

What doctors want patients to know about carpal tunnel syndrome

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Carpal tunnel syndrome affects up to 10 million people in the United States, yet there's confusion among patients who think any pain in the hand is carpal tunnel syndrome. But it's not. This can lead to misdiagnoses and unneeded trips to the doctor. Two hand surgeons aim to set the record straight to help patients get the right care.

The AMA's What Doctors Want Patients to Know™ 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:

- Peter C. Amadio, MD, a Rochester, Minnesota, hand surgeon who represents the American Association for Hand Surgery in the AMA House of Delegates (HOD).
- Robert C. Kramer, MD, a hand surgeon in Beaumont, Texas and delegate to the HOD for the American Society for Surgery of the Hand.

The key is numbness

Carpal tunnel syndrome is often misdiagnosed “because it's a common diagnosis,” Dr. Kramer said, noting that patients walk into his office all the time saying they have carpal tunnel syndrome because their “hands hurt.”

But that is not enough to make the diagnosis of carpal tunnel syndrome, which “is characterized by numbness and tingling in your thumb, index, middle and just the side of

your ring finger by the middle finger,” Dr. Kramer said.

Additionally, “it’s worse at night, it tends to radiate towards the elbow and shoulder and can present with elbow and shoulder pain,” he said. “And then activities of daily living—like holding a steering wheel or putting on eye makeup, fine motor skills—seem to make it worse.”

Usually not a painful condition

“I have the symptoms of carpal tunnel syndrome myself and it is numbness and tingling. Somebody might say it feels like it’s painful because that’s the word they happen to use,” Dr. Amadio said. “If you get this burning pain, it’s more likely diabetic neuropathy where there’s a disease in the nerve.

“Some people get a burning pain not while they have it—but after surgery. They have severe carpal tunnel syndrome and now the circulation is coming back into the nerve,” he added. “Then they might have some burning pain, but usually it’s not a painful condition.”

“Carpal tunnel syndrome is very specifically numbness in those three fingers—thumb, index and middle—and then the side of your ring finger,” Dr. Amadio said.

Many people notice symptoms at night

“Although often we don’t know why this happens, carpal tunnel syndrome occurs when the pressure inside the carpal tunnel rises above your blood pressure, and cuts off circulation to the nerve. If you have [high blood pressure](#), for example, maybe the carpal tunnel doesn’t get cut off as often,” Dr. Amadio said, noting “many people notice it at night and one of the reasons people do notice it at night is because as you’re sleeping, your blood pressure goes down.

“So, if you have high pressure inside the carpal tunnel and normally, you’re walking around with blood pressure higher than that, you’re OK. But when you go to sleep, the blood pressure goes down while the carpal tunnel pressure stays high, and that could cause a problem,” he added. And “if you sleep with your wrist in an awkward position that can also

increase the pressure.”

“We’re talking about the balance between the pressure inside this tunnel and the pressure of the blood going into the nerve. And when the tunnel pressure exceeds the pressure of the blood, the nerve cuts off the circulation and the nerve falls asleep,” Dr. Amadio said. “And if you’re sleeping, it’ll frequently wake you up and then you shake your hand, get back some circulation.”

It’s more common in women

Carpal tunnel syndrome “is two to three times more common in women than in men,” Dr. Amadio said. Precisely why remains unclear.

“It’s more common in women when they’re no longer having their menstrual periods, for example,” he said, noting it typically presents in women who are at the end of [menopause](#) around age 45 or 55 when they “are no longer menstruating.”

Certain health conditions play a role

“The chronic causes tend to be rheumatoid arthritis, thyroid disease, diabetes and trauma,” Dr. Kramer said.

“Hypothyroidism frequently causes some thickening in the lining around the tendons and rheumatoid arthritis, of course, can cause very severe thickening in the lining around the tendons,” Dr. Amadio said. “Although now with the new medicines we have for [rheumatoid arthritis](#), that doesn’t happen as often and it’s not as common an association.”

