axogen®

get to know nerve repair

understanding your surgical options

eat, touch, run, feel, kiss, smile, hug, walk, eat, touch

revolutionizing the
science of nerve repair™

what nerves do

Nerves are like wires—they carry signals to and from your brain throughout your entire body. Your nervous system gives you the ability to move, feel, touch, or sense hot and cold temperatures, and much more.

why nerve repair matters

When a nerve is cut or damaged, the signals to and from your brain can be interrupted and cause problems such as pain or the inability to move or feel a part of your body. This can significantly impact your quality of life. The goal of nerve repair is to restore as much function as possible so that you can use your hand, arm or leg again—and get back to your everyday life.

what are my surgical options?

Some nerve injuries may require your surgeon to use a bridging material to reconnect a gap caused by your nerve injury. Your surgeon will likely recommend one of two options as bridging material for your nerve repair.

	autograft nerves	allograft nerves
what is it?	A nerve is taken from another part of your body—most often the leg.	Donated nerve tissue that is processed and sterilized.
does it require a second incision during surgery?	Yes	No
will the results be the same?*	**50.5–81.6%**[1] meaningful recovery rate	**52.6–86%**[1] meaningful recovery rate

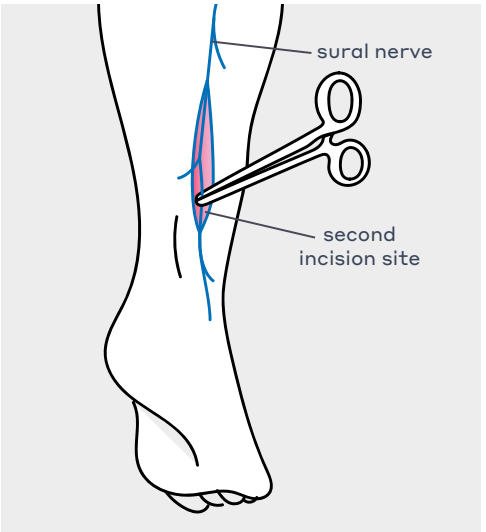
*These rates are considered to be equivalent. There is no statistical difference between them.

how does autograft work?

Using autograft nerve involves surgically removing a sensory nerve from another part of your body to repair your damaged nerve. The most common site is the sural nerve in your leg.

Depending on the extent of your nerve damage, your surgeon may recommend this procedure. But it's important to understand that this can result in long-term side effects at the nerve harvest site:

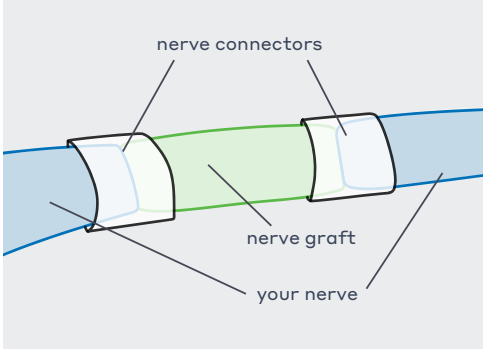
- **92.5%** of patients had long-term numbness (sensory deficits)[2]
- **22.9%** of patients had chronic pain,[2] which can make it difficult to return to work or regular activities
- **28.5%** of patients had sensory symptoms, e.g., tingling, cold intolerance, irritating sensations[2]
- Some patients experience short- or long-term decreased movement in their leg[3]



how does allograft work?

Nerve tissue is donated just like other tissue or organs and undergoes rigorous screening for diseases. The nerves are cleaned and sterilized by Axogen using a patented, proprietary process to ensure the highest quality of nerve graft possible.

The process removes cells from the tissue while leaving the normal, healthy nerve structure intact so you don't need immunosuppression medication like with organ donation. The nerve allograft can be used to bridge the gap caused by your injury, enabling the nerve to heal and repair itself. And it's been shown to result in the same ability to feel or move after surgery as autograft nerve, without the need for a second surgical site.[4]



Surgeons may use a connector-like device when implanting a nerve graft to strengthen the connection and protect the nerve while it heals.

how fast will I heal?

After any nerve surgery, it will take time for the function to return. The nerve needs time to regenerate, which happens slowly, at a rate of about 1 mm/day.[5] It's normal for it to take a while for you to notice a difference. For example, if you injure your hand, it may take five to six months for the feeling to return.

Be patient with yourself and your body during this time. Recovery can also be influenced by other factors, such as your age, the severity of your injury, any other illness you may have, and how closely you follow your doctor's recovery and therapy plan.

what to expect

Nerve regeneration can feel a little strange at times, but mild discomfort is good news and is a sign that your nerve is regenerating and starting to work again. You might notice the following things during the first six months after surgery, but they typically go away within 12 months:[6]

- Hot or cold sensations and sensitivity
- Little shocks or zaps
- Aching or tingling feelings

Remember to remain patient, and stay in communication with your doctor.

"I knew it wouldn't be a quick fix, but 10 months after surgery I'm back to work as a typist and I can take care of my children. My doctor said I could regain 80% function, but I'm knocking on 99.9%."

– Shareda, hand injury patient

learn more

Hear from real patients and learn more about nerve repair.

Visit **axogeninc.com/patient-stories/**

citations

1. Axogen data on file. **2.** Ducic I, Yoon J, Buncke G. Chronic postoperative complications and donor site morbidity after sural nerve autograft harvest or biopsy [published online ahead of print, 2020 Apr 10]. *Microsurgery.* 2020;10.1002/micr.30588. doi:10.1002/micr.30588 **3.** Data on file. Axogen. [inReport-Axogen-242 Sural Harvest v2.0 (003)] **4.** Safa B, Jain S, Desai MJ, et al. Peripheral nerve repair throughout the body with processed nerve allografts: results from a large multicenter study. *Microsurgery.* 2020;40(5):527-537. doi:10.1002/micr.30574. **5.** Grinsell D, Keating CP. Peripheral nerve reconstruction after injury: a review of clinical and experimental therapies. *Biomed Res Int.* 2014;2014:698256. doi:10.1155/2014/698256. **6.** Tinel J. The sign of "tingling" in lesions of the peripheral nerves. *Arch Neurol.* 1971;24(6):574-575.

indications and trademark disclaimers

Avance® Nerve Graft

REGULATORY CLASSIFICATION: Avance Nerve Graft is processed and distributed in accordance with US FDA requirements for Human Cellular and Tissue-based Products (HCT/P) under 21 CFR Part 1271 regulations, US State regulations and the guidelines of the American Association of Tissue Banks (AATB). Additionally, international regulations are followed as appropriate. Avance Nerve Graft is to be dispensed only by or on the order of a licensed physician.

INDICATIONS FOR USE: Avance Nerve Graft is processed nerve allograft (human) intended for the surgical repair of peripheral nerve discontinuities to support regeneration across the defect.

CONTRAINDICATIONS: Avance Nerve Graft is contraindicated for use in any patient in whom soft tissue implants are contraindicated. This includes any pathology that would limit the blood supply and compromise healing or evidence of a current infection.

Axoguard® Nerve Connector

INDICATIONS FOR USE: United States: Axoguard Nerve Connector is intended for the repair of peripheral nerve discontinuities where gap closure can be achieved by flexion of the extremity.

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

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