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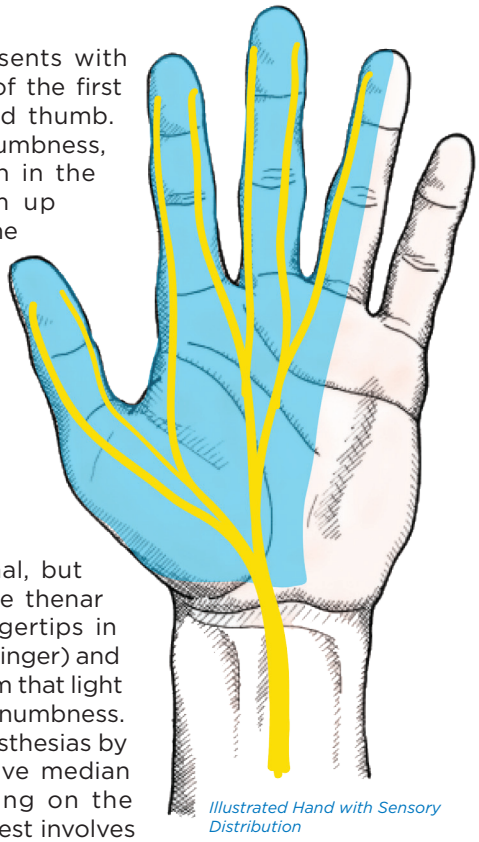
Spotlight on Carpal Tunnel Syndrome

Carpal tunnel syndrome (CTS) is numbness, pain and weakness of the hand caused by compression of the median nerve as it enters the palm through the carpal tunnel.

Clinical Presentation:


Dr. Miyano

The typical patient presents with numbness and tingling of the first two or three fingers and thumb. If someone describes numbness, tingling or burning pain in the hand that wakes them up at night, 99% of the time it's due to CTS. Many people will wake up in the morning and notice that they have numbness that takes a while to resolve. Numbness with hand activity (e.g. driving, typing, holding the telephone) is very common as well.


Illustrated Hand with Sensory Distribution

Physical Examination:

Most people's hands look pretty normal, but severe cases might have atrophy of the thenar muscles. I usually lightly touch the fingertips in both the median (thumb through middle finger) and ulnar (small finger) distributions to confirm that light touch is intact and check for subjective numbness. The provocative tests all try to elicit paresthesias by mechanically irritating the hypersensitive median nerve. The Tinel's test involves tapping on the median nerve at the wrist. The Phalen's test involves flexing the wrist maximally for 30 seconds. The direct compression test involves applying fingertip pressure over the carpal tunnel for 30 seconds. A positive test is a report of paresthesias (numbness or tingling).

Diagnostic Tests:

I order nerve testing when it's mandated (workers' comp) or if I'm not certain of the diagnosis (e.g. the numbness pattern doesn't match the median nerve). Otherwise, CTS is largely a clinical diagnosis based on history and physical exam.

Treatment:

For folks with mild symptoms, simple modification of activity and the use of a wrist brace may be enough to keep the numbness at a tolerable level. Although not a cure, bracing the wrist at bedtime is very helpful to control nighttime wakening. Therapy cannot alleviate the nerve compression directly, but can be helpful to teach better keyboarding and tool ergonomics as well as simple stretching and nerve gliding exercises for comfort. Steroid ("cortisone") injection of the carpal tunnel is a consideration in selected cases. The best candidate for injection is someone with CTS for a time-limited reason, like pregnancy. An injection of betamethasone into the carpal tunnel can promptly alleviate the pain and numbness that many women get in the third trimester. Chronic CTS will usually improve with an injection, but the effect is often temporary.

When to Refer:

If someone has symptoms that are intermittent and tolerable, then continued observation is okay. If someone gets to the point where part of their hand is a little numb all the time, then consideration for surgery is a very reasonable alternative. Carpal tunnel surgery (referred to as a "release") is one of the most predictable and beneficial surgeries that we do. It's typically done in an outpatient, office operating room setting with numbing of the affected arm (Bier block) combined with sedation. For most people, the beneficial effect of the release is permanent.

ANNOUNCEMENTS: The 20th Annual Dirstine Lectureship will feature guest lecturer Dr. Prosper Benhaim from the UCLA School of Medicine. Date and Topics to be announced.
CONTACTS: For appointments please call 206-292-6252. For referral help, please ask for Bonnie.
MAILING LISTS: To be added to the newsletter or lecture mailing lists, please call 206-292-6252 or email mikea@seattlehand.com.