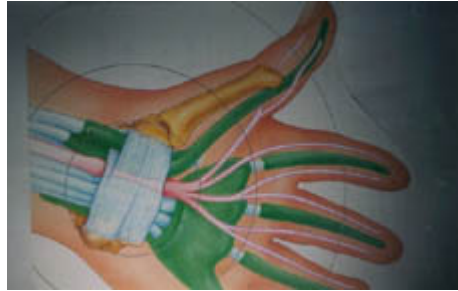




Carpal Tunnel Syndrome



Do you often feel numbness or tingling in your hand at night or early morning or when you drive? Do you feel clumsiness in handling objects or pain going up the arm from the hand or wrist? These may be symptoms of carpal tunnel syndrome.

Anything that creates pressure on the median nerve at the wrist can cause it. Swelling in the canal around the nerve and tightness of the ligament can be responsible.

Some common causes are:

- Repetitive and forceful hand grasping
- Frequent bending of the wrist
- Swelling from broken bones in the wrist
- Arthritis
- Thyroid gland problems
- Sugar diabetes
- Hormonal changes, menopause
- Pregnancy

How is it diagnosed?

Numbness and tingling in the hand especially at night and after use of the hands.

Decreased feeling in the thumb, index, and middle finger.

Electric shock or tingling feeling in the hand and fingers when the wrist is tapped on the palm side.

Increase in tingling when the wrist is held bent down or flexed.

In some cases a special nerve test is done in the office to see how much pressure there is on the median nerve.

How is Carpal Tunnel Treated?

Many persons with carpal tunnel syndrome can be treated with a hand and wrist brace, which is often worn at night and prevents the wrist from bending downward. It is thought that this rest allows the swollen and inflamed tissues to shrink thereby relieving pressure on the nerve. The tissues can also be reduced in size and swelling lessened by medications, which are taken by mouth to reduce inflammation.



In a more severe case sometimes anti-inflammatory medication is injected into the carpal tunnel canal. This medication can spread around the inflamed tissues and in turn relieve pressure on the nerve. The dose of this cortisone type substance is small and normally it would have no harmful side effects.

Whether this non-surgical treatment is effective often depends on how early the condition is diagnosed and treated.

If none of these measures work, it may be necessary to perform surgery. The surgery is done through a very small incision in the palm and does not require general anesthesia. Surgery usually is done after the anesthesia Doctor anesthetizes the arm. The transverse carpal ligament can be divided giving more room for the median nerve and tendons, which are found in the canal. The patient usually is discharged home on the day of surgery.



This is the incision size for carpal tunnel surgery.

After surgery:

Symptoms following carpal tunnel surgery can subside almost immediately or take several days, weeks, or months to improve. You will probably be given hand exercises to do to build strength in the hand and improve joint flexibility in the hand and wrist.

Electrodiagnostic Tests

A recent study, which has reviewed one hundred thirteen reports in the last nine years on electrodiagnostic tests in carpal tunnel syndrome came to the conclusion that electrodiagnostic tests (often referred to as EMG and nerve conduction velocity test) are the most accurate tool for diagnosing carpal tunnel syndrome.

Experts from the American Academy of Neurology, the American Association of Electrodiagnostic Medicine and the American Academy of Physical Medicine participated in this study.

In clinical practice I have always relied heavily on "nerve tests" as patients refer to them, for guidance regarding a particular patient's diagnosis of carpal tunnel syndrome.

Carpal tunnel syndrome can be confused with other neurologic conditions or other soft tissue inflammatory conditions in the upper extremity or neck. Electrodiagnostic tests help to pinpoint the source of the problem, which in the case of carpal tunnel syndrome is at the wrist. This is usually a combination of excessive pressure developing within the carpal canal (which contains the median nerve and many tendons) and tightness or hypertrophy of the transverse carpal



ligament.

If treatment is going to be conservative for the condition, one could probably go ahead with splinting possibly physical therapy or even perhaps steroid injection into the wrist without subjecting the person to electrodiagnostic testing.

However, if surgery is being seriously considered for treatment of the condition it is always wise to try to pinpoint it more precisely as carpal tunnel syndrome and rule out the other possibilities.

I certainly would agree with the findings of the study that electrodiagnostic testing is the most certain way to diagnose the condition of carpal tunnel syndrome, but it would be wrong to assume that everyone who has carpal tunnel syndrome needs to have an electrodiagnostic test. For some persons the symptoms seem to wax and wane and they are probably not having serious enough symptoms to consider surgery. Therefore, it would be unnecessary and wasteful of resources to subject them to an electrodiagnostic test.

FAQ

Can I have laser treatment for release of my carpal tunnel?

While thermal or hot laser treatment of carpal tunnel is sometimes done, I have not used this in my practice. I have also checked with two other large, well-respected hand surgery offices who told me they are not doing laser carpal tunnel release either.

My reason is this. I do carpal tunnel release through a 1/2" - 3/4" incision in the palm of the hand closing the wound with very few sutures. I have never damaged a median nerve in doing the limited incision surgery which I just described. I do not think the same can be said for laser release of the carpal tunnel. I see no reason to change to a much more complicated and expensive method of treatment when the treatment that I am presently using has stood the test of time.

Our office works with very well respected hand surgeons who apparently feel the same way we do.

What is a cold laser and how does it relate to carpal tunnel?

Cold laser or non-thermal laser is a non-destructive way of delivering light into deep tissues. A cold laser is a low energy beam of infrared light which penetrates tissues.

Light energy is felt to promote the process of photobiostimulation analogous to photosynthesis in plants. It uses a different wave of light than the thermal laser.

It has been used in carpal tunnel syndrome and has had some beneficial effect when given in a series of several treatments over a prescribed period of time.

The problem is that insurance companies have been very reluctant to pay for this new technology and at this time very few of them will pay for it. This puts the burden on the patient and, in my experience most patients have been very reluctant to pay for things such as this which are not covered by their insurance.

The progress in this area, therefore, has been very slow. We have considered introducing this into our practice, but have not yet done so because of the factors that I have cited.



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Medical Article



A friend told me I should have my carpal tunnel released with laser. Do you do that surgery, and if not - why not?

Thermal or hot laser release of the transverse carpal ligament has had a limited application for most surgeons who do hand surgery.

I have not found it necessary to use laser to release the transverse carpal ligament and a survey of hand surgeons, which we did recently, did not locate any using laser.

The reason that we don't use laser is that we are already doing a minimally invasive technique and we do not feel that laser adds anything to our minimally invasive surgery.

We can do the surgery through a 1/2" - 3/4" incision in the palm with minimal bleeding and minimal trauma to the tissues. My patients often do not take any of the pain pills prescribed for them and they are out of their bandage within one week.

The large nerve that is being pressed is extremely close to the ligament that we are releasing. Damage to the median nerve from the laser can be disastrous. Fortunately, I have never injured a median nerve with my direct vision minimally invasive technique of releasing the ligament.

I think most surgeons who do hand surgery are also comfortable with their less or minimally invasive technique and do not feel the need to use a laser.



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