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Carpal Tunnel Syndrome

The carpal tunnel is a narrow passageway surrounded by bones and ligaments on the palm side of your hand[1].

Carpal tunnel syndrome (CTS) is a condition that causes significant compression of the median nerve as it passes from the forearm into the hand through the carpal tunnel.[2]



4 to 10 million

Americans are impacted by CTS, according to the Rheumatology Research Foundation[3].

What causes CTS[1]?

Anything that squeezes or irritates the median nerve in the carpal tunnel space.

- Anatomy – some people have smaller carpal tunnels than others
- Nerve damaging conditions such as diabetes
- Inflammatory conditions such as rheumatoid arthritis
- Obesity
- Fluid retention conditions as seen in pregnancy and men pause (CTS due to pregnancy usually resolves after pregnancy)
- Medical conditions such thyroid disorders, kidney failure and lymphedema
- Workplace factors such as working with vibrating tools or assembly line work requiring prolonged or repetitive flexing of the wrist, especially if work is done in a cold environment.[1]

How to help prevent CTS1:

- **Reduce force** – if work involves a keyboard, hit the keys softly.
- **Relax grip** – if performing prolonged handwriting, use a big pen with an oversized soft grip, soft grip adaptor and free-flowing ink.
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- **Keep an eye on form** – avoid bending the wrist all the way up or down, a relaxed middle position is best. Keep the keyboard at elbow height or slightly lower.
- **Improve posture** – incorrect posture rolls shoulders forward and shortening the neck, compressing nerves in the neck. This can affect wrists, fingers and hands as well as causing neck pain.
- **Change the computer mouse** – make sure the computer mouse is comfortable and doesn't strain the wrists.
- **Keep hands warm** – One may be more likely to develop hand pain and stiffness if working in a cold environment. Fingerless gloves can help keep hands and wrists warm.[1]

How is CTS diagnosed[1]?

Diagnostic studies including nerve conduction study (NCS) involves a small shock to the median nerve to see if impulses are slowed in the carpal tunnel and electromyography (EMG) where a small shock is delivered to the muscles to evaluate electrical activity of muscles as they contract and relax.[1]

Treatment of carpal tunnel syndrome[1]:

Treatment of early symptoms include taking more frequent breaks to rest the hands, avoidance of activities that make symptoms worse and applying cold packs to reduce swelling.

Other treatments may include:

- Wrist splints worn at night can help prevent daytime symptoms
- Nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen (Advil, Motrin IB) may help relieve pain
- Corticosteroids that may be injected directly into the carpal tunnel to decrease swelling and relieve pain
- Surgery if symptoms are severe or don't respond to other treatments[1]

Workplace Accommodations:[2,3]

- Temporarily reducing duties that may involve use of vibrating tools, forceful and/or repetitive gripping
- Use of a protective splint such as a wrist brace/reliever
- Use of a mouse cushion
- Use of an ergonomic mouse
- Use of a wrist cushion
- Use of an ergonomic pen

For accommodation resources, please view the following resources:

- JAN - Job Accommodation Network (askjan.org)
- Reasonable Accommodations in the Workplace | ADA National Network (adata.org/factsheet)
- Accommodations | U.S. Department of Labor (dol.gov)
- Reasonable Accommodations (opm.gov)

1. Carpal Tunnel Syndrome-a (n.d.). Retrieved from the Mayo Clinic: https://www.mayoclinic.org/diseases-conditions/carpal-tunnel-syndrome/symptoms-causes/syc-20355603 (2024, Feb 6)
2. Carpal Tunnel Syndrome-b (n.d.). Retrieved from MDGuidelines: https://app.mdguidelines.com/health-advisor/mda/carpal-tunnel-syndrome
3. Surprising Statistics about Carpal Tunnel Syndrome. (2025). Retrieved from BrownMed: https://www.brownmed.com/blog/carpal-tunnel-syndrome/surprising-statistics-about-carpal-tunnel-syndrome/

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