

Carpal Tunnel Syndrome

(Why now? I've been doing that for years!)

by Laura Rampil, DO

In most cases of carpal tunnel syndrome people develop the pain and numbness after doing the same repetitive motion for years. But something had to be new and different to cause such a malfunction of the exquisite mechanics of the human hand. Usually it is something simple: carrying a few heavy plastic grocery bags in one hand while trying to open a doorknob with the same hand. It doesn't cause severe pain but we have all felt something like it. This is enough to change the way our wrist works and cause carpal tunnel syndrome. Not just the wrist can be affected but how we subtly change our body in response to not being able to use our wrist properly. We hold our necks and upper arms and back differently to brace against our new way of doing things with our sore hand.

As a D.O., I am a fully licensed physician who trained side by side with M.D.s but had additional training in functional anatomy and osteopathic manipulation. I was taught to help the body heal itself by restoring the structure to its proper function. Using my hands, I help drain the excess fluid that is trapped in the wrist and hand. Then I help the body to return the carpal bones to their normal motion within their ligaments. There is significant relief after one treatment and in most cases one to three treatments is all that is needed.

The Osteopathic approach does not just look at the hand and wrist but the strain that develops up the arm into the neck and upper back. We use many different types of manual techniques, integrating our understanding of anatomy and physiology, to treat the body at the levels of bone, membrane, fluid, the nervous system and the energy system. In severe cases I will use a Homeopathic anti-inflammatory either as a cream, oral or injection. I also may use herbal anti-inflammatories including one that has equaled Celebrex in pain relief without the side effects.

It is true that if you decrease the swelling, sometimes carpal tunnel syndrome will fix itself. That is why most doctors give anti-inflammatory medications like Advil (Ibuprofen) or Aleve (Naproxen sodium). But these medications have many side effects including liver disease or injury to the

stomach or esophagus (heart burn, reflux or ulcers). Many doctors bring down the inflammation by giving a steroid injection. I have not needed to inject steroids in many years. Both of these methods can fix the problem some of the time.

When they don't, the next step in the medical world is surgery. The surgeon makes a small incision and cuts the band that holds the arch of bones together which creates more space for the nerve. In some patients, especially people whose bodies make thick bulky scars, the scar tissue can create a more complicated cause of nerve irritation. On occasion, surgery is the best answer for certain situations that have failed all other avenues. Using manipulation prior to surgery takes any strain and swelling out of the tissue so the body can heal with the least impediment. I have also successfully treated wrists that have failed surgery. These patients either still had a ligamentous strain in the tissues or scar tissue formed which altered the mechanics and/or trapped the nerve. Either osteopathic manipulation alone or in combination with neural therapy can help in these situations. Unfortunately, the more trauma to the region and the longer a situation has been present, the more challenging the case. Fortunately, complex cases are my favorite.

Some people are more likely to develop carpal tunnel syndrome: pregnant women, people with diabetes or thyroid disease and people who carry excess weight. The goal is to make the patient comfortable while the underlying situation is dealt with. Time and getting the swelling out of the tissue is the best approach in these situations. I find the more my patients understand how this amazing body works, the better they can take care of themselves and prevent injury.

Here is a short explanation of the exquisite mechanics of the human hand. Our wrists are made up of 8 small "carpal" bones wrapped in and connected by small sheets made of tough fiber (ligaments). Think of them as 8 marbles wrapped in rubber bands placed in a sock. Hold the sock in your hand. In a healthy wrist, those marbles should easily move around within their fibrous network. Now take two marbles out and Crazy Glue them together.

*(Warning disclaimer in regular sized print for kids of all ages: Don't try this at home or the office unless you have instant glue remover.) Once dry, put the glued marbles back in the sock with the other marbles. Now try to move the marbles around. Not so easy. This is what it is like in a wrist that has carpal tunnel syndrome.

The pain and numbness of carpal tunnel syndrome comes from two different sources. The first occurs when the fibers that hold the wrist together are stretched or crushed. Remember trying to move around the glued marbles? There is a lot of extra stretching and pushing going on. In your wrist this causes pain and swelling. There are millions of invisible nerve endings in those fibers that hold the wrist bones together. Overstretching these nerve endings sends the body pain signals and releases pro-inflammatory proteins into the tissue which draws fluid to the area. Now you have the pain and swelling of carpal tunnel syndrome.

The second source of symptoms comes from a large visible nerve being irritated or crushed. Just like people, when the nerve is under pressure it gets irritated. If it is under a lot of pressure, it gets pissed. If a nerve is rubbed against or squeezed by increased pressure it can cause pain, tingling, burning or make it hyper-sensitive to touch. In severe cases, the nerve is crushed which causes severe pain or even complete numbness or weakness—although weakness can be from nerve damage or from not using the muscles because the hand just hurts too much.

In a healthy wrist the carpal bones are organized in two parallel rows. They form an arch which connects the two bones in the forearm with the five hand bones. Each stack of two bones lines up with a hand bone (metacarpal) which then connects to the bones of a finger. The thumb and index finger share the biggest carpal bone. The arch is connected underneath by a strong band of tissue making the famous Carpal Tunnel. Through this tunnel runs the median nerve and artery. When the bones and fibers get stretched, twisted or jammed out of place, it narrows the tunnel and causes swelling. If the walls of the tunnel are narrowed, there is less room for the nerve to pass and certain movements or positions can cause parts of the tunnel to press on the nerve. The change in structure of the tunnel also alters the mechanics of how the wrist moves. This leads to swelling. Overstretching the ligaments stimulates swelling, creating more pressure on the nerve. The more you move your wrist, the more problems you have. That is why repetitive motions that never hurt before now cause pain during simple activities like typing, computer games, trimming the hedges or holding a book, newspaper or steering wheel.

“I don’t remember hurting myself.” Most times, patients don’t recall a specific injury. But if you try reaching in the back seat of the car for

something heavy, or lifting a couple of grocery bags, that awkward grab is a common way to stretch the carpal tunnel out of its normal mechanics.

You can help yourself at home by 1) Icing for 10 minutes after activities that cause pain. 2) Using a store-bought brace can keep your wrist from curling up if your wrist or hand is painful at night. This prevents the narrowing of the carpal tunnel and therefore prevents pinching the nerve. 3) Stretching the wrist if it is not too painful can sometimes establish normal mechanics. One type of stretch is circling the wrist in both directions 5 to 10 times. Another stretch is to open the carpal tunnel. For this maneuver stand in front of a desk placing your palms toward the front of the desk, the front of your finger tips should be touching the front of the desk top. Then slowly roll your palms onto the desk. You should feel a gentle pulling along your wrist and up the palm side of your arm. Hold through two deep breaths. You should be able to stretch a little further after you exhale. If you don't get results in one to two weeks it is important to get it checked by your healthcare provider. You don't want to miss a medical illness that can be the cause of your symptoms.

Going to a D.O. who is board-certified in Osteopathic Neuromusculoskeletal Medicine is a time and money-saving way to quickly get an accurate diagnosis and access to practical medical treatment that integrates biomechanical, medical, osteopathic and various alternative approaches to your problem. If more invasive methods are needed, the D.O. can refer you to the appropriate surgeon.

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