

Carpal tunnel syndrome

Practical tools and techniques
to support your recovery

Important Information

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Introduction

Carpal tunnel syndrome (CTS) is a condition that causes pain or aching, tingling or numbness in the affected hand.

In this booklet you will find some information to increase your understanding of CTS as well as some tools and techniques to support your recovery.

While this information may help you, it is not a substitute for medical advice and it is important for you to maintain an ongoing relationship with your doctor, any medical specialists you may have and any other health professionals that are within your medical team.

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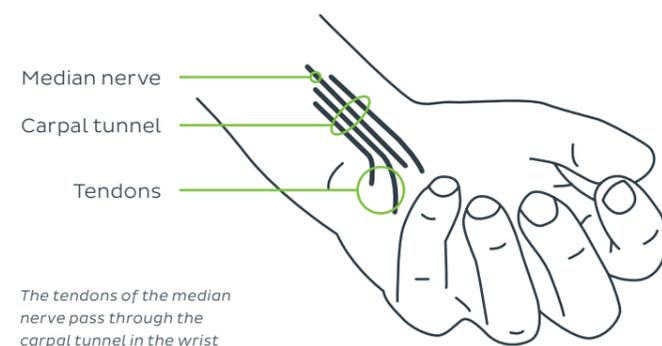
Understanding carpal tunnel syndrome

Carpal tunnel syndrome is a common condition in which the median nerve, which runs from the forearm into the palm of the hand, is squeezed (compressed) at the wrist¹.

The carpal tunnel – a narrow, rigid passageway of ligament and bones at the base of the hand – houses the median nerve and the tendons that bend the fingers. The median nerve is responsible for two main functions:

- Carrying physical sensations such as your sense of touch from your hand to your brain
- Carrying nerve signals from your brain to your hand, controlling movement.

Sometimes the lining of irritated tendons may thicken or swell, causing the median nerve to be compressed. The result may be numbness, weakness, and sometimes pain in the hand and wrist, or occasionally in the forearm and arm.



'Carpal' is a medical term that refers to the wrist. A 'syndrome' is a combination of problems which doctors recognise as a particular disease or disorder



DID YOU KNOW...

CTS is most common in women, people over 50 years of age, and those who work in a repetitive, rapid moving manually demanding occupation (typing/computer work, line assembly work, waiting tables and more)². However, it can affect anyone.

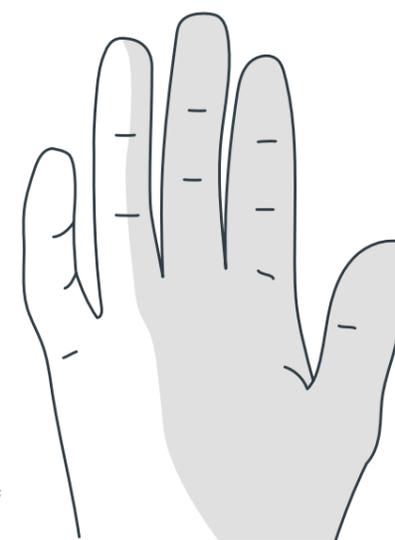
What are the symptoms of carpal tunnel syndrome?

Carpal tunnel syndrome is a common condition that causes a tingling sensation, numbness and sometimes pain in the hand and fingers, primarily in the thumb, index, middle and half of the ring finger. These sensations usually develop gradually and start off being worse during the night.

Other possible symptoms of CTS include:

- A dull ache and discomfort in the hand, forearm or upper arm
- A burning, prickling sensation (paraesthesia) in the hand similar to pins and needles
- Dry skin, swelling or changes in the skin colour of the hand
- Becoming less sensitive to touch (hypoesthesia)
- Weakness and wasting away (atrophy) of the muscles at the base of the thumb

In some cases, you may experience pain that spreads from your hand up to your forearm and elbow.



See your GP if you are experiencing persistent symptoms of CTS

What risk factors can cause carpal tunnel syndrome?

CTS is often the result of a combination of factors that reduce the available space for the median nerve within the carpal tunnel, rather than a problem with the nerve itself.

