What doctors wish patients knew about carpal tunnel syndrome

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With a lot of people still working remotely, improper ergonomics may be contributing to sore hands and stiff wrists from typing and performing other computer duties. This may be carpal tunnel syndrome (CTS), which is one of the most common repetitive-stress injuries.

But it's not just affecting people who work on computers. It can affect anyone with a job that puts repetitive stress on their wrists, such as working with hand-held power tools and playing racket sports. And because carpal tunnel syndrome can affect one's quality of life and productivity, it is important to know what to do for relief.

Carpal tunnel syndrome is a common condition that causes numbness, tingling and pain in the hand and forearm, pain in your hand and wrist, and swollen fingers. It occurs when the median nerve—which runs from your forearm into the palm of the hand—becomes pressed or squeezed at the wrist, according to the American Academy of Orthopaedic Surgeons. If pressure on the median nerve continues, it can lead to nerve damage and worsening symptoms.

The AMA’s What Doctors Wish Patients Knew™ series provides physicians with a platform to share what they want patients to understand about today’s health care headlines.

In this installment, two physicians took time to discuss what patients need to know about carpal tunnel syndrome. These AMA members are:

- Cmdr. Kevin Bernstein, MD, MMS, a sports medicine physician in Annapolis, Maryland, and president of the Uniformed Services Academy of Family Physicians. He is also a team physician for U.S. Naval Academy’s football team.
- Christopher Garofalo, MD, a private practice family physician in Attleboro, Massachusetts, and a delegate in the AMA House of Delegates for the Massachusetts Medical Society.

Keep risk factors in mind


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Carpal tunnel syndrome “is very common, affecting up to 5% of the population,” Dr. Bernstein said, noting that “women are around three times more likely than men to have this diagnosis.”

Additionally, carpal tunnel syndrome appears “to occur more frequently in those with pregnancy, diabetes, hypothyroidism, obesity, osteoarthritis and rheumatoid arthritis,” he said. “Occupations may also contribute to include those with frequent exposure to vibration as well as repetitive, forceful movements.”

“Obviously, trauma directly to the palm side of the wrist can compress the nerve, which is another risk factor,” Dr. Bernstein said, adding that “genetics may play a role especially when it comes to a person’s anatomy and how much space they were born with for the nerve and other structures to pass through the carpal tunnel.”

Pay attention to your symptoms

“Patients will typically complain of a combination of symptoms that include pain at the wrist and palmar surface of the hand especially with repetitive wrist, hand, finger movements,” Dr. Bernstein said. “They may experience numbness or tingling, usually involving the entire tips of the thumb, index, middle fingers and half of the ring finger towards the thumb side as well as the palmar side of the same fingers and the thumb side of the palm up to the wrist.

“Less frequently, but more worrisome, patients can experience weakness in the muscles, usually on this side of the hand,” he added, noting “they may notice that the muscle at the base of their thumb—called the thenar region—appears with less bulk, which is a sign that CTS has had severe progression.”

Treatment depends on severity

“Depending on how advanced CTS is, there are a variety of treatments to help alleviate the symptoms and potentially lead to normal nerve functioning,” Dr. Bernstein said. “Those who have complete numbness and muscle weakness along with atrophy will likely require operative treatment.

“Despite operative treatment, there is always a chance that these patients continue to experience numbness and weakness,” he added. “Our hope is, with education, that earlier identification and treatment strategies could prevent CTS from getting to that point, leading to total cessation of symptoms.”

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“Those who have symptoms without advanced nerve functioning can be candidates for nonoperative treatments to include night wrist splinting, physical therapy, occupational therapy, forearm muscle trigger point dry needling, as well as other myofascial treatment techniques including massage therapy,” said Dr. Bernstein. “More invasive treatments include corticosteroid injections around the median nerve within the carpal tunnel.”

Try to avoid triggers

“Triggers are going to be anything that reproduces a flexion of the wrist because what you’re doing is you’re actually pulling that nerve,” Dr. Garofalo said. “So, if that nerve is a little bit irritated to begin with and all of a sudden you go to pull that nerve, now that nerve is even more irritated.”

“Repetitive, forceful wrist extension or flexion maneuvers, extreme temperatures—usually cold—and vibration are the most commonly cited triggers,” Dr. Bernstein said, noting that “sleeping with the wrist in full flexion or extension could put stress on the nerve.

“Forearm tightness and tendonitis of the forearm muscle tendons could make symptoms worse as well,” he added.

Shake it off

A lot of times, patients will notice tingling or numbness in their fingers during the day, “but a lot of times they notice it at night because when we go to sleep, our hands and our wrists tend to relax,” Dr. Garofalo said. “So, that puts it into a natural position where you’re compressing that nerve.

