Nerve Guide has been proven in accordance with the ISO 10993 standards.
[5] Freier et al. Chitin-based tubes for tissue engineering in the nervous system. Biomaterials 2005; 26: 6424-6432.

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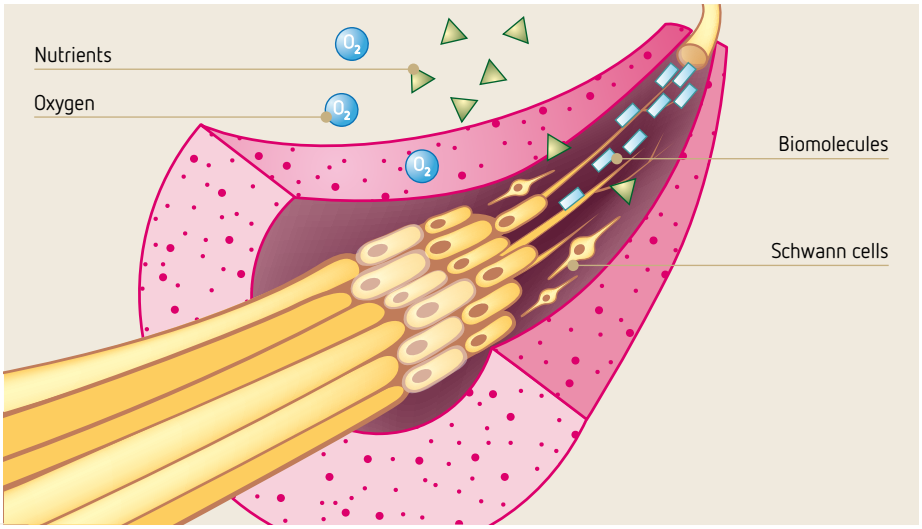
REAXON® NERVE GUIDE – BRIDGING PERIPHERAL NERVES

Reaxon® Nerve Guide is a flexible, long-term stable nerve guide that actively guides the sprouting nerve fibers and inhibits the ingrowth of fibroblastic tissue and scar formation. The transparent hydrogel wall supports the transport of nutrients and oxygen to the regenerating nerve. Reaxon® Nerve Guide provides an optimal environment for the vitality and the growth of Schwann cells.



The electrostatic interaction between the positively charged surface of Reaxon® Nerve Guide with negatively charged bio-molecules and cell components actively supports nerve repair.

Benefits of Reaxon® Nerve Guide in comparison to the use of autografts:

- Preserves the functionality at the donor site
- Saves operation time
- Enables nerve repair without delay
- Prevents donor site morbidity

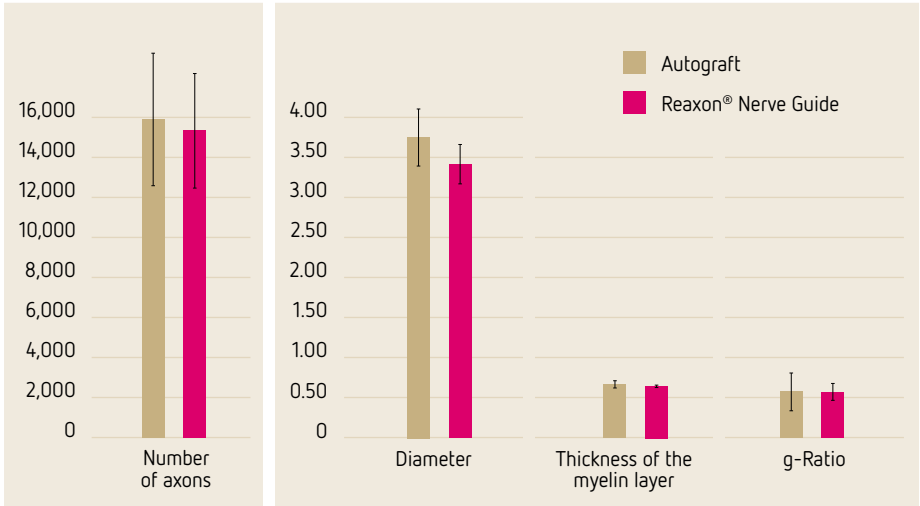
REAXON® NERVE GUIDE – PRECLINICAL STUDIES

Extensive animal testings have confirmed that Reaxon® Nerve Guide is as effective as the autologous nerve graft, the current gold standard.

