

PATIENT INFORMATION

Carpal Tunnel Syndrome

The median nerve passes through the carpal tunnel at the front of the wrist, alongside nine flexor tendons.

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What you're feeling

Carpal tunnel syndrome happens when the nerve running from your wrist into your thumb, index and middle fingers gets squeezed as it passes through a narrow tunnel in your wrist. The tingling and numbness usually sit in the thumb, index and middle fingers. Many people also feel pain in the hand, and sometimes the symptoms spread beyond those fingers.

The classic pattern is tingling and numbness that wake you at night. Symptoms often flare when you wake in the morning too, and they can come on after you have been using your hand a lot. Shaking your hand or letting it rest may settle the tingling for a while. As the squeezing continues over months or years, the numbness can become constant, and the muscles at the base of your thumb can waste and weaken.

That weakness shows up in everyday tasks. Turning a key, holding a phone, gripping a saucepan handle or doing up buttons can get harder. You may find yourself dropping things you would normally hold onto, because your grip is not as reliable and your fingers feel clumsy.

A few things raise the chance of this happening. Repeating the same hand movements often, and carrying extra body weight, both increase the risk. It is also more common in women and becomes more frequent through middle age. Some health conditions are linked with it too, including pregnancy, menopause, thyroid problems, kidney failure and diabetes.

If your symptoms are not settling, are getting worse over weeks, wake you at night, or stop you working or using your hand, see your GP or ask for a specialist review.

What's actually happening

Think of your wrist as a short tunnel with a floor of small bones and a tough band of tissue forming the roof. Nine tendons and one nerve, the median nerve, share that space. The tunnel has no give, so when anything takes up extra room inside it, the nerve is the softest thing in there and it gets squeezed first.

The squeezing can come from either side. Sometimes the tunnel itself narrows, for example when your wrist is bent for long stretches. Sometimes the contents swell, from fluid changes, inflammation or wear in the lining around the tendons. Either way, the pressure inside the tunnel climbs. At first it comes and goes, often at night or when your wrist is held still doing things like reading or driving. Over time the pressure can stay high all the time, and that is when the numbness stops coming and going and settles in.

This explains the pattern you have just read about. Pressure is highest when the wrist is bent right back or right down, which is why symptoms flare in fixed positions and wake you at night. The nerve carries feeling for the thumb, index and middle fingers, so that is where the tingling sits. As the squeezing continues, the nerve struggles to pass signals, feeling fades and the thumb muscles, which the nerve also powers, weaken and waste.

Doctors describe this condition as mild, moderate or severe, based on how much the nerve is affected. With mild or moderate compression, feeling usually returns once the pressure is relieved. When compression has been severe for a long time, some numbness and weakness can remain even after treatment, because the nerve itself has been damaged.

The aim of any treatment is the same: take the pressure off the nerve. For many people that starts with simpler measures, and when those are not enough, surgery opens the roof of the tunnel so the nerve has room again.

What we can do about it

Dr Kieran Hirpara, an upper-limb surgeon at Mater Private Hospital Rockhampton, starts with the least invasive options that suit your condition. Patients are generally referred to our clinic by their GP; if a physiotherapist has suggested you see us, you will still need a referral from your GP in order to be eligible for the Medicare rebate. At your visit we take a history, examine your hand and arrange imaging or nerve tests if they are needed to confirm the diagnosis. For a long-standing problem like this, we usually try non-operative care first and consider surgery when that has not given enough improvement.

The first steps are things you can do yourself. Changing how you use your hand, resting it more often, and wearing a splint, especially at night, all take pressure off the nerve. Hand therapy teaches nerve and tendon gliding exercises, which help the nerve move smoothly through the tunnel. These simple measures work well for mild and moderate symptoms, and they are worth trying early and giving a fair go. The longer the nerve has been squeezed, the less well these measures tend to work.

If splinting alone is not enough, a cortisone injection into the tunnel can settle the inflammation around the nerve. It often works well at first, and about 45% of people still have relief months later, especially those who respond well to the first injection. Combining the injection with splinting reduces symptoms and helps nerve function more than the injection alone. Another option is platelet-rich plasma, or PRP, an injection made from

your own blood that can relieve pain and improve how the hand works. We will talk through which of these suits you.

When these measures have not given enough relief, surgery is the next step. Carpal tunnel release cuts the tight band forming the roof of the tunnel, which opens up space and takes the pressure off the nerve straight away. It relieves symptoms better than splinting, and operating earlier gives a better chance of a full recovery. We will discuss the operation with you fully on its own page, and any decision is one we make together.

What to expect

Carpal tunnel syndrome rarely stays still. For some people the symptoms settle on their own, and early, mild symptoms can often be managed without surgery. For many others the tingling and numbness keep coming back, and over months or years the numbness can become constant. If the squeezing has been severe for a long time, some numbness and weakness can remain even after treatment, because the nerve itself has been damaged.

How well treatment works depends a lot on where you start. The severity of your symptoms when you first come in is the most important factor in how much relief you can expect. People with mild or moderate symptoms find their daytime numbness and tingling settle sooner than people with severe symptoms. Age is not a barrier: older people improve at the same rate as younger people, and nobody should be turned away from treatment because of their age.

After surgery, the improvement is steady rather than instant. Symptoms and hand function keep improving for up to 12 weeks. Over the third to sixth months, as feeling and strength return, sleep improves too, because the night-time tingling that wakes you settles down. Relief is the usual result: 97% of people get complete or partial relief of their symptoms. Some symptoms do persist in a small number of people, and a small number come back later, sometimes after a long stretch of being symptom free. If that happens, further surgery can still improve hand function and quality of life.

A few other things shape the outlook. Diabetes does not change the result: people with diabetes improve just as much as people without it. People with metabolic syndrome, a cluster of conditions including high blood pressure and high blood sugar, recover more slowly at first, but by a year after surgery their symptom relief and hand function are similar to everyone else's. Some people develop the same problem in the other hand over time, so keep an eye on both hands.

If your symptoms are not settling, are getting worse over weeks, wake you at night, or stop you working or using your hand, see your GP or ask for a specialist review.

When to see someone

Most of the time, carpal tunnel syndrome is not an emergency. The signs that matter are the ones you have already read about: tingling and numbness in the thumb, index and middle fingers, often worse at night. See your GP if your symptoms are not settling, are getting worse over weeks, wake you at night, or stop you working

or using your hand. Ask for a specialist review if simple measures like a splint have not helped after several weeks, or if the numbness has become constant or the muscles at the base of your thumb are wasting. Go to an emergency department if a hand or arm becomes hot, red, swollen and painful, especially with a fever, or if your fingers turn pale, cold, white or blue, or if you suddenly lose feeling or movement in your hand.