

Open Technique

Using the open technique, an incision is made from the wrist crease towards the center of the palm extended over the transverse carpal ligament. The incision is carried down through the skin and connective tissue until the transverse carpal ligament is reached. The surgeon cuts the ligament with a blade or surgical scissors to relieve the pressure on the canal. The incision is then closed using sutures and the hand is wrapped in appropriate dressings.

This technique is effective, but may result in a delayed recovery and rehabilitation due to the extensive incision. This may not be the best option for those wishing to return to work or normal activities in the shortest amount of time.

What is Carpal Tunnel Syndrome?

Carpal tunnel syndrome can cause discomfort, pain, numbness, and tingling in the affected hand. This syndrome is created by pressure on the median nerve as it courses through the carpal canal. The carpal canal is a rigid tunnel in the center of the wrist formed by the carpal bones of the hand and a strong ligament called the transverse carpal ligament. This canal is shared by the flexor tendons traveling from the forearm into the hand. When swelling occurs in this canal, pressure can compress the median nerve and cause symptoms of carpal tunnel syndrome. There can be many causes of swelling in the carpal canal ranging from heredity, thyroid problems, fractures, diabetes and fluid retention during pregnancy. Many of the symptoms typically occur at night and are made worse by repetitive hand movements such as grasping or squeezing. Many times the exact cause of swelling is unclear.

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Endoscopic Technique

Using the endoscopic technique, a small incision is made in the wrist flexion crease and a small camera mounted to the Centerline™ endoscopic carpal tunnel release device is inserted into the carpal canal. The transverse carpal ligament is visualized through the camera and viewed on a monitor screen. The surgeon will cut the transverse ligament by raising a small blade on the Centerline device and precisely cut the transverse ligament. Once transected, the device is removed from the wrist and the small incision is sutured and dressed.

The advantage of the endoscopic approach is that the incision is significantly smaller and is placed in an area that reduces tissue damage. Endoscopic surgery for carpal tunnel syndrome has been used for over 20 years and is a proven effective treatment.¹

References:

1. Agee JM, et al. Endoscopic carpal tunnel release: a prospective study of complications and surgical experience. *J Hand Surg Am.* 1995;20(2):165-171. doi:10.1016/S0363-5023(05)8000-2.
2. Vasiliadis HS, et al. Endoscopic versus open carpal tunnel release. *Arthroscopy.* 2010;26(1):26-33. doi:10.1016/j.arthro.2009.06.027.

Treatment includes nonsurgical and surgical options. Nonsurgical treatment options typically include behavioral modifications such as limiting activities that may be causing symptoms and taking frequent breaks from repetitive tasks. Your doctor may advise wearing a wrist splint to keep your wrist straight or prescribe anti-inflammatory medications to relieve pain and reduce inflammation.

Surgical treatments relieve symptoms of carpal tunnel syndrome by cutting the strong transverse carpal ligament which forms part of the carpal canal. By cutting this ligament, the canal is allowed to expand and relieves the constriction, allowing normal nerve function to return.

Two of the most common techniques used to perform this surgery are the open and endoscopic approaches. Both techniques are effective and cut the transverse ligament to relieve symptoms, but the endoscopic approach typically results in less postoperative pain, a faster recovery time, and a virtually undetectable surgical scar.²

Your surgeon will guide you in deciding what particular treatment is best for you and explain the risks and contraindications associated with any treatment. Please be aware that surgery and recovery protocols may vary and any questions pertaining to the surgical procedure or postoperative protocol should be discussed with your surgeon.



Carpal Tunnel Syndrome (CTS)

Patient information regarding CTS and minimally invasive treatment techniques

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To learn more about carpal tunnel surgery and other orthopedic procedures, please visit our patient education website — www.orthoillustrated.com.



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