



SURGERY

Scapholunate Repair or Reconstruction

What does this involve?

One of the most important ligaments between the small bones in your wrist is the scapholunate ligament.

If this ligament is torn it can be repaired if the diagnosis is made early enough (ideally less than 6 weeks after the injury).

Often the diagnosis is delayed and then the small ligament is too soft to repair. A scapholunate reconstruction might then be considered. This involves using a tendon, from elsewhere in the wrist or forearm, to replace the original scapholunate ligament and do its job.

Fresh Scapholunate rupture and distal radius fracture

Wide gap between scaphoid and lunate

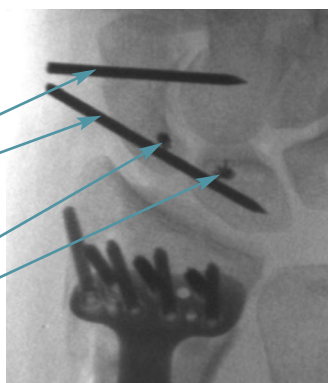
No scapholunate ligament reconstructions are as good as the original scapholunate ligament itself. Various types of reconstruction have been tried over the years. Often the surgeon will support the repair or reconstruction with wires through the bones and a plaster cast. The wires need to be removed 6-8 weeks after the surgery with another small operation. The wrist can start moving again after that. Sometimes the ligament is only stretched or partly torn when it is injured. An MRI arthrogram (wrist scan with dye injected into the wrist) and/or a wrist arthroscopy (an operation using a small



Fixed distal radius and repaired scapholunate rupture

Wires to protect repair (removed later)

Metal anchors with suture attached to repair ligament



telescope to look inside the wrist) might be necessary to be sure about this. If this is found to be the case strengthening exercises alone or a smaller operation to reinforce the stretched ligament might be considered.

When is surgery needed?

If the scapholunate ligament is completely ruptured the mechanics of how the wrist works are upset and the wrist joint will tend to wear out more quickly than usual. Studies looking at this suggest that over 5-10 years signs of wrist arthritis will appear on the xrays of people with a scapholunate ligament rupture. Symptoms that patients get from this arthritis are more variable and some patients don't seek medical advice for their wrist problem until the arthritis is quite advanced and giving a lot of trouble (see 'SLAC and SNAC Wrist'). Some people never get enough symptoms from the ligament rupture to seek medical advice. We know this from studies looking at peoples' wrists after they have died. In one such study a quarter of the wrists looked at had a completely ruptured scapholunate ligament for which they had never had any treatment.

It is impossible to be sure when a scapholunate ligament injury is severe enough to put you at risk of arthritis in the longer term or even if that arthritis will give you trouble. Most surgeons would recommend surgery for fresh scapholunate ligament injuries as this seems to be reliable at avoiding late instability. For injuries diagnosed later treatment is more difficult to decide upon. The option you choose will depend on how old the injury is, whether there is already arthritis in the wrist, how badly damaged the ligament is and how much trouble the wrist is giving you. You surgeon will discuss your particular case with you.

Which operation is the right one for me?

If you do choose an operation the choice of procedure will depend on many factors, as outlined above. Several different techniques have been described for scapholunate ligament reconstruction. Reviews of studies looking at these techniques have not shown one to be superior to any of the others. Again your surgeon will discuss your individual case with you.

Type of Operation	Day case
Length of Procedure	0.5 to 1.5 hours (repair versus reconstruction)
Anaesthesia	Regional Anaesthetic (arm numbed) and/or General Anaesthetic (asleep)



What are the main risks of this operation?

Swelling, Stiffness and Scar pain

This can be reduced by keeping the arm elevated and moving all the free joints as soon as possible. Local swelling around the surgical site can persist for several months. Local swelling can be helped by massaging the tissues and this may also improve any irritability in the surgical scar.

The ligament reconstruction options almost always result in some loss of motion in the wrist in the longer term. That is to say the wrist that has had the surgery will be stiffer than the other, normal, side. On average about 20° of wrist flexion is lost (bend of the wrist towards the palm) with these operations.

Occasionally patients are troubled by more swelling and stiffness than average. In this case complex regional pain syndrome (CRPS) is sometimes the cause (see relevant information sheet in 'Conditions we Treat'). Severe CRPS occurs in less than 1% of cases.

Infection

This is unusual in the hand (less than 1% of cases). Local wound infections can often be treated with oral antibiotics. Rare, deep seated infections may require re-admission to hospital, antibiotics into the vein and occasionally more surgery.

Nerve Damage

The nerves most at risk with these operations vary with the site of the surgery. Most commonly injured are small branches supplying the skin next to the scar. Occasionally the ends of these nerves can be very tender after the operation but usually this responds well to time and massage.

Failure of Repair or Reconstruction

In some cases these operation do not work and the gap between the scaphoid and lunate re-appears with associated abnormal movement of those two bones. This can occur suddenly (after a new fall say) or gradually over time as things stretch out.

If a repaired tendon fails a reconstruction option can still be tried but that does mean more surgery and rehabilitation. If arthritis has already started in the wrist by that stage salvage surgery might be the wiser course. This would only be considered if your symptoms were severe enough to merit further surgery (see 'SLAC and SNAC Wrist').

The failure rate is variable but up to one third (one in three patients) have a complete or partial failure of a scapholunate reconstruction. The failure rate is much less than this for repaired ligaments.

Metalwork problems

The temporary wires used to protect the repairs are buried below the skin but these can irritate the tissues and occasionally erode through the skin before they are due to be removed.

The small metal anchors used, to stitch the ligament or reconstruction down to bone, are buried inside the bones but there have been occasional reports of these working loose over time.

In either of these two situations further surgery might be required.

Post Operative Course

Day 1 - 14