In most cases, it's not possible to know the exact cause of the compression. However, we do know that some things increase the risk of CTS. Contributing factors include:



Family history of CTS

Research has shown there's a genetic link to CTS³. This means you may have an increased risk of developing it if other members of your family have the condition or have had it in the past. It's not fully understood how and why the condition is passed on through families.



Pregnancy

Up to 50% of pregnant women develop CTS, although the exact cause isn't known. Many cases resolve after the baby is born⁴.



Injuries to the wrist

CTS can sometimes occur after a hand injury, such as a sprain, fracture or crush injury. This is because the swelling places pressure on the median nerve. CTS can also develop when a person has an abnormal wrist structure, such as an unusually narrow carpal tunnel. It can also be a result of cysts, growths or swellings in the carpal tunnel.



Other health conditions

Certain health conditions appear to increase your risk of developing CTS⁴. These include:

- Diabetes: a chronic (long-term) condition caused by having too much sugar (glucose) in the blood
- Any kind of arthritis: a condition where the joints become painful and inflamed
- Hypothyroidism: an underactive thyroid gland
- Obesity in young people.



Strenuous, repetitive work with the hand

Certain activities may trigger the development of carpal tunnel syndrome. These tend to involve strenuous grip, bending the wrist repetitively (flexion) and exposure to vibration⁵.

Examples include:

- Playing a musical instrument
- Assembly packing
- Work that involves manual labour
- Work with vibrating tools, such as chainsaws.



DID YOU KNOW...

CTS may develop on the dominant side, the non-dominant side, or both⁶

Recovering from carpal tunnel syndrome

There are a number of self-help options you can do to support your recovery. Here are a few suggestions to consider. Discuss this with your doctor or physiotherapist.

1

Activity modification

If repetitive hand movements are aggravating your condition, it's important to modify these activities. It may help if you change the way you make repetitive movements, reduce how often you do them and increase the amount of rest you take between periods of activity.

Resting your hands and wrists regularly may relieve mild symptoms of carpal tunnel syndrome. Shaking your hands when they're numb or tingling may also help.

Useful tip: When your symptoms flare up, try applying a cold compress, such as an ice pack or ice wrapped in a towel. You shouldn't apply ice directly to your skin as this can damage your skin.

2

Night time splinting

A night time wrist splint is beneficial to eliminate wrist bending and therefore carpal tunnel symptoms⁷. Your doctor or physiotherapist will be able to advise you about the different types of splints.

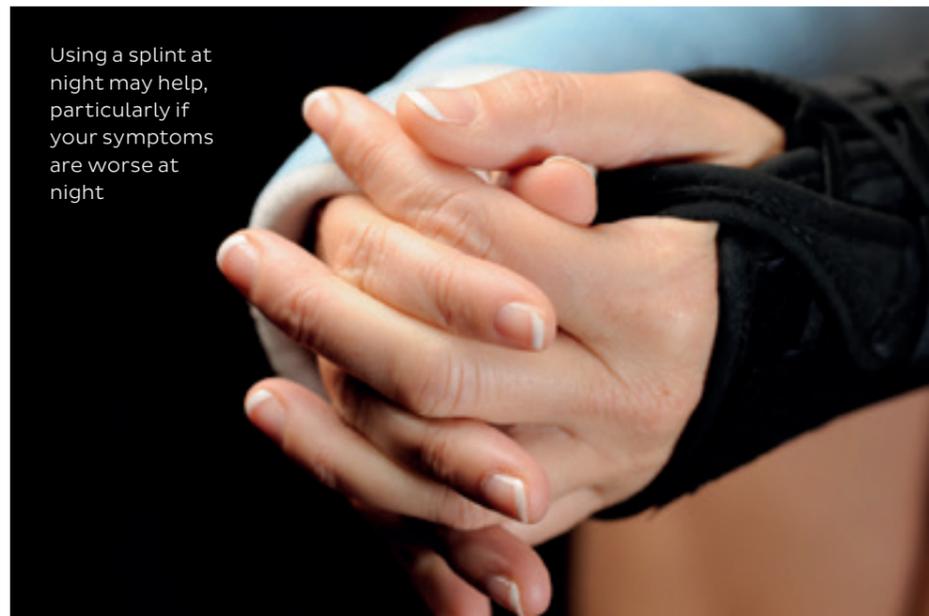
DID YOU KNOW...

