

CARPAL TUNNEL SYNDROME



Committed to curing arthritis

An Information Booklet

CARPAL TUNNEL SYNDROME

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What is carpal tunnel syndrome?

‘Carpal’ is a medical term which refers to the wrist. A ‘syndrome’ is a combination of problems which doctors recognise as a particular disease or disorder. The ‘carpal tunnel’ lies in the wrist and the tendons which run down from the muscles in the forearm to move the fingers pass through it (see Figure 1). The carpal tunnel also contains an important nerve called the median nerve. This nerve controls some of the muscles which move the thumb. It also carries information back to the brain about sensations you feel in your thumb and fingers – particularly the index, middle and (occasionally) the ring fingers. In carpal tunnel syndrome the median nerve gets squeezed – often because the tendons become swollen and overfill the tunnel – and this causes the symptoms described below.

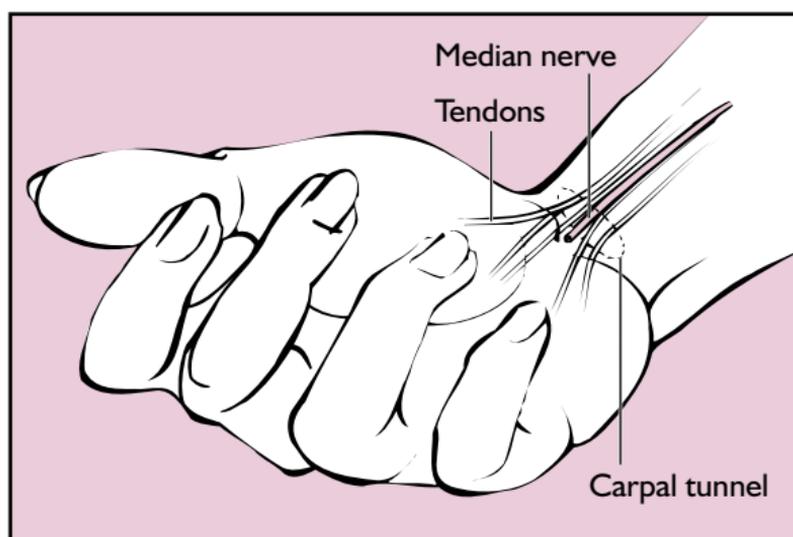


Figure 1. The tendons and the median nerve pass through the carpal tunnel in the wrist.

What are the symptoms?

Women are far more likely to have carpal tunnel syndrome than men. It can affect people of all ages. If you have this

condition you will experience pain or aching, and tingling or numbness. The symptoms are usually worse in the thumb, index and middle fingers. Occasionally they are so severe that your whole hand feels affected and the aching may sometimes extend up into the forearm. You may find one or both hands are affected. If you are right-handed the right hand tends to be worse, similarly the left hand if you are left-handed.

The symptoms are usually worse at night (when they may disturb your sleep), or in the morning when you wake. Hanging your hand out of bed or shaking it around will often relieve the pain and tingling.

During the daytime the problem may not occur but some people find that it can be brought on by physical activities