“There are a variety of different ways that diabetes can damage the nerves or the circulation to nerves and they probably all comes together in people with carpal tunnel syndrome,” he said. “Then, if you have poorly controlled diabetes and lots of sugar in your blood, that sugar tends to cause that thickening in fibrosis and the lining around the tendons and even the lining around the nerves, which makes everything stiffer inside the carpal tunnel.”

“All those things can cause carpal tunnel syndrome. Those are the causes that make up about 40% of carpal tunnel cases,” he added. “The other 60% of cases are idiopathic which means they can’t be ascribed to any known cause. At this point, that’s the answer: There is no known cause.”

Pregnancy can bring on symptoms

“Pregnancy is a very common, known cause. It’s a nonsurgical cause. It’s usually acute and transient, but there are some women who retain enough water after pregnancy where it actually gets worse,” Dr. Kramer said. “So, occasionally it’s surgical, but during the pregnancy it’s not surgical.”

“During any kind of compression neuropathy, the nerve dilates just before the point of compression. Just like if you squeeze a balloon, for example, it gets wider,” he said. “The nerve dilates just above the carpal tunnel and it’s thought that it’s a backing up of fluid inside the nerve that causes this to happen.”

Don’t blame the keyboard

Use of computer keyboards and mice does not by itself “cause any type of major trauma reducing blood in your carpal tunnel” as is seen in patients with carpal tunnel syndrome. “To that extent, I can say that it’s unknown whether or not long-term computer use, or repetitive hand use, causes carpal tunnel.”

“Studies have been done, people have tried to mimic a repetitive-motion scenario, but it’s never been directly causative for carpal tunnel syndrome,” Dr. Kramer noted.

Carpal tunnel syndrome itself is not hereditary

“Rheumatoid arthritis is a very commonly known cause. Osteoarthritis indirectly causes it,” Dr. Kramer said. “Because if you get osteoarthritis in the wrist, then it can misshape the carpal canal and indirectly compress the nerve.”

“So, to the extent that some of those things are heritable, then carpal tunnel syndrome would be. But carpal tunnel syndrome in and of itself is not heritable,” he added.

A physical exam aids in diagnosis

“There are a couple of physical exam findings that are considered to be more important than others. One of them is that sharp numbness into the hand that radiates into and up to the ring finger, but not the small finger,” Dr. Kramer said. “One of them is by pinching the carpal tunnel, by putting their hand in a limp position and if they start getting numb or feeling tingling in their fingers within 10 seconds.”

“And then neurosensory testing with two-point discrimination. Those are the physical findings that you want to look for,” he said. “Then we do either ultrasound or electrodiagnostic testing to objectify the findings to determine if there’s increased swelling of the nerve in the carpal tunnel.”

Sometimes cortisone shots help

“Cortisone shots work in some cases, and there are some authors who believe that that’s a great way to treat carpal tunnel in an early presentation in mild cases like pregnancy,” Dr. Kramer said, adding “use of oral, anti-inflammatory medication can also be helpful for the night symptoms.”

“It’s not really clear whether the cortisone resets the thermostat and then if you’re careful maybe it doesn’t come back,” Dr. Amadio added. “But we do know that about 40% of people who have [cortisone injection](#) don’t come back for years to see a doctor for treatment of carpal tunnel syndrome—that we know from [some large population-based research](#).”

Try wearing a brace at night

“If your fingers start to fall asleep when you wake up in the middle of the night, you might want to wear a brace on your wrist at night to see if it gets better because that’s pretty

safe,” Dr. Amadio said. “But I wouldn’t suggest you wear it during the daytime because it keeps your wrist in a certain position and makes things awkward like driving a car or typing on a keyboard.

“Almost anything you do is awkward with your wrist in the same constant position and that moving around is good for you because it helps keep the circulation flowing and everything moving,” he added, emphasizing that “most hand surgeons do not recommend wearing a brace during the daytime for carpal tunnel syndrome.”

Take frequent rest breaks

For patients diagnosed with carpal tunnel syndrome, it is important to take brief, frequent breaks from keyboarding or other activities, Dr. Amadio said. During these breaks, “you can do some little stretching and then go back to what you were doing.”

“Even though it’s a problem of a nerve, most commonly the symptoms are caused by compression,” he said. That means “don’t be keyboarding for eight hours at a time. Keyboard for half an hour, take a couple minutes. You don’t need that much time to get the circulation back.”

Practice good wrist posture

It is also key for patients with carpal tunnel syndrome to, at the keyboard, practice “good wrist posture, so your elbows are at 90 degrees, your wrists are slightly flexed or straight or slightly lifted up, but not in some extreme position,” Dr. Amadio said. That is because “when the pressure and the carpal tunnel builds up—once it gets higher than your blood pressure—it cuts off the circulation to the nerve and then your fingers fall asleep.”

“So, you can reduce the pressure in the carpal tunnel by good posture of the wrist,” Dr. Amadio said.

Know when it may be time for surgery

“If you have a chronic form of carpal tunnel syndrome or a really acute form of carpal tunnel syndrome, it’s almost always surgical,” Dr. Kramer said. For example, “you’re a longstanding patient with diabetes or you got in an accident producing a fracture of your wrist and you have carpal tunnel syndrome, that’s an immediate surgical indication.”

Additionally, “if you have a trial of nonsurgical management that fails, then surgery is indicated, but it depends on the patient,” he said. For example, “if I see a young woman who’s pregnant with carpal tunnel syndrome, I don’t offer her surgery. I treat that as long as I can without surgery until she has the baby. If the symptoms persist, then we do a carpal tunnel release.”

“Goals of surgery are to divide the transverse carpal ligament. That is the anatomic structure that serves as the roof of the carpal tunnel and is the structure that is pinching the nerve, compressing the nerve,” Dr. Kramer said. “That can be done either open or endoscopically either through a small incision in your palm or a small incision in your wrist, depending on how you choose to do it and surgeon dependent.”

Patients have “immediate use of the hand after surgery, though they must keep it “clean and dry while the sutures are in,” Dr. Kramer said, noting “stitches come out in about seven to 10 days and almost very rarely do patients require physical therapy after surgery.”

Some may need further surgery

“In severe chronic cases, chances are all you’re doing is halting the progression of the process and the nerve won’t necessarily recover,” Dr. Kramer said. “So, sometimes those patients will end up with a revision surgery.”

“There are a certain number of cases that either sustain an incomplete release of the carpal tunnel and have persistent symptoms, or they develop scar tissue in the carpal tunnel and that causes traction on the nerve, which is just as symptomatic,” he said. “That usually requires revision surgical management. I can’t statistically tell you exactly how often that happens, but it’s not rare.”

Carpal tunnel syndrome in both hands is concerning

“If you have it in both hands, you need to be worried about something going on in your neck or something else like hypothyroidism or diabetes—some of the more dangerous causes—rheumatoid arthritis,” Dr. Kramer said. “So, in two hands, as a patient you need to be more concerned and that needs to be more of a red flag for you that it’s time to get something looked at.

“If you have neck pain and numbness and tingling in both your hands, get that looked at,” he added.

Don’t wait to get diagnosed

“This isn’t something you should live with for 10 years,” Dr. Kramer said, emphasizing that “the public needs to understand that the sooner you get this diagnosed and treated, the more likely you are to have a successful outcome.”

That’s “because studies show that the longer you have the symptoms” the less likely it is that surgery will help.

Editor’s note: *A previously published article carrying this headline was retracted in its entirety for wrongly reporting a definitive connection between carpal tunnel syndrome and keyboarding or other repetitive motions involving the wrists, as well as improperly describing the role of pain in the condition and failing to feature the expert perspectives of hand surgeons. The AMA regrets the errors.*