CTS is worse at night because it is impossible to control the position of the wrist while we sleep. As a result, we tend to curl the wrist and hand under our chin, and when the wrist bends forwards or backwards, the pressure inside the carpal tunnel increases significantly due to the change in tunnel size.

This is why wearing a wrist splint at night can help as it prevents the wrist from bending, keeping the tunnel as wide as possible, thus lowering the pressure within it.

ERGONOMIC ASSESSMENT

If your symptoms are aggravated by work related activities, then an ergonomic assessment of the workplace and work practices may be worthwhile to prevent a recurrence.



Using a splint at night may help, particularly if your symptoms are worse at night

3

Stretches and exercise

Many forms of exercise, manipulation and massage have been suggested for CTS⁸. It is a good idea to start with a supervised exercise program to help minimise any pain during exercise but also have some guidance from a health professional on how hard you should push yourself. Your Physiotherapist can tailor an exercise program to suit your needs and give you advice on where to start.

Here are some simple exercises that may be useful to help ease pain and prevent future injuries.



Wrist bend (forward and back)

Rest your elbow on a table, arm pointing up, and wrist straight. Gently bend your wrist forward at a right angle and hold for 5 seconds. Straighten your wrist. Gently bend it backwards and hold for 5 seconds. Do 3 sets of 10 repetitions.



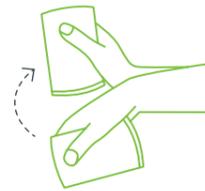
Finger bend

Start with your fingers held out straight. Gently bend the middle joints of your fingers down toward your upper palm and hold for 5 seconds. Do 3 sets of 10 repetitions.



Wrist lift

Place your palm on the table and lift the fingers up. Place your other hand across the knuckles at 90 degrees and push down as the bottom hand tries to pull up. You should feel the muscles of your forearms contracting. Swap hands and repeat.



Wrist stretch with weight

Holding a light weight (e.g. a tin of beans), stretch your arm out in front with your palm down. Slowly bend your wrist upward, and then return to the starting position. Do 3 sets of 10 repetitions. Gradually increase the weight you hold.



Wrist flex

Keeping your arm straight in front with your palm facing down, gently bend your wrist down. Use the opposite hand to press the stretching hand back towards your body and hold for 15–30 seconds. Straighten your wrist. Gently bend the stretching hand backwards and use the opposite hand to pull the fingers back. Hold for 15–30 seconds. Do 3 sets with each wrist.



Hand squeeze

Squeeze a rubber ball and hold for 5 seconds. Do 3 sets of 10 repetitions.

4

Manage any health co-morbidities

Keeping any other health co-morbidities, such as diabetes, inflammatory conditions or thyroid deficiency, under control is important. If you have any concerns please discuss with your doctor.

5

Eat a balanced diet

No particular diet has been shown to help relieve or prevent CTS. However, a healthy balanced diet is important for your general health.

The Australian Dietary Guidelines⁹ suggest the following tips that can help to achieve a healthy weight and improve overall health.

Enjoy a wide variety of foods from these five groups every day

- Vegetables, including different types and colours, and legumes/beans
- Fruit
- Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley
- Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans
- Milk, yoghurt, cheese and/or their alternatives, mostly reduced fat (reduced fat milks are not suitable for children under the age of two years).

And drink plenty of water.

Limit saturated fat

Limit foods high in saturated fat such as biscuits, cakes, pastries, pies, processed meats, burgers, pizza, fried foods, potato chips, crisps and other savoury snacks.

Replace high fat foods which contain predominantly saturated fats such as butter, cream, cooking margarine, coconut and palm oil with foods which contain predominantly polyunsaturated and mono-unsaturated fats such as oils, spreads, nut butters/pastes and avocado.

Limit added salt

Limit intake of foods and drinks containing added salt.

