

## What is carpal tunnel syndrome?

Carpal tunnel syndrome is the compression of the median nerve located in the wrist. This nerve supplies feeling to the thumb, index, middle, and ring fingers.

The carpal tunnel is a well-defined space in the palm at the wrist; the two walls of this anatomical tunnel are formed by bones that support the wrist. The roof of the tunnel is the thick transverse carpal ligament. Several tendons and the median nerve pass through this tunnel. Space in the tunnel decreases when tendons swell or the ligament thickens. Pressure inside the tunnel increases and restricts blood flow to the nerve. The pressure is most noticeable when the wrist is fully extended or flexed.

Although many medical conditions and activities are known to be related to carpal tunnel syndrome, most patients with carpal tunnel syndrome have no specific medical problems associated with it. Some conditions that are associated with carpal tunnel syndrome include:

- Aging
- Arthritis
- Diabetes
- Pregnancy
- Thyroid disorders

For more information about carpal tunnel syndrome, please consult your physician.

### **UW Hand Surgery Institute faculty from the UW Department of Orthopaedics and Sports Medicine**

Chris Allan, M.D.  
Douglas Hanel, M.D.  
Arshad Muzaffar, M.D.  
John Sack, M.D.  
Thomas Trumble, M.D.  
Nicholas Vedder, M.D.

The University of Washington reaffirms its policy of equal opportunity regardless of race, color, creed, religion, national origin, sex, sexual orientation, age, marital status, disability, or status as a disabled veteran or Vietnam era veteran in accordance with University policy and applicable federal and state statutes and regulations. The University of Washington is committed to providing access and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation in the application process contact the department at UW Medical Center or the Disability Services Office at least ten days in advance at: 206-543-6450 (voice), 206-543-6452 (TTY), 206-685-7264 (fax), or e-mail at [dso@u.washington.edu](mailto:dso@u.washington.edu).

## UW Medicine

**HARBORVIEW  
MEDICAL CENTER**  
UW Medicine

ORTHOPAEDIC CLINIC  
206-731-3462

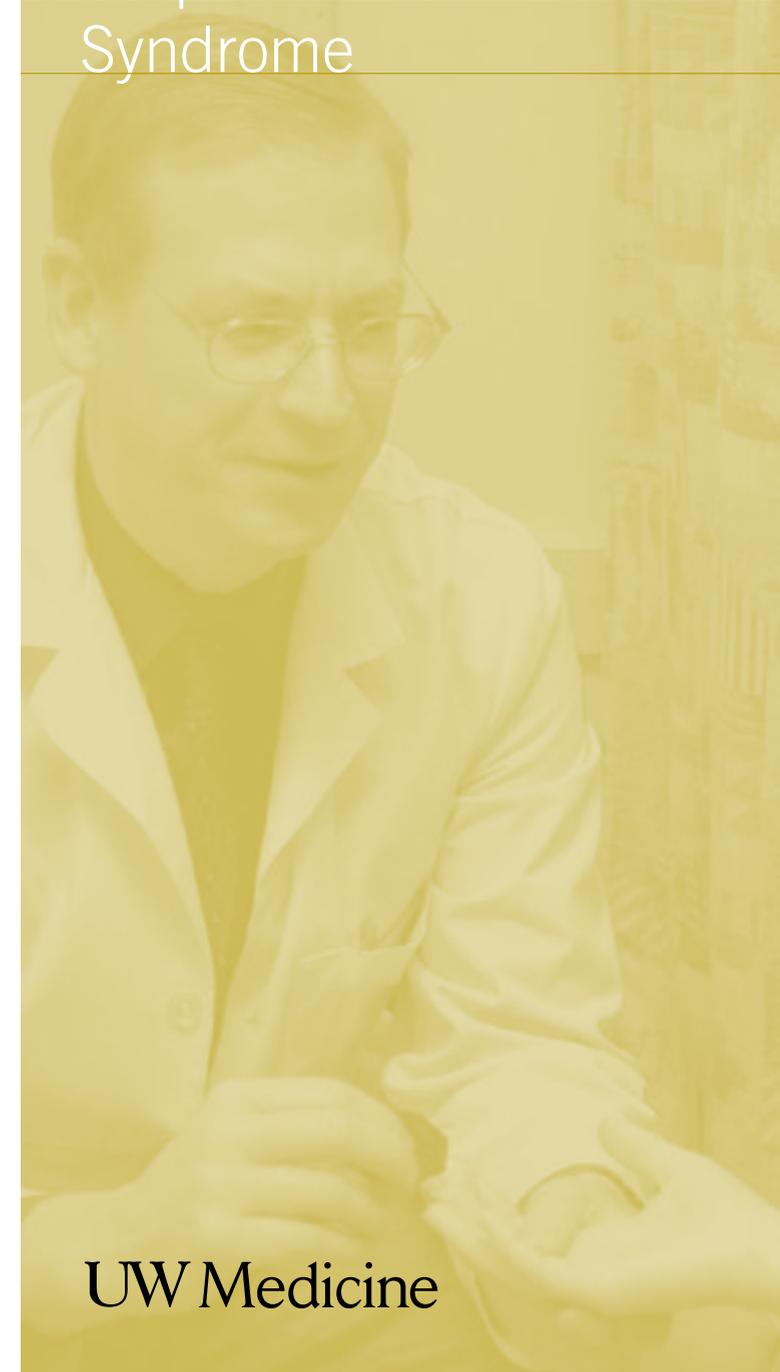
UNIVERSITY OF WASHINGTON  
**MEDICAL CENTER**  
UW Medicine

