

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 my daily practice. Trying to treat patients with your hand wrapped up like that is very difficult. What was interesting, however, was that nobody ever thought I had broken my hand. I was repeatedly asked about my carpal tunnel syndrome. Even several of my professional colleagues jumped to that conclusion.

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

Carpal tunnel syndrome is defined as a [compression neuropathy of the median nerve](#) where the nerve passes through the carpal canal deep to the transverse carpal ligament (the wrist crease).¹ This will cause pain into the thumb, middle and index fingers. There are many possible causes of CTS including trauma, overuse strain, and metabolic causes (like fluid retention with pregnancy or diabetes). However, there are many other conditions that may mimic pain in the area which are not CTS. Overuse strain of the forearm, lateral epicondylitis, cervical radiculopathy and brachial plexus injuries are all possible sources of pain into 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 is 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? Is there a lot of repetitive-motion activities?

Describing the pain

Where is the pain? In the thumb and first two fingers? Is there pain in the palm (suggests irritation above the carpal tunnel)? Any pain in the ring or pinkie finger (implicates the ulnar nerve)? Is there any pain in the forearm, shoulder or neck? (suggests a radiculopathy).

Evaluate the area

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

Cervical compression and distraction: Gentle straight pressure down on the 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.

Shoulder Depressor: While stabilizing the 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.

Phalens (clap like a seal): 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.

Reverse Phalens (praying): With palms together, the patient extends the wrists, thus stretching the components of the carpal tunnel.

Tinels: Gently tap on over the carpal tunnel (median nerve). If there is a 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 may also perform this test over the ulnar nerve at the elbow as a differential.^{2,3}

There are certainly other tests you can use, but these should serve as a pretty good screening for most patients with wrist pain. Other studies may also 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 clearly in another part of the arm. Remember, CTS happens at the wrist, so the neural compromise must be there to justify a diagnosis of CTS.

Case Studies

Case #1: In my first year at school, one of my classmates' wives had been diagnosed with CTS. Although surgery was advised, they had declined. As an alternate treatment option, she was put into a cast covering her arm from the armpit down, encasing the thumb and all fingers. No movement of any part of her arm or hand was possible below the shoulder. She had been in that cast almost four months with continuous pain the whole time. One of the school docs evaluated her neck and shoulders (there was no way to evaluate the arm in the cast) and treated several *ashi* points on the lower cervical spine and shoulder. The wrist pain quickly resolved, even though her arm was still totally immobilized in the cast.

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

Case #3: A 40-year-old secretary presented to my office on referral from her primary physician for arm pain from a repetitive-motion work injury. She had been diagnosed with CTS, and had been under 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 into the hand. The pain

covered the whole hand ("glove-like") including the thumb and first two fingers. I treated local points (LI10, LI11) to reduce pain and spasm of the extensor muscles, prescribed a regimen of cryotherapy and advised the patient to continue using her wrist support at work.⁴ Her pain quickly resolved, and she completed her therapy regimen and returned to work with no residual irritation.

So what have I learned? Carpal tunnel is a specific diagnosis and should be carefully evaluated. Don't always accept that another provider came to the right diagnosis. I have sent notes back stating that I cannot confirm a diagnosis of CTS, but I will explain why. As participants in the health care arena, we are obligated to think outside the box. It is good practice technique to rule out other possible conditions. When a patient has a complaint, we should perform a complete history and careful evaluation so that we provide the correct care. Don't get caught in the trap of defaulting to a garbage "dump-all" diagnosis. As always, document your findings, your treatment plan, and the response to care. 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

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MARCH 2010