The potential of Reaxon® Nerve Guide to support nerve regeneration was evaluated in a 10 mm standard rat sciatic nerve defect model.
The regenerated nerve cable is clearly visible after 90 days.

Results of the standard model[6]:

- Reaxon® Nerve Guide and the autologous nerve graft are comparable in the Functional Sciatic Index, Somato-Sensory-Evoked Potential and Compound Muscle Action Potential
- Reaxon® Nerve Guide supports axonal regrowth to a similar extent and a similar thickness of the myelin layer at the proximal and distal stumps of the sciatic nerve compared to the autologous nerve graft
- The regrowth of the nerve tissue inside Reaxon® Nerve Guide can be followed by ultrasonography

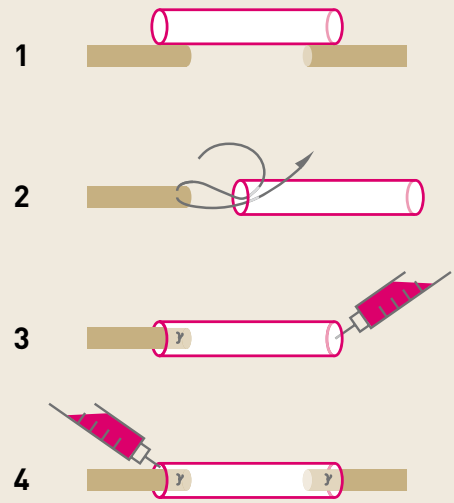


Histology: No statistically significant difference was detected between the Reaxon® Nerve Guide and the autograft groups.

[6] Shapira et al. Peripheral nerve reconstruction of sciatic nerve in rats using chitosan hollow tubes versus standard care with nerve graft. 2nd International Symposium on Peripheral Nerve Regeneration (ISPNR), Jan. 23 – 25th, 2014 in Turin, Italy.

REAXON® NERVE GUIDE – CLINICAL USE

Reaxon® Nerve Guide is designed to repair peripheral nerve injuries up to a nerve defect length of 26 mm. Reaxon® Nerve Guide protects the growing nerve against undesirable external influences and facilitates the transport of nutrients and oxygen due to its hydrogel properties.



Implantation of Reaxon® Nerve Guide: Due to its flexibility Reaxon® Nerve Guide is easy to suture.

Use:

1 Choose a Reaxon® Nerve Guide with a sufficiently large inner diameter. Hydrate Reaxon® Nerve Guide for a minimum of 10 minutes in sterile saline solution and if necessary, shorten the nerve guide to the required length.

2 Place the first suture using non-absorbable monofilament suture material (USP 8-0 sutures are recommended).

3 Fill Reaxon® Nerve Guide with sterile saline solution.

4 Connect the other nerve stump to the Reaxon® Nerve Guide and fill the inside of the nerve guide with sterile saline solution.

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REAXON® NERVE GUIDE – MADE IN GERMANY

Reaxon® Nerve Guide has been developed by the medical technology company Medovent GmbH, located in Mainz/Germany, and is produced in the company's clean room facilities in accordance with the international standard DIN EN ISO 13485.

Since its founding in 2006, Medovent has been focused on the development of medical devices based on chitosan and is the global leader in processing this innovative biopolymer.

Reaxon® Nerve Guide is CE-certified and is supplied in the following dimensions:

Catalog Number	Inner Diameter	Length
RG321	2.1 mm	30 mm
RG330	3.0 mm	30 mm
RG340	4.0 mm	30 mm
RG350	5.0 mm	30 mm
RG360	6.0 mm	30 mm

Reaxon® Nerve Guide is a sterile product and is packed individually.

Customer Service Tel.: +49 (0) 6131 61769 20

Reaxon® Nerve Guide manufactured by:

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