BONE AND JOINT CENTER  
206-598-6458

[www.orthop.washington.edu/hand\\_wrist](http://www.orthop.washington.edu/hand_wrist)  
[www.uwmedicalcenter.org](http://www.uwmedicalcenter.org)

0603/rbgd/mktgap

## Carpal Tunnel Syndrome



## UW Medicine

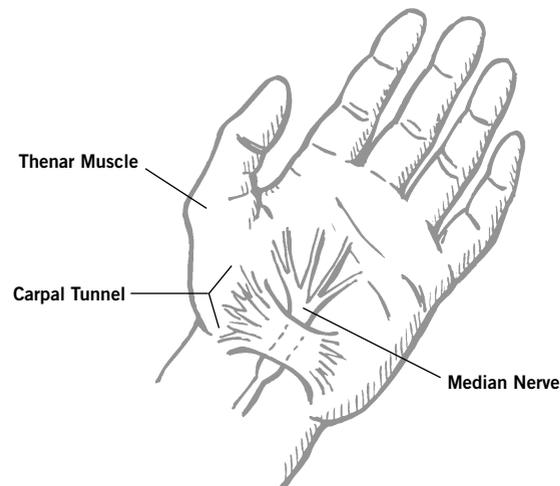
## Symptoms

- Tingling or numb fingers, especially the thumb, index, and middle fingers
- Hand pain and numbness, especially at night
- Morning or daytime numbness, relieved by shaking the hand
- Occasional hand weakness.

## Diagnosis

Examination to evaluate the strength and sensitivity of the hand can help diagnose carpal tunnel syndrome.

Electromyogram and nerve conduction velocity studies (EMG/NCV tests) map the function of the nerve and help to confirm whether the condition is mild or severe. This electrical study can also help to identify other diseases or conditions that may mimic carpal tunnel syndrome. Some conditions can place pressure on nerves at different sites, such as the neck and elbow.



## Treatment

### For mild cases:

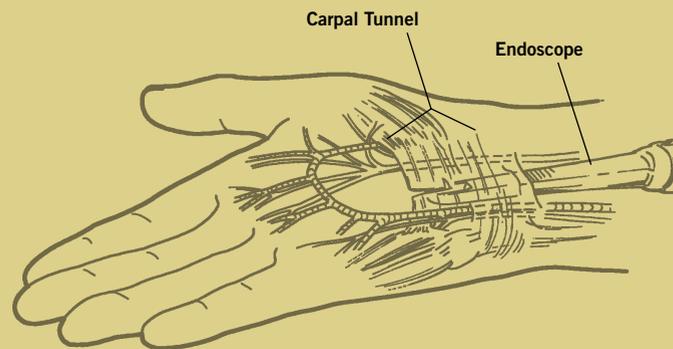
- A wrist brace may be prescribed for symptoms of a few weeks or months. The brace prevents extreme wrist motion. When worn at night, the brace can prevent waking with hand pain.
- Oral anti-inflammatory medicine, such as aspirin or ibuprofen can reduce inflammation.
- Corticosteroid injections can greatly relieve early carpal tunnel syndrome.

### For moderate to severe cases:

Surgery is generally recommended. Although braces may help, they will not relieve all the symptoms of pain, numbness, or tingling. Without surgery to relieve the pressure on the nerve, these symptoms may become permanent.

Surgery involves an incision in the transverse carpal ligament to increase the space available for the nerve. This relieves pressure in the tunnel. This can be done through an incision from the palm to the wrist, a limited incision in the palm only, or an endoscopic carpal tunnel release using a specific fiberoptic instrument (see figure below).

The last two options decrease the length of the scar, which can speed recovery.



## After Surgery

Your restrictions after surgery will depend on whether or not you had surgery on your writing hand.

Driving — most people can drive one or two days after surgery.

Writing — you can do some writing within one week after surgery, but often it takes 3 to 4 weeks to write or type comfortably on a regular basis.

Gripping and pulling — light activities may be possible within 6 to 8 weeks, but full grip strength does not return for 10 to 12 weeks. Our surveys have shown that grip strength continues to improve for up to one year.

## Complications

Pain and soreness at the surgical site can occur in some cases, but usually resolve with therapy. Symptoms can return even when precautions are taken to avoid excess vibration or flexion after surgery. Although nerve injury during surgery is extremely rare, it can occur, especially if the nerve follows an unusual path across the wrist.