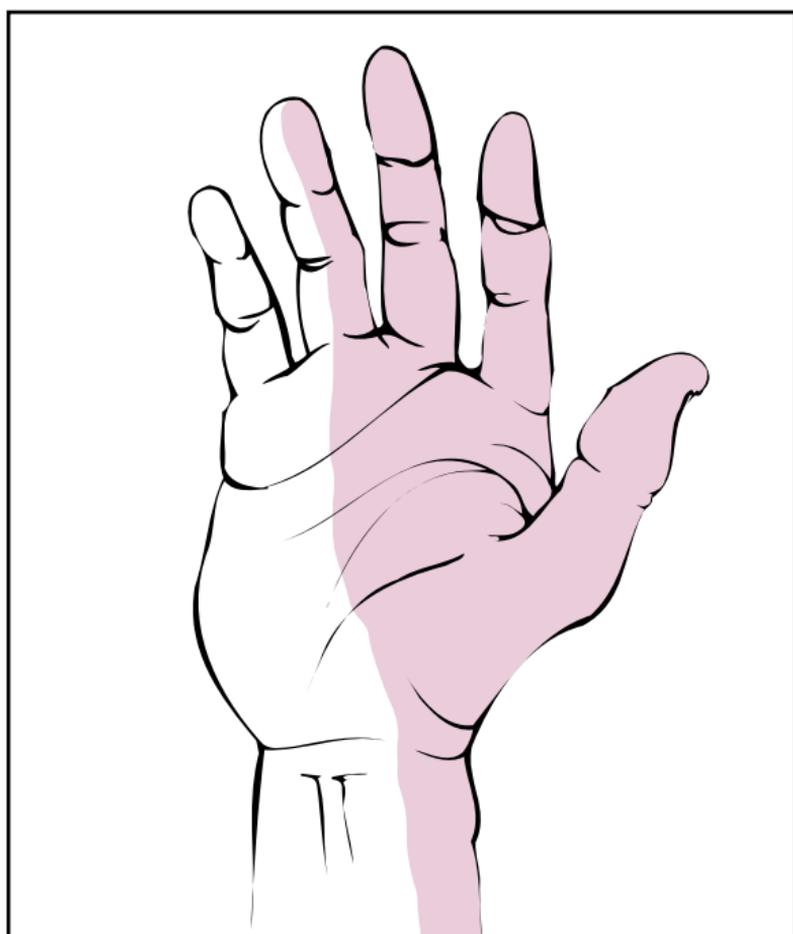


Figure 2. Carpal tunnel syndrome can produce numbness or tingling in the area shown shaded.

at work or home such as writing, typing, housework, knitting or DIY.

If the nerve is badly squeezed the problems may continue throughout the day. The hand may feel weak, or the fingers numb, or both. There is then a tendency for objects to slip out of your grasp and you may find that activities which require fine finger movements like writing or sewing become more difficult.

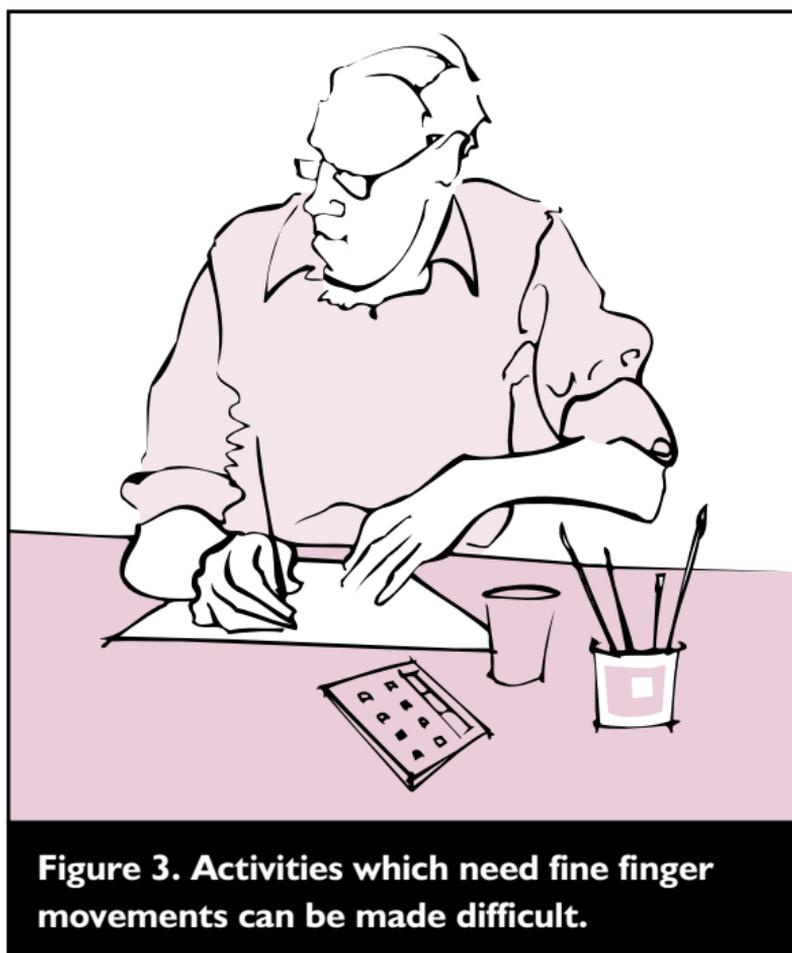


Figure 3. Activities which need fine finger movements can be made difficult.

