
Carpal Tunnel Syndrome

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DELLON INSTITUTES FOR PERIPHERAL NERVE SURGERY®

1122 KENILWORTH DRIVE, SUITE 18, TOWSON, MARYLAND 21204 T410 337 5400 F410 337 5520 dellon.com



YOUR COMPLAINTS ARE

Numbness and tingling in the thumb, index and middle fingers on the front of the hand (blue area).

The hand wakes you up at night.

The hand may go to sleep while you are working.

Numbness and tingling may come and go.

Numbness and tingling may be present all the time.

You may have trouble controlling your thumb.

The little and ring finger are not part of Carpal Tunnel Syndrome. If they are numb, you also may have Cubital Tunnel Syndrome (see the *Cubital Tunnel* brochure for more information).

WHAT CAUSES YOUR COMPLAINTS?

A nerve crosses the wrist through a tunnel.

This nerve is called the *Median Nerve*.

The nerve is as thick as a pen.

When the wrist bends up or down, the nerve gets pressed.

When the nerve gets pressed, blood flow to the nerve slows, blood flow decreases, and the nerve sends a message of numbness and tingling, or buzzing of the fingers.

TREATMENT WITHOUT SURGERY

Alter your activities so you do not bend your wrist so much.

Wear a splint that keeps your wrist straight when you sleep.

A injection of a steroid into the carpal tunnel may help.

WHEN SHOULD I HAVE SURGERY?

When your symptoms are present most of the day.

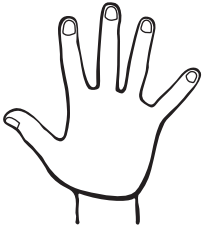
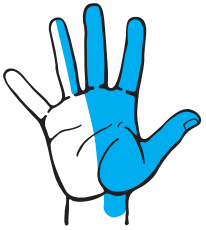
When your hand awakens you from sleep each night.

When wearing the splint no longer helps you, or you are tired of wearing a splint, or wearing the splint interferes with your hand function.

When you lose sufficient feeling in your fingers that you have trouble picking up objects or dressing.

When you have loss of muscle strength to thumb muscles, that lift thumb away from your palm.

When neurosensory testing with the Pressure-Specified Sensory Device™ (see the *Neurosensory Testing* brochure for more information) demonstrates nerves are dying.



Right hand with area of carpal tunnel syndrome symptoms noted in blue.

WHAT IS THE SURGERY LIKE?

The surgery takes less than one hour.

The surgery is an outpatient procedure.

Local anesthesia with sedation or general anesthesia is used.

An incision is made near the center of the palm of the hand in one of the natural skin creases.

The ligament that is the roof of the carpal tunnel is released.

If there are excessive swollen tissues surrounding the median nerve, then these can be removed (synovectomy).

If there is scarring within the median nerve, then microsurgery can be performed to remove this (internal neurolysis).

If the thumb muscles are weak or dying, then neurolysis is performed to the median nerve motor branch.

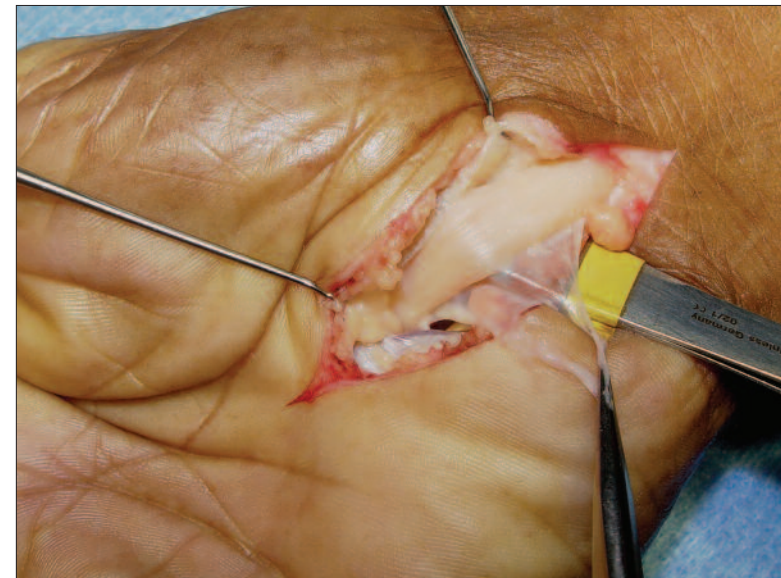
Local anesthesia is placed into the skin, so when you awoken from surgery, your fingers may feel numb, but you will have no pain.

A splint is placed across the wrist for one week, but you can move your fingers and use your hand right away to do usual daily activities.

WHAT DOES THE NERVE LOOK LIKE?



The palm of the hand is open, the ligament that forms the roof of the carpal tunnel (held in the hooks) has been divided, and the median nerve is seen within the tunnel. The median nerve is thick and scarred.



The scarring is removed from the median nerve to reveal the small, normal appearing bundles (fascicles) of the nerve.

The length of this incision can be made about half this size.

WHAT ARE THE RISKS OF SURGERY?

The published outcomes of the Dellon-approach to the treatment of median nerve problems offer the best success for relief of your symptoms. There are risks associated with every surgical procedure, such as the risk of anesthesia, bleeding and infection.

Complications unique to decompression of the carpal tunnel are:

- Unpredictable nature of the healing process (scar formation).
- Painful scar due to entrapment of a nerve to the skin.
- Applying too much pressure to the palm of your hand too soon after surgery can cause the stitches to break.
- Wound healing can take longer if you are a diabetic.
- There may be remaining numbness in your fingers.
- It may take up to one year to achieve maximum relief.

WHO SHOULD DO THIS SURGERY?

Surgeons from the *Dellon Institutes for Peripheral Nerve Surgery*® have the most advanced training and experience doing this surgery, which offers you the best chance for success.

BEING ACADEMIC IN PRIVATE PRACTICESM

Mackinnon, S.E., Dellon, A.L.: Carpal Tunnel Syndrome, in *Surgery of the Peripheral Nerve*, Chapter 6, Thieme Pub., New York, NY., 1988.

Chang B, Dellon AL: Surgical management of recurrent carpal tunnel syndrome. *J Hand Surg (Br)* 18B:467-470, 1993.

Evans GRD, Dellon AL: Implantation of the palmar cutaneous branch of the median nerve into the pronator quadratus for treatment of painful neuroma. *J Hand Surg* 19A:203-206, 1994.

Dellon AL, Keller KM: Computer-assisted quantitative sensory testing in carpal and cubital tunnel syndromes. *Ann Plast Surg* 38:493-502, 1997.

Weber, R., Weber, R.A., Schuchmann, J.A., Ortiz, J.: A prospective blinded evaluation of nerve conduction velocity versus pressure-specified sensory device testing in carpal tunnel syndrome, *Ann Plast Surg*, 45:252-257, 2000.

Dellon, A.L.: Clinical grading of peripheral nerve problems, *Neurosurg Clinic N Amer*, 12: 229-240, 2001.

Perkins, B.A., Olaaleye, d., Bril, V: Carpal tunnel syndrome in patients with diabetic polyneuropathy, *Diabetes Care*, 25:565-569, 2002.

Slutsky, DJ: Use of nerve conduction studies and the pressure-specified sensory device in the diagnosis of carpal tunnel syndrome, *J Hand Surgery*, 34E:60-65, 2009.

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