“People who aren’t compressing that nerve all day aren’t really going to irritate it, but if that nerve is getting compressed all day, what will happen is they’ll wake up and say their hand is all tingly or numb and tingly,” he added, noting that if you “straighten the hand and shake it out,” that often helps.

Maintain a neutral wrist

“The claim that computer use specifically causes CTS is debated and not supported by evidence. ... CTS is not specifically due to computer use itself,” Dr. Bernstein said, noting that improper ergonomics during computer use can over time contribute to further irritation.
“However, compression of the carpal tunnel decreases when the wrist is neutral or slightly flexed,” he said. “Maintaining the wrist in this position when performing daily activities, occupational activities and physical activity—including weightlifting—will set the carpal tunnel up for success as well as other structures along the kinetic chain from the hand all the way up to the spine.”

Follow proper ergonomics

“For most people, it is curable—you’re able to fix it by the usual things,” Dr. Garofalo said, noting that if it hurts when you do something, “don’t do that. That’s always the first line of defense is to try to prevent the nerve from getting bent or try to prevent the nerve from being in that position.”

Think of “ergonomics at the office or at your home office when you’re doing a lot of work on the computer or using a mouse is really important and employers need to recognize that,” he said, noting “people now have these ergonomic keyboards and pads for the wrist so that you’re getting some support on there as you’re doing your work on the mouse or keyboard.”

Take frequent breaks

Dr. Bernstein noted that patients “with occupations frequently in extremes of temperature, exposure to vibration and consistent repetitive wrist and forearm use benefit from frequent breaks—when possible—from these exposures as well as maintenance in forearm strength and alleviating any tightness of the muscles within the hand, wrist, forearm, upper arm, shoulder, and stabilizer muscles of the upper extremities, trunk and core.”

“I always remind patients that any imbalance from the core out to the fingertips and back to include the other arm can lead to compensatory action at any point, especially once muscles start to fatigue which will result in excessive strain on certain structures,” he explained. “For CTS, this may involve recruiting the forearm muscles to put undue stress on the wrist, which could result in injury.

“Form, technique and resolving any training error is critical to unlocking the root causes leading to CTS in many people,” Dr. Bernstein added.

Change your sleeping position

“The other thing in terms of position changes is trying to keep your wrist straight at night,” Dr. Garofalo said, recognizing that “sometimes sleeping position will irritate it.”
“So, if people can change their sleeping position, which is really hard to do, that will help too,” he added.

Try a wrist splint

“The other thing is using a wrist splint at night can be really helpful,” Dr. Garofalo said, noting that “using a wrist splint in general can be helpful during the day, if you can. Anything you do that keeps the wrist in a neutral position will be helpful.”

“Now, for most people, they can’t do their work with a wrist splint on. They can’t do their typing or their manual labor jobs,” he said. “However, I tell my patients if you’re sleeping for eight hours a night, that’s a third of the day.

“If you can keep your wrist in a wrist splint for a third of the day, that may help you get through the rest of the day and get it feeling better,” Dr. Garofalo added.

Don’t ignore your discomfort

“Nerves will often regenerate if you avoid the irritation or if you fix the problem in time. If you don’t fix the problem in time, nerves can die,” Dr. Garofalo said. “And if you let the nerves die, that can cause permanent problems with one’s sensation.”

“Sometimes things get numb, which people don’t get bothered by, but if nerves die, they can also be really painful. So, this can cause chronic pain if left long enough,” he said. “Also, particularly if you have carpal tunnel in your dominant hand, we really don’t appreciate how much we use our hand for everything until you can’t do that anymore.”

For example, “writing can become difficult because you don’t have the sensation in the hands to grip a pen in the right way, typing may be difficult because you don’t know what you’re hitting the keyboard in the right way and you can get muscle wasting,” Dr. Garofalo said. “If muscles don’t have functioning nerves, they stop working.”

Ultimately, “don’t ignore it. Pay attention to it because there are lots of things that we can do to help,” he said.

For prolonged pain, visit your doctor
“Any patient who has prolonged wrist discomfort—especially with numbness, tingling or weakness—should seek evaluation for the cause of their symptoms,” Dr. Bernstein said, noting that “every patient can experience different symptoms, especially since there are a variety of nerve and anatomic variations across our population.”

“As a primary care sports medicine physician, I like to see these cases earlier on in the process as I have a variety of nonoperative treatments available to help prevent the progression of CTS as well as to help decrease any contributing factors that may lead to its progression,” he said. “I also like to help identify training errors in physical training and occupational risk factors to get to the root cause of the problem as soon as possible.”