NanoScopic™

Carpal Tunnel Release System

A patient's guide to endoscopic carpal tunnel release and the NanoScopic release system

Arthrex®

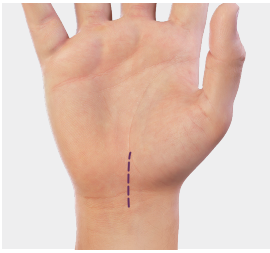
How Is Carpal Tunnel Syndrome Treated?

Carpal tunnel syndrome can be treated using several different techniques. All techniques involve cutting or “incising” the transverse carpal ligament, which allows the tunnel to expand and relieves pressure on the median nerve.

Open Technique

Using an open technique, an incision is made on the palm, generally from the wrist crease towards the center of the palm. Through this incision, the surgeon can cut the transverse carpal ligament to relieve the pressure on the canal. The incision is then closed using sutures.

An open technique is effective but may result in delayed recovery and rehabilitation due to the relatively large incision. This may not be the best option if you wish to return to work or normal activities more quickly.



Open Technique Incision

Endoscopic Technique Incision

Endoscopic Technique

Using an endoscopic technique, a small incision is made in a crease at the wrist, and a camera is inserted into the carpal tunnel. The transverse carpal ligament can be seen through the camera, which allows your surgeon to incise the ligament by raising a small blade housed within the device. The blade and camera are removed, and the incision is closed using sutures or a small bandage.

The advantage of the endoscopic approach is that the incision is significantly smaller, which lessens the trauma seen during open carpal tunnel release surgery. Endoscopic surgery for carpal tunnel syndrome has been used for more than 20 years and is a proven and effective treatment.

How May Recovery Differ?

When comparing endoscopic and open carpal tunnel release, recovery and return to work/activity may differ significantly. While each patient recovers differently, the literature has shown that the average patient does return to work more quickly and experiences less pain postoperatively after endoscopic carpal tunnel release.[1]

An example of one surgeon's experience with both techniques is illustrated below:

"Open carpal tunnel release procedure typically leaves patients with about 4 or 5 weeks of palm pain, and so I recommend not doing a whole lot of heavy lifting, gripping, pushing, and pulling for those 4 weeks. [And for my patients]...4 weeks is a long time.

"The best part about [endoscopic carpal tunnel release]...is that the procedure can be done wide awake. Patients don't have to worry about coming out from anesthesia and are more alert and tend to recuperate quicker...[and] it is less stress on the body.

"With endoscopic carpal tunnel release, I can get you back to the things you love doing within about 2 or 3 weeks as opposed to the typical 4 or 5 weeks of down time after open carpal tunnel release."

Steven R. Niedermeier, MD
North Texas Orthopedics and Spine Center

What are patients saying?

Q. Would you recommend endoscopic carpal tunnel release under local anesthesia to someone who needs carpal tunnel surgery?

"Yes. This surgery is easy. You are wide awake, you don't have any anesthesia, and I could drive home if I wanted."
— Real patient feedback

References

1. Agee JM, McCarroll HR Jr, Tortosa RD, Berry DA, Szabo RM, Peimer CA. Endoscopic release of the carpal tunnel: a randomized prospective multicenter study. *J Hand Surg Am*. 1992;17(6):987-995. doi:10.1016/s0363-5023(09)91044-9
2. Torpy JM, Lynm C, Golub RM. Local anesthesia. *JAMA*. 2011;306(12):1395 doi:10.1001/jama.306.12.1395

Anesthesia Options

Because the NanoScopic™ carpal tunnel release procedure is done in an operating room or in-office, your surgeon may offer you a choice of anesthesia. This is solely reliant on your surgeon but, in general, the options for endoscopic carpal release include the following:

- **General anesthesia:** Given in the operating room, this will make you fall asleep and requires a few hours of observation after your surgery.
- **Regional block:** This can be done in the operating room, but you will remain aware of your surroundings. Your arm will be numb. A regional block requires less time in the recovery room than general anesthesia.
- **Local anesthesia:** This can be given in all settings, including the doctor's office. You will remain awake, and you are generally observed for less than 10 minutes after the procedure.

Figure 1. Local anesthesia being administered for wide awake surgery[2]

What Is Carpal Tunnel Syndrome?

The carpal tunnel is located where the median nerve and the tendons that flex the fingers into a fist enter the hand. The transverse carpal ligament spans the roof and connects to the bones of the hand on the sides of the carpal tunnel. Carpal tunnel syndrome occurs when pressure compresses the median nerve inside the tunnel. This pressure may result from swelling within the carpal tunnel.

People whose occupations require extensive repetitive use of the hand, such as typists, carpenters, and illustrators, tend to be at increased risk of developing carpal tunnel syndrome. In addition, people with medical conditions associated with soft-tissue swelling, including diabetes, hypothyroidism, arthritis, and pregnancy, are prone to develop carpal tunnel syndrome. Finally, traumatic carpal tunnel syndrome occurs when a wrist fracture causes increased pressure on the nerve.

If you have carpal tunnel syndrome, you may experience pain, numbness, or tingling in the hand, most commonly in the thumb, index finger, middle finger, and half of the ring finger. The pain may radiate into your forearm and be most symptomatic at night. Activities that involve the use of the hand may worsen symptoms. Some patients also complain of cold intolerance and difficulty grasping objects.

If left untreated, carpal tunnel syndrome can lead to permanent dysfunction of the hand, including loss of sensation in the fingers and weakness. For this reason, it is important to diagnose and treat this condition promptly.

What Is the Arthrex NanoScopic™ Carpal Tunnel Release System?

The NanoScopic release system is a sterile kit that allows your surgeon to perform the endoscopic carpal tunnel release in a procedure room at a surgery center, a hospital, or even in a clinic. This all-in-one system uses the least amount of equipment and results in a small incision and less time spent in the operating room.

The NanoScopic carpal tunnel release system consists of a scope (small camera), a device that has a small blade, and a general instrument that allows your doctor to easily insert the camera and device.

To learn more about endoscopic carpal tunnel release using the NanoScopic release system, please visit **arthrex.com**.