

Things I Have Learned: Looking Beyond the Carpal Tunnel

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Last year, I had the misfortune to break my hand. The break was treated with a mitten cast for a few weeks, and then a wrist splint. Needless to say, a broken hand is very inconvenient for a chiropractor. Trying to treat patients with your hand wrapped up like that is very difficult. What was interesting, however, was that no one ever thought I had broken my hand. I was asked repeatedly about my carpal tunnel syndrome: "How is your carpal tunnel?" "When did you have surgery for carpal tunnel?" or "I didn't know you had carpal tunnel." Even several of my professional colleagues jumped to that conclusion.

Carpal tunnel syndrome (CTS) is a legitimate diagnosis, but it is very specific. In recent years, however, the term has become a "garbage diagnosis": a catch-all for any irritation in the wrist, hand or forearm. Patients often will come in with wrist complaints, and we need to be able to better evaluate the problem. Just because there is pain in the hand does not immediately infer a diagnosis of carpal tunnel syndrome.

CTS is defined as a compression neuropathy of the median nerve where the nerve passes through the carpal canal to the transverse carpal ligament (the wrist crease).¹ This will cause pain in the thumb, middle and index fingers. There are many possible causes of CTS, including: trauma, overuse strain, and metabolic causes (such as fluid retention with pregnancy or diabetes). However, there are many conditions other than CTS that may cause pain in the area including: overuse strain of the forearm, lateral epicondylitis, cervical radiculopathy, and brachial plexus injuries are all possible sources of pain in the forearm and hand. It is important to talk to the patient and get a history about the area, the start of the pain, and the history of the injury. A hasty misdiagnosis and improper treatment can further injure the patient. Getting good information from the patient and following through with an appropriate exam are critical.

History:

- Was there a fall?
- Did they fall onto an outstretched hand?
- Did they fall onto the shoulder or back?
- Was there a car accident?
- Is there neck pain?
- Did they jam their wrist into the steering wheel?
- Did this happen at work?
- Do they work at a desk or computer?
- Do they perform repetitive motion activities?

Describe the pain:

- Where is the pain?
- Is the pain in the thumb and first two fingers?
- Is there pain in the palm? (This would suggest irritation above the carpal tunnel.)
- Is there any pain in the ring or pinkie finger? (This would implicate the ulnar nerve.)
- Is there any pain in the forearm, shoulder or neck? (This would suggest a radiculopathy.)

Evaluate the area: Look beyond the wrist. I follow a basic battery of tests when evaluating my patients:

1. Cervical compression and distraction: Gentle straight pressure down on the patient's head, followed by gentle upward traction. Pressure down can irritate facets and nerve roots, while traction will decrease the pressure on those tissues and decrease pain. If there is increased pain in the neck with traction, that usually suggests regional myospasm. When a patient has arm pain that is decreased by traction, it is a good indicator that there is some amount of cervical radiculitis.
2. Shoulder depressor: While stabilizing the patient's head with one hand, gently push down on the shoulder. Increased pain may indicate spasm in the shoulder, and pain into the arm again suggests a radiculitis.
3. Phalens: The patient puts the backs of the hands together and flexes the wrists. This move will pinch down on the carpal tunnel. If there is irritation, this suggests neural or vascular ischemia.
4. Reverse Phalens (praying): With palms together, the patient extends the wrists, thus stretching the components of the carpal tunnel.
5. Tinels: Gently tapping on/over the carpal tunnel (median nerve). If there is true inflammation of the nerve in this area, the patient will stop you very quickly. It is hard to justify a diagnosis of CTS if there is no sensitivity over the canal. You also may perform this test over the ulnar nerve at the elbow as a differential.²

There are certainly other tests you can use, but these should serve as a good screening for most patients complaining of wrist pain. Other studies also may be considered, such as an EMG, but be aware that they are not always interpreted well. I have had several patients diagnosed with CTS from a positive EMG, but the irritation was in another part of the arm. Remember, CTS happens at the wrist; the neural compromise must be there to justify a diagnosis of CTS.

Case #1: In my first year at chiropractic school, a classmate's wife was diagnosed with CTS. Although surgery was advised, they declined. As an alternate treatment option, she was put into a long arm cast covering her thumb and all fingers. After almost four months in the cast, the pain persisted. One of the school doctors evaluated her neck and shoulders (there was no way to evaluate the arm in the cast) and treated her for a lower cervical subluxation. The wrist pain quickly resolved, even though her arm was still totally immobilized in the cast. The pain was coming from the subluxation complex in her neck.

Case #2: A 67-year-old female maintenance patient returned to my office with a new complaint of wrist pain. Two weeks prior she had been working in her kitchen and, seated on a stool, had fallen forward onto her hands. She was evaluated by the on-call nurse at the retirement community where she lived, and was told she had CTS in her right hand. She was referred to an orthopedist, who confirmed the diagnosis and scheduled a surgery. When I inquired further about what examinations had been done, she described that the orthopedist had "bent her wrist down." As no X-rays had been taken, I explained my concerns and sent for films. The films showed a clear, nondisplaced Colles fracture. I called the orthopedist, explained my findings, and sent the patient back for the fracture to be set and cast.

Case #3: A 40-year-old secretary presented to my office on referral from her primary physician for arm pain due to a repetitive motion injury. She had been diagnosed with CTS during physical therapy, and had undergone treatment for several months. Although her pain was decreased, she continued to have pain at the lateral epicondyle on the right. During my exam, I noted that goading of the extensor tendon of the forearm was painful in the area, and also reproduced the pain in the hand. The pain covered the whole hand ("glove like"), including the thumb and first two fingers. I performed some basic myofascial release on the extensor muscles,³ prescribed a regimen of cryotherapy, and advised the patient to continue using her wrist support at work. Her pain quickly resolved and she completed her therapy regimen, returning to work with no residual irritation.

So, what have I learned? CTS is a specific diagnosis and should be evaluated carefully. Don't always accept another doctor's decision. I have sent notes back to the doctor, stating that I could not confirm a diagnosis of CTS and explaining why. As physicians, we are obligated to think "outside the box"; it is a good practice technique to rule out other possible conditions. If our patient has a complaint, we should compile a complete history and perform a careful evaluation so that we provide the proper care. Don't get caught in the trap of defaulting to a garbage, "dump-all" diagnosis. If you take the time to fully evaluate the patient so that your diagnosis is correct, your treatment will be appropriate and your patient will thank you for your quality care.

References

1. Vizniak NA, Carnes MA. *Quick Reference Clinical Chiropractic Conditions Manual*. Canada: DC Publishing International, 2004.
2. Evans RC. *Illustrated Essentials in Orthopedic Physical Assessment*. St. Louis, Missouri: Mosby, 1994.
3. Laws S, Franklin DJ. *The Receptor-Tonus Technique*. (Available from: Holistic Health Enhancement, 1210 N. 24th St., Quincy, IL 62301).

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