

Scapholunate Ligament Injury



What is a Scapholunate Ligament Injury?

A **scapholunate ligament injury** occurs when the ligament connecting the **scaphoid** and **lunate** bones in the wrist is stretched, torn, or disrupted. This ligament plays a vital role in maintaining the normal alignment and movement of the **carpal bones**.

Injury to the scapholunate ligament can lead to pain, weakness, and instability of the wrist. If left untreated, this condition may progress over time and lead to wrist arthritis, known as **SLAC wrist (Scapholunate Advanced Collapse)**.

Scapholunate ligament injuries are among the most common ligament injuries of the wrist and are often associated with falls or sporting injuries.

Causes and Risk Factors

Scapholunate ligament injuries most commonly occur following trauma.

Common causes include:

- **Falls onto an outstretched hand**
- **Sports injuries**, particularly contact or high-impact sports

- **Road traffic accidents**
- **Twisting injuries** to the wrist
- **Heavy loading injuries**, such as lifting heavy objects suddenly

Factors that may increase the risk of injury include:

- Participation in **contact sports**
 - **Manual occupations**
 - Previous wrist injuries
 - High-energy trauma
 - Untreated **scaphoid fractures** or other wrist injuries
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Symptoms

Symptoms of a scapholunate ligament injury may vary depending on the severity of the injury.

Common signs include:

- **Pain** on the back (dorsal aspect) of the wrist
- **Swelling** around the wrist
- **Reduced grip strength**
- **Clicking or clunking** in the wrist during movement
- **Weakness** when gripping or lifting objects
- **Pain with wrist extension**, such as pushing up from a chair
- A feeling of **instability** in the wrist
- Persistent pain following a wrist injury

In more severe or long-standing injuries, symptoms may include:

- Increasing wrist stiffness
 - Loss of wrist movement
 - Persistent pain with activity
 - Development of **wrist arthritis (SLAC wrist)** over time
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Diagnosis & Investigation

Scapholunate ligament injuries are diagnosed **based on clinical history and physical examination**, supported by imaging.

During your visit:

- The surgeon will ask about **how the injury occurred**, the duration of symptoms, and any previous wrist injuries.

- A **physical examination** will assess tenderness, swelling, grip strength, and wrist stability.
- Specific tests, such as the **Watson (scaphoid shift) test**, may be performed to assess scapholunate stability.

Imaging

- **X-rays** are usually performed initially to assess alignment of the carpal bones.
 - In some cases, **stress views** may be required to identify instability.
 - **MRI scans** may be used to assess ligament injury and associated soft tissue damage.
 - **CT scans** may be used to assess bone alignment or associated fractures.
 - **Wrist arthroscopy** is sometimes used to directly visualise the ligament and confirm the diagnosis.
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Non-Surgical Treatment

Some mild or partial scapholunate ligament injuries can be treated without surgery.

Non-surgical treatment options may include:

- **Splinting or immobilisation** to allow healing
- **Activity modification**, avoiding heavy lifting and repetitive wrist loading
- **Pain relief medication**, such as paracetamol or anti-inflammatory medication
- **Hand therapy**, to improve strength and wrist control
- In selected cases, **corticosteroid injections** may help reduce symptoms

Early treatment is important to prevent progression to instability.

Surgical Treatment

Surgery may be recommended if the ligament injury is **complete**, causes instability, or fails to improve with non-surgical treatment.

Common surgical options include:

Arthroscopic Debridement

In selected cases, wrist arthroscopy may be used to remove damaged tissue and smooth rough surfaces. This may be appropriate for partial ligament injuries.

Scapholunate Ligament Repair

If the ligament tear is identified early, it may be possible to **repair the ligament** directly. This typically involves reattaching the torn ligament to the bone using sutures or anchors.

Ligament Reconstruction

In more severe or chronic injuries, reconstruction using a **tendon graft** may be required to restore stability between the scaphoid and lunate.

Temporary Pinning (K-wires)

Pins (**K-wires**) may be used to hold the scaphoid and lunate in position while the ligament heals following repair or reconstruction.

Salvage Procedures for Arthritis

If arthritis has developed (**SLAC wrist**), further procedures may be considered, including:

- **Proximal row carpectomy (PRC)**
- **Partial wrist fusion**
- **Total wrist fusion** (in severe cases)

These procedures aim to relieve pain and improve function.

Recovery

Recovery following scapholunate ligament injury depends on the severity of the injury and the treatment required.

- Immobilisation is usually required following injury or surgery.
- **Hand therapy** is usually recommended to restore movement and strength.
- Stiffness is common and gradual rehabilitation is important.

Recovery times vary depending on treatment:

- **Minor injuries treated with splints** may recover within several weeks.
 - **Ligament repair or reconstruction** typically requires immobilisation for **6–8 weeks**, followed by rehabilitation.
 - **Pin removal** (if used) usually occurs after healing has begun.
 - Full recovery of strength and function may take **several months**.
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Risks

Although treatment is usually successful, complications can occur, including:

- Persistent wrist pain
- Stiffness
- Loss of wrist movement

- Recurrent instability
- Development of **SLAC wrist arthritis**
- Infection (after surgery)
- Hardware irritation (if pins or implants are used)

Early diagnosis improves long-term outcomes.

When to See One of Our Hand Specialists

You should consult a hand specialist if:

- You have **persistent wrist pain** following an injury
- You notice **clicking or clunking** in the wrist
- Your wrist feels **weak or unstable**
- Symptoms do not improve after initial treatment
- You have ongoing pain following a previous wrist injury

If you have sustained a severe injury, have significant deformity, or have an open wound associated with a fracture or ligament injury, this should be assessed urgently in the Emergency Department (A&E).

Book an appointment :

