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Carpal Tunnel Syndrome

What is carpal tunnel syndrome?

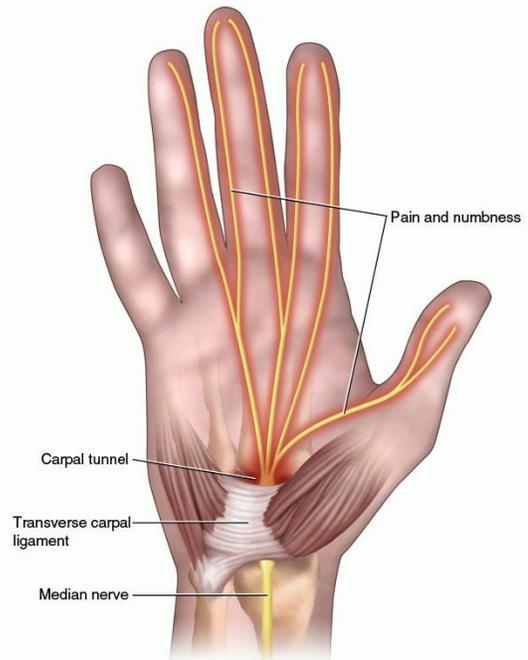
Carpal tunnel syndrome (CTS) is a common, painful disorder of the wrist and hand.

How does it occur?

CTS is caused by pressure on the median nerve in your wrist. Several factors have been associated with the risk of developing CTS: genetic predisposition, obesity, rheumatoid or osteoarthritis of the wrist, diabetes, hypothyroidism and trauma (such as a wrist fracture). People who regularly perform repetitive bending of the wrist, especially with a forceful grip or use vibratory hand tools may also be at increased risk for developing CTS. Keyboarding and computer work has not been found to have an association with CTS.

Pressure on the nerve may also be caused by a fracture or other injury, which may cause inflammation and swelling. In addition, pressure may be caused by inflammation and swelling associated with arthritis, diabetes, and hypothyroidism. Carpal tunnel syndrome can also occur during pregnancy.

Carpal Tunnel Syndrome



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The anatomy of the carpal tunnel

CTS results from pressure on the median nerve as it travels through the carpal tunnel at the wrist. The bones of the wrist form the floor and sides of the tunnel and a tight band of tissue (the transverse carpal ligament) serves as the roof. The tendons to the fingers and one of the main nerves to the hand (the median nerve) travel through this confined space. When there is increased pressure within the carpal tunnel, the median nerve can be compressed and become painful or injured.



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What are the symptoms? Symptoms may include:

- Pain, numbness, or tingling in your hand, especially in the thumb and index and middle fingers; pain may radiate up into the forearm
- Increased pain/numbness with increased use of your hand, such as when you are driving or reading the newspaper
- Increased pain/numbness at night and feeling the need to shake out your hand
- Weak grip and tendency to drop objects held in the hand
- Muscle atrophy (shrinking) of thumb muscles (only in late stages)

How is it treated?

If you have a disease that is causing carpal tunnel syndrome (such as rheumatoid arthritis), treatment of the disease may relieve your symptoms.

Other treatment focuses on relieving irritation and pressure on the nerve in your wrist. To relieve pressure your healthcare provider may suggest:

- changing your work station (the position of your desk, computer, and chair) to one that irritates your wrist less and avoids bent positions of the wrist
- wearing a wrist splint
- A nerve study may be ordered to confirm the diagnosis and determine the severity

Your provider may prescribe anti-inflammatory medicine, such as ibuprofen. He or she may recommend an injection of a cortisone-like medicine into the carpal tunnel area. In some cases surgery may be necessary.

How long will the effects last?

How long the symptoms of carpal tunnel syndrome last depends on the cause and your response to treatment. Sometimes the symptoms disappear without any treatment, or they may be relieved by nonsurgical treatment. Surgery may be necessary to relieve the symptoms if they do not respond to treatment or they get worse. Surgery usually relieves the symptoms. Symptoms of carpal tunnel syndrome that occur during pregnancy usually disappear following delivery.

Adapted from *Sports Medicine Advisor*

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