The doctor's examination

When your doctor examines your hand, s/he may not find anything abnormal. Nonetheless the doctor will be looking for other problems which may mimic carpal tunnel syndrome. The wrist may be swollen due to arthritis or tendon swelling and this may explain why carpal tunnel syndrome has developed. If the problem

is severe the thumb, index and middle fingers may be insensitive (numb) to either a gentle touch or to a pin prick. If the condition has been present for some time, the muscles at the base of the thumb may be wasted and weak. Your doctor may tap over the median nerve on the palm side of the wrist. A sharp tingling pain in the fingers confirms the diagnosis (this is called Tinel's sign). The doctor may also ask you to bend your palm towards your forearm for up to a minute. Again, sharp tingling in the thumb and fingers confirms the diagnosis (this is called Phalen's sign).

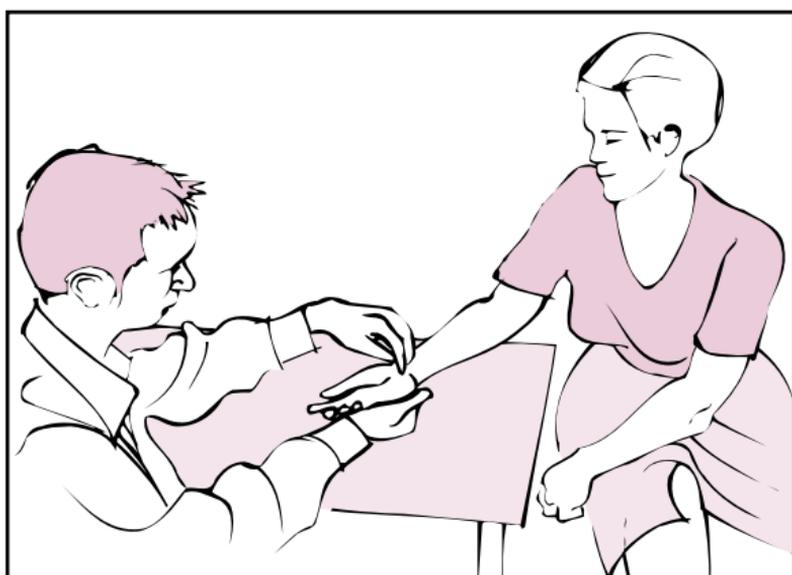


Figure 4. Tapping on the median nerve helps to diagnose the condition.

What are the causes?

In most cases there is not an obvious cause. However, the median nerve within the carpal tunnel is very sensitive to pressure, and the syndrome can be caused by an accumulation of fat or fluid within the tunnel. Some people develop carpal tunnel syndrome following a fracture of the wrist if this leads to narrowing or distortion of the tunnel. Arthritis of the wrist, particularly from rheumatoid arthritis (see **arc** booklet 'Rheumatoid

Arthritis'), is a common cause of carpal tunnel syndrome, particularly when there is swelling of the wrist joint itself or of the tendons which run through the carpal tunnel. Other causes include fluid retention (particularly in women during pregnancy or related to periods), an underactive thyroid gland and diabetes.

Some jobs can be associated with carpal tunnel syndrome. People who use vibrating tools are particularly at risk and, in this particular situation, government compensation may be available. People who put heavy demands on their wrist, such as butchers, are also at risk. (See **arc** booklet 'Work-Related Rheumatic Complaints'.)

Sometimes the condition is mistaken for something else. Pressure on nerves in the neck due to disc problems or arthritis can cause similar symptoms to carpal tunnel syndrome. In order to confirm the diagnosis doctors often perform a nerve conduction test. Small electrodes are placed on the skin just above the wrist to stimulate the median nerve. In someone with carpal tunnel syndrome there is a delay before the impulse arrives in the thumb muscles. This delay can be measured and will tell the doctor whether the nerve is badly or only slightly compressed.

What is the treatment?

Diuretics (water tablets) may help, particularly if you are suffering from fluid retention. If your symptoms are particularly troublesome at night it may help to sleep in a wrist splint which eases the pressure on the median nerve.

Helping yourself

No particular diet has been shown to help, nor any particular exercises. As mentioned, wearing a splint can help prevent the symptoms occurring at night. If

your symptoms come on at work it may also help to wear a splint. Discuss this with your supervisor or an occupational health nurse.

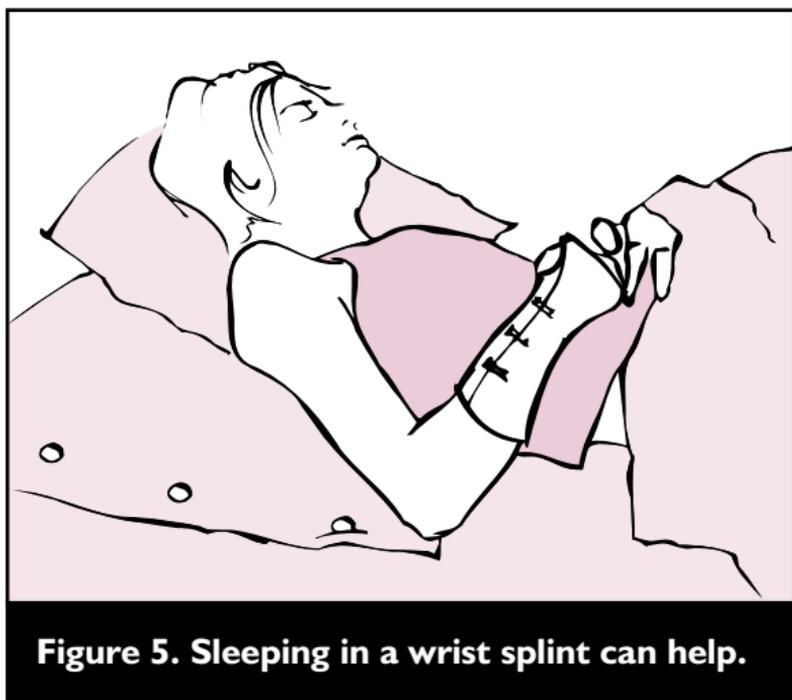


Figure 5. Sleeping in a wrist splint can help.

Steroid injections

If symptoms persist despite wearing a night splint, some doctors may recommend a steroid injection. A small quantity of steroid is injected into the carpal tunnel and, although this may be rather uncomfortable, the injection can relieve the symptoms for several weeks. A steroid injection into the wrist joint itself may also be helpful if there is arthritis in your wrist. If other treatments do not make a difference and symptoms continue then surgery is usually considered.

Surgery

Surgery may be needed if you have persistent symptoms of any of the following:

- weakness
- pins and needles
- loss of feeling in the thumb, index and middle fingers
- numbness and pain at night that prevents sleep.

The operation is carried out to reduce the pressure on the median nerve. This offers relief of discomfort or pain, although the return of normal feeling may take some time. Surgery usually takes place as a day-case and you can expect to recover in less than a month. The operation is normally carried out under a local anaesthetic and usually only leaves a small scar. However, the scar may be sore for some time after surgery.

This kind of surgery is usually successful and with luck the normal hand function returns completely. However, if the operation is carried out on somebody who has had the syndrome for a long time – particularly if there is a lot of muscle wasting and loss of sensation – there may be only partial recovery. But even in this situation the pain is usually considerably reduced.

Conclusion

Carpal tunnel syndrome can be treated but it is important to see your doctor early for the best chance of recovery.

Useful addresses

The Arthritis Research Campaign (arc)

PO Box 177
Chesterfield
Derbyshire S41 7TQ
Phone: 0870 850 5000
www.arc.org.uk

As well as funding research, we produce a range of free information booklets and leaflets. Please see the list of titles at the back of this booklet.

Arthritis Care

18 Stephenson Way
London NW1 2HD
Phone: 020 7380 6500
Helplines: 020 7380 6555 (10am–4pm Mon–Fri)
or freephone: 0808 800 4050 (12pm–4pm Mon–Fri)
www.arthritiscare.org.uk

Offers self-help support, a helpline service (on both numbers above), and a range of leaflets on arthritis.

Booklets and leaflets

These free booklets and leaflets are available from **arc**. To get copies, please send for our order form (stock code 6204) or write to: **arc** Publications, PO Box 344, Keighley BD21 4WZ **for up to three titles.**

DISEASES

Ankylosing Spondylitis
Antiphospholipid Syndrome
Behçet's Syndrome
Carpal Tunnel Syndrome
Dermatomyositis/Polymyositis
Fibromyalgia
Gout
Introducing Arthritis
Lupus (SLE)
Osteoarthritis
Osteoarthritis of the Knee
Osteomalacia (Soft Bones)
Osteoporosis
Paget's Disease of Bone
Polymyalgia Rheumatica (PMR)
Pseudogout
Psoriatic Arthritis
Raynaud's Phenomenon
Reactive Arthritis
Reflex Sympathetic Dystrophy (RSD)
Rheumatoid Arthritis
Scleroderma
Sjögren's Syndrome
Vasculitis

JUVENILE ARTHRITIS

Arthritis in Teenagers
Growing Pains (for children)
Tim has Arthritis (for children)
When a Young Person Has Arthritis
(for schoolteachers)
When Your Child Has Arthritis

TREATMENT

Blood Tests and X-Rays for Arthritis
Complementary Therapies
Hand and Wrist Surgery
Hydrotherapy and Arthritis
Occupational Therapy and Arthritis
Pain and Arthritis
Physiotherapy and Arthritis
Your Rheumatology Department

SUMMARY

A summary leaflet listing the main topics covered by all the others shown here

PARTS OF THE BODY

Back Pain
Feet, Footwear and Arthritis
Joint Hypermobility
Knee Pain in Young Adults
A New Hip Joint
A New Knee Joint
The Painful Shoulder
Pain in the Neck
Shoulder and Elbow Joint
Replacement
Tennis Elbow

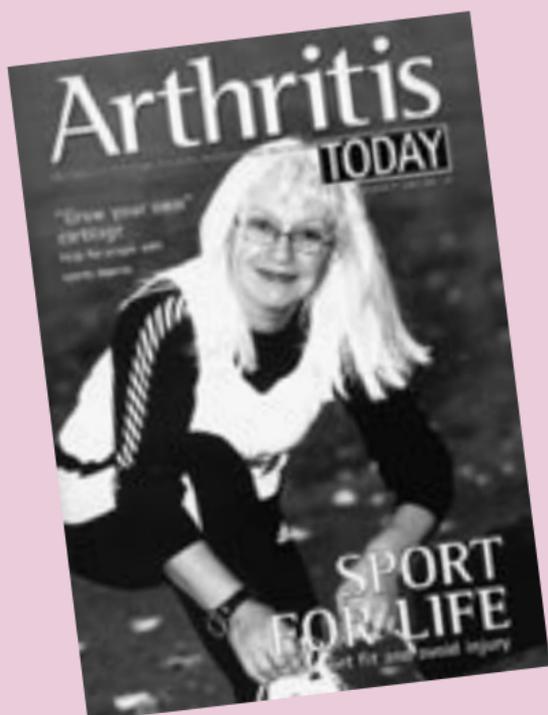
LIFESTYLE

Are You Sitting Comfortably?
Caring For a Person with Arthritis
Diet and Arthritis
Driving and Arthritis
Exercise and Arthritis
Gardening with Arthritis
Looking After Your Joints (RA)
Pregnancy and Arthritis
Rheumatism and the Weather
Sexuality and Arthritis
Sports Injuries
Stairlifts and Homelifts
Work and Arthritis
Work-Related Rheumatic Complaints
Your Home and Arthritis

DRUG INFORMATION

Drugs and Arthritis (general info.)
Anakinra
Azathioprine
Cyclophosphamide
Cyclosporin
Etanercept (Anti-TNF)
Gold (by Intra-Muscular Injection)
Hydroxychloroquine
Infliximab (Anti-TNF)
Leflunomide
Local Steroid Injections
Methotrexate
Non-Steroidal Anti-Inflammatory
Drugs (NSAIDs)
Penicillamine
Steroid Tablets
Sulphasalazine

Arthritis Research Campaign



The Arthritis Research Campaign (**arc**) is the only major UK charity funding research in universities, hospitals and medical schools to investigate the cause and cure of arthritis and other rheumatic diseases. We also produce a comprehensive range of over 70 free information booklets like this one covering different types of arthritis and offering practical advice to help in everyday life.

arc receives no government or NHS grants and relies entirely on its own fundraising efforts and the generosity of the public to support its research and education programmes.

Arthritis Today is the quarterly magazine of **arc**. This will keep you informed of the latest treatments and self-help techniques, with articles on research, human interest stories and fundraising news. If you would like to find out how you can receive this magazine regularly, please write to: Arthritis Research Campaign, Ref AT, PO Box 177, Chesterfield S41 7TQ.

A team of people contributed to this booklet. The original text was written by a doctor with expertise in the subject. It was assessed at draft stage by doctors, allied health professionals, an education specialist and people with arthritis. A non-medical editor rewrote the text to make it easy to understand and an **arc** medical editor is responsible for the content overall.



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