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A CYCLIST'S GUIDE TO
**INJURY
PREVENTION**

Feel it in your fingers?

SORE WRISTS AND numb fingers after a long ride? It could be carpal tunnel syndrome, cautions physio and osteopath *Lewis Wood*



While cycling, your hands are under more or less constant pressure. After a gruelling long ride, it's not unusual for your palms to feel sore, owing to the stresses of gripping the handlebars to hang on, steer, and absorb bumps and vibration. A pair of padded cycling mitts and good-quality bar tape can help. Even so, some cyclists experience persistent numbness, tingling and wrist pain after long rides. If this is combined with slight swelling and

reduced strength in your forearms, you may be experiencing nerve irritation or a problem related to poor circulation.

What is carpal tunnel syndrome? Carpal tunnel syndrome is the name for a group of problems that includes swelling, pain, pins and needles, numbness, feeling of burning, and a loss of strength in your wrist and hand. Your wrist is made up of eight small carpal bones that form a narrow groove or tunnel. Nine flexor tendons and the median nerve pass through this carpal

tunnel, which is the diameter of your index finger, facilitating sensation in the palm and fingers. If the diameter of this bony tunnel is compromised by thickened forearm tendons, ligament laxity, degeneration or, more commonly, swelling, pressure may be put on the median nerve.

In normal circumstances, the pressure within the carpal tunnel averages around 2.5mmHg, but in patients with carpal tunnel syndrome this pressure rises to above 32mmHg owing to the swelling. During wrist extension (e.g. holding your

handlebars) the pressure in the carpal tunnel can rise to over 110mmHg.

The problem usually manifests in a rider's dominant hand, but nearly half of carpal tunnel syndrome sufferers have symptoms in both hands. Women are three times more likely than men to fall victim to this condition, possibly because their wrist bones are smaller. Factors that increase susceptibility include, in women, hormonal changes during pregnancy or menopause, and in men and women, diabetes, hypothyroidism, obesity, and rheumatoid arthritis.

- Treatments for carpal tunnel syndrome**
- Wearing a wrist splint
 - Rest — in mild cases, early stages
 - Regular ice applications
 - Static wrist stretches
 - Forearm and hand massage
 - Tender-point release
 - Improving the neurodynamic extensibility of the median nerve
 - Localised corticosteroid injections
 - Carpal tunnel release surgery

Should I stop cycling? Firstly, check that you have full movement in your wrist joint and are able to fully bend or extend your wrist while your elbow is straight. Secondly, check for any signs of swelling, often visible on the underside of the wrist, by comparing both sides. Apply firm finger pressure into the wrist joint for 10 seconds, then let go; the skin should turn white and then refill with blood — called capillary recoil.

If this doesn't happen, the wrist is probably swollen. If the movement range is normal and there is no swelling, you should be OK to continue cycling, but if wrist pain, hand numbness or pins and needles persist, you should consult a medical professional (GP, physio, osteopath or orthopaedic consultant) to correctly identify the exact cause.

If left untreated, carpal tunnel syndrome can lead to a permanent loss of sensation in the fingers and ongoing weakness of the thumb, which may limit hand dexterity.

- Possible causes of wrist and hand numbness**
- Carpal tunnel syndrome
 - Thoracic outlet syndrome (compression on brachial plexus)
 - T4 syndrome (excessive strain on T4 vertebrae)
 - Repetitive strain injury (RSI)
 - Wrist flexors/extensor muscle strain
 - Cervical radiculopathy (neck nerve irritation)
 - Cervical disc prolapse
 - Peripheral ischemia (restricted blood supply)
 - Reduced peripheral circulation (narrowing of blood vessels)
 - Guillain-Barré syndrome (rare neurological disorder)
 - Side-effects of taking a prescribed medication

THE EXPERT

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SELF HELP

Self-help exercises

If you are experiencing mild or intermittent wrist soreness and hand numbness, these exercises might help — but proceed with caution, as you don't want to over-stretch or further irritate your median nerve. Complete pre/post-ride and 24 hours after each ride.

WRIST FLEXOR WALL STRETCH

First, place your left palm against the wall in front of you, elbow straight, forearm twisted open, with fingers facing downwards. To increase the stretch effect, spread your fingers, with your palm higher up the wall. Hold the stretch for 10 seconds and repeat five times.



MEDIAN NERVE NEURODYNAMIC GLIDING

Place your right palm against the wall to your side, with your elbow straight and fingertips facing downwards. First you will feel a stretch in your forearm, biceps and shoulder. Slowly bend your neck towards your left shoulder until you feel a deeper stretch (neural glide) in your right arm. Bring your neck back upright then repeat the neck bend to the opposite shoulder. Proceed slowly, five times. Cease exercise if discomfort persists.



WRIST FLEXOR TENDER-POINT RELEASE

Begin by bending your elbow and sliding your thumb down the line of the skin crease. Apply pressure on the inside of your elbow. Gently work your thumb into the soft tissue just above the bony part of your inner elbow. You're in the right place if, when you make a fist, you feel the wrist flexor tendon (golfer's elbow point) tighten. Apply a constant pressure to this tender point for one minute or until the soreness reduces, and repeat two to three times.