- Read labels to choose lower sodium options among similar foods
- Do not add salt to foods in cooking or at the table.



Omega 3 fats

Eating foods rich in omega-3 fats (a type of polyunsaturated fat) may reduce inflammation. While the effects are not as potent as some medications, they do not have serious side effects and provide heart health benefits too.

Foods high in calcium and Vitamin D

Calcium and Vitamin D are both important to increase bone strength, and Vitamin D helps improve calcium absorption, as well as boosting the immune system. Low fat dairy products such as milk, yoghurt and cheese are the best way to get both of these nutrients, as well as green leafy vegetables.

Limit added sugars

Limit intake of foods and drinks containing added sugars, such as confectionery, sugar sweetened soft drinks and cordials, fruit drinks, vitamin waters, energy and sports drinks.

Limit alcohol intake

If you choose to drink alcohol, limit intake. For women who are pregnant, planning a pregnancy or breastfeeding, not drinking alcohol is the safest option.

There are some food components and substances that may have some impact on relieving inflammation or controlling symptoms that you may experience from chronic pain.

Fish oil supplements

Fish oil supplements are widely available in supermarkets and pharmacies in a range of doses. The dose needed to reduce inflammation is about 2.7 grams of omega-3 (EPA plus DHA) daily. This dose usually requires either:

- 9–14 standard 1000mg fish oil capsules, or
- 5–7 capsules of a fish oil concentrate per day, or
- 15mL of bottled fish oil, or
- 5–7mL of concentrated bottled fish oil per day.

It may take a few months to notice improvements in symptoms after you start taking fish oils regularly. If there is no change; speak with your doctor about other options. Make sure that if you use supplements to take pure fish oil rather than fish liver oils (such as cod liver oil). Fish liver oils contain large amounts of Vitamin A which can cause serious side effects if taken in large doses.



Please consult your doctor or Accredited Practising Dietitian before commencing a new diet.

WHAT ABOUT GLUCOSAMINE AND CHONDROITIN?

Glucosamine and chondroitin are substances naturally found in the body which are thought to be important components in building and maintaining healthy cartilage.

They are commercially available as supplements, which have been made from shells of crustaceans (in the case of glucosamine) or from cow or shark cartilage (in the case of chondroitin).

There is limited and unclear evidence that supports the effectiveness of glucosamine and chondroitin in reducing joint pain. Despite this, both supplements are relatively safe to take with few side effects.

Speak to your doctor if you want to trial glucosamine and/or chondroitin to make sure you choose the right type and dose for you.



ASSESSING A HEALTHY WEIGHT

These goals are a general guide. Work with your doctor to set your personal goals.

BODY MASS INDEX (BMI)

How to measure BMI

$$\text{Weight (kg)} \div \text{Height (m}^2\text{)} = \text{BMI}$$

For example, a 75kg person with a height of 1.75m:

$$75 \div (1.75 \times 1.75) = 24.5 \text{ BMI}$$

Risk Classification

BMI	Classification	Risk
Less than 18.50	Underweight	Low*
18.50 – 24.99	Normal range	Average
25.00 – 29.99	Overweight/Preobese	Increased
30.00 – 34.99	Obese Class 1	Moderate
35.00 – 39.99	Obese Class 2	Severe
40.0 or greater	Obese Class 3	Very severe

* Risk of other clinical problems increased

6

Managing your emotional health

When you are managing CTS, it is common to experience a range of emotions including stress, worry, anger, grief, frustration and sadness. These are all normal emotions and can motivate you to manage your symptoms and engage in treatment.

The emotional distress may change over time as a result of changes in your capacity, your levels of and ability to cope with pain, changes in your symptoms and perceived effectiveness of your treatment.

It is, however, important to take note of how you are feeling and to address feelings of depression and anxiety that last longer than two weeks. It is also important to pay attention to your use of substances to help manage your symptoms.

Minimising your distress and putting on a brave face is not the answer. Actually, this can worsen your condition.

Depression, anxiety and substance misuse are just like other health problems, there are treatments available; however there is no one size fits all solution. There are a range of effective treatments and health professionals, including psychologists, psychiatrists, specialist addiction counsellors and social workers, who can help people on the road to recovery. Your doctor will be able to make the appropriate referral and enable you to claim some of the fee through Medicare.



