Carpal Tunnel Syndrome

This information explains carpal tunnel syndrome, some of its common causes, and how it can be treated.

Your carpal tunnel is a narrow tunnel in your wrist that protects your median nerve (nerve that runs from your forearm to your palm) and other tissues (see Figure 1). Your median nerve allows you to have feeling in your first 4 fingers.

Carpal tunnel syndrome is when the tissues in your carpal tunnel swell and press on your median nerve. This can make your hand hurt or feel numb. In some people, the carpal tunnel is small, which make them more likely to get carpal tunnel syndrome.

Causes of Carpal Tunnel Syndrome

Some factors that can cause swelling of your carpal tunnel are:

- Repeating the same wrist movements or using your wrist too much
- Moving your wrist forcefully
- A tumor
- Dislocations, sprains, or wrist injury
- Not having enough vitamin B6 in your diet
- Using aromatase inhibitors (medication used in some treatment for breast
cancer in females who have gone through menopause

- Being female
- Having genes that make you more likely to develop carpal tunnel syndrome
- Medical conditions, such as:
  - Arthritis
  - Kidney failure
  - Liver disease
  - Hypothyroidism (a condition in which your thyroid gland doesn’t produce enough hormones)
  - Pregnancy
  - Obesity
  - Amyloidosis (a disease in which proteins build up in your organs)
  - Acromegaly (a disease that makes some bones get much larger than usual)

**Symptoms of Carpal Tunnel Syndrome**

You may have just 1, some, or many symptoms of carpal tunnel syndrome. Your symptoms can change over time.

Symptoms usually occur in your hands, wrists, and fingers. Common symptoms include:

- Pain
- Burning
- Numbness and tingling, usually in your first 3 fingers
- Weakness
- Not being able to make a fist
- Stiffness
Diagnosing Carpal Tunnel Syndrome

Your doctor will diagnose carpal tunnel syndrome by:

- Reviewing your medical history.
- Giving you a physical exam.
- Ordering tests that look at your muscles and nerves. These tests are called nerve conduction studies and electromyography (EMG). Your doctor will let you know if you will need to have these tests done.

Your doctor may also order blood work and x-rays. These tests are done to rule out other conditions that may be causing your problem.

Treatment for Carpal Tunnel Syndrome

The goal of treatment is to relieve the pressure on your median nerve, which will make your hand feel better. The type of treatment you receive depends on the length and severity of your symptoms. Treatment will also look for what is causing your carpal tunnel syndrome.

Some of the treatments that your doctor may suggest include:

- Resting your wrist to relieve the pressure on the nerve. Try to identify the activities that are making your symptoms worse so you can stop or change them.
- Splinting your wrist to keep your hand and wrist in a position that doesn’t cause strain. This will help reduce the swelling that is pressing on your nerve, which will help decrease your symptoms. Wear your wrist splint as instructed by your doctor.
- Your doctor may suggest that you work with a physical or occupational therapist. Your therapist will:
  - Give you suggestions on how to change habits that may be causing the strain.
  - Adjust your wrist splint so that it fits correctly.
Show you how to move or hold your hand in a way that doesn’t increase pressure on your median nerve.

Teach you exercises that will strengthen your hand and wrist.

- Medication may be used to decrease the swelling. The most common types of medication used to help with carpal tunnel syndrome are nonsteroidal anti-inflammatory drugs (NSAIDs). These will help with the pain and reduce swelling.

- Your doctor will tell you which medication is best for you. Your doctor will base this on your symptoms and health history. You should take these medications according to your doctor’s instructions.

If these treatments don’t relieve your carpal tunnel syndrome, your doctor may recommend:

- Steroid injections (shots) into the carpal tunnel area. This will reduce the swelling. A decrease in swelling may help to decrease pain. Steroid shots are used if your pain doesn’t go away after trying other therapies. These shots may help with the pain and swelling for several weeks or months.

- Surgery, if you have a lot of pain and severe limitations in your movement, or if other treatments haven’t worked. The surgery will release pressure on the nerve with the goal of reducing your pain.

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.