

HAND, WRIST & UPPER LIMB
SURGERY

The sprained wrist

Here's everything you need to know
about this common injury.



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A sprained wrist is due to an injury to the ligaments of the wrist. Ligaments are thick bands of fibrous connective tissues that join one bone to another bone. The eight carpal bones of the wrist and the two forearm bones (radius and ulna) are linked by numerous ligaments in the complex joint, commonly known as the wrist joint. Ligaments serve to provide joint stability and restrict certain movements.

There are several ways to classify the severity of the injury. A simple classification is:

Mild (Grade 1): The ligament is stretched or has microscopic tears.

Moderate (Grade 2): The damage is more severe; the ligament may be partially torn.

Severe (Grade 3): The ligament is completely torn or torn away from where it normally attaches to bones. Occasionally, an avulsion fracture occurs when a small piece of bone is fractured off with the ligament.

The most common ligament to be injured in the wrist is the scapholunate (SL) ligament. This is the ligament between the scaphoid and lunate carpal bones. Another ligament frequently injured is the triangular fibrocartilage complex (TFCC). There are many other ligaments in the wrist but they are less commonly injured.

What is the cause?

Wrist sprains are commonly caused by a fall onto an outstretched hand. It can also occur after sudden twisting, bending or impact injury that forces the wrist into a position beyond its usual range of motion.

What are the symptoms?

The symptoms vary in intensity, depending on the severity of the injury and the ligament injured. Pain occurs at the time of the injury. It may become more painful during certain movement of the wrist. The wrist will swell and may show bruising due to bleeding. The wrist may feel loose or 'pop'.

The patient may also present with chronic recurring symptoms. Wrist pain occurs during strenuous activities or during certain movements of the wrist. There may be mild swelling but most patients will feel that their wrist seems weak. There may be 'popping' or clicking noise from the wrist. Some patients may recall sustaining an injury to the wrist in the past.

How to diagnose?

Your doctor will carry out a thorough examination of your wrist to identify the location of the injury, the structure injured, and to check how it moves. Wrist X-rays are taken to check for broken bones and displaced or dislocated joints. MRI may be required for detailed study of suspected damaged ligaments.

What is the treatment?

A minor wrist sprain will heal on its own. First aid treatment with the RICE protocol will be helpful. RICE stands for 'rest, ice, compress, elevate'.

R Rest the wrist for at least 48 hours.

I Ice the wrist to prevent pain and swelling. Wrap a towel around some ice and apply over the painful, swollen area; 20–30 minutes every three to four hours for the next two to three days, or until the pain goes away.

C Compress the wrist with a bandage to limit swelling.

E Elevate the wrist above the heart or on a pillow.

Your doctor may prescribe non-steroidal anti-inflammatory medication (NSAID) such as Synflex or Arcoxia to relieve the pain and limit the swelling. Avoid further aggravating activities in the hand and wrist and immobilise the wrist with a splint or brace to aid recovery. Hand therapy may be needed if the injury is more significant and results in stiffness and weakness of the wrist.

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Scapholunate (SL) ligament tear

Complete SL ligament tear or partial SL ligament tear that continues to be painful and symptomatic despite initial treatment will require surgery. Surgery may consist of minimally invasive arthroscopic surgery or open surgery. Arthroscopic surgery is done through small incisions in the skin with small, specialised instruments. Open surgery will be needed in some injuries. After surgery, the wrist will be placed in a cast or splint for several weeks to protect the repaired ligament. Hand therapy will be started once the repair has healed and is stable. Recovery of motion and strength may take six to nine months. Optimal treatment for these serious injuries is still being developed.

Triangular fibrocartilage complex (TFCC) tear

Similar to SL ligament tear, if the TFCC tear is complete or if the TFCC tear is partial but remains symptomatic despite conservative treatment, arthroscopic or open surgery will be needed. The TFCC can be repaired with sutures to restore stability of the distal radioulnar joint (DRUJ). However, when the joint is very unstable, reconstruction using a tendon graft will be required.

Conclusion

Wrist sprains can range in severity of the injury. Mild wrist sprains will heal in a few days with proper treatment. However, in severe cases, wrist sprains occasionally result in residual long-term pain, stiffness and swelling despite optimal treatment. [🔗](#)