DID YOU KNOW...

A stress journal can help you identify the regular stressors in your life and the way you deal with them. Each time you feel stressed, keep track of it in your journal. You will begin to see patterns and common themes.

Write down:

- What caused your stress
- How you felt, both physically and emotionally
- How you acted in response
- What you did to make yourself feel better.



Treatment options for carpal tunnel syndrome

If you have carpal tunnel syndrome, you may get numbness or tingling in your thumb and fingers. You may also have aching in your wrist. There are good treatments that can help and prevent long-term damage. Your doctor will help decide which treatments are most appropriate for you.

CTS can often be managed without surgery – especially if you have it treated sooner rather than later

In some cases, CTS disappears without treatment, or the symptoms reduce by introducing simple self-care measures¹⁰. Non-surgical treatments, such as wrist splints and corticosteroid injections, are effective for some people with CTS¹¹.

Wrist splint

A wrist splint is worn to support the wrist and prevent it bending. Bending places pressure on the nerve and aggravates symptoms. Your doctor may suggest wearing a splint at night to stop your wrist bending. You can buy ready-made wrist splints, or you can have one custom made to fit your wrist. You can discuss your options with your doctor or physiotherapist.

Corticosteroids

If splints alone aren't helping enough, your doctor may recommend also having an injection of a medicine called a corticosteroid into your wrist. Corticosteroids are a type of steroid medication. Steroids are hormones produced naturally in the body that can help reduce inflammation.

One injection is usually recommended to begin with. A steroid injection will probably improve your symptoms within a few weeks and the improvements may last for several months.

Non-steroid anti-inflammatory drugs (NSAIDs)

If you have a lot of inflammation (for example, if you also have rheumatoid arthritis), your doctor may recommend taking NSAIDs. These medicines can help reduce both pain and inflammation.

Surgery

If splints and corticosteroid injections don't help – or if your carpal tunnel syndrome is severe – your doctor may recommend having surgery. Surgery for CTS is known as carpal tunnel decompression or carpal tunnel release surgery. During surgery, the roof of the carpal tunnel (carpal ligament) is cut to reduce pressure on the median nerve in the wrist.

There are a variety of different recommendations for postoperative care. There's no evidence that one way is better than another, but your surgeon will give you advice.

Some people report relief using alternative therapies such as acupuncture, chiropractic care and yoga but the effectiveness of these therapies remains unproved



CTS DURING PREGNANCY

If you develop CTS during pregnancy, your symptoms should pass after your baby is born – after about 6 to 12 weeks.¹²

However, if the median nerve is severely squashed (compressed) or the symptoms are long-lasting (chronic), treatment is likely to be required¹³.

Where to find more information and support

How do I find a health professional?

If you don't have a regular GP, speak to your local practice or medical centre.

You may want to consider approaching a **physiotherapist** directly by contacting the Australian Physiotherapy Association:

→ 1300 306 622

→ Use the 'Find a Physio' feature on their website at physiotherapy.asn.au

To find an **occupational therapist** see the Occupational Therapy Australia website:

→ otaus.com.au

To find a **psychologist** see the Australian Psychological Society website:

→ psychology.org.au

healthdirect

Trusted health information and advice online and over the phone, available 24 hours a day, 7 days a week. Funded by the governments of Australia.

→ 1800 022 222

→ healthdirect.gov.au

Eat for Health

An Australian government website providing information, resources and tools about the Australian Dietary Guidelines and advice about the amount and kinds of foods that we need to eat for health and wellbeing.

→ eatforhealth.gov.au

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At the heart of the claims experience is you. Our goal is to help you lead as healthy and full a life as possible and help you get back to health as quickly as possible, taking into account all of your circumstances: your physical health, your mental wellbeing and your social support.

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Health and wellbeing is at the heart of what we do. From your physical and mental health, to your social and financial wellbeing – helping you be the best you can be is our number one priority.

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Because your health and wellbeing is as important to us as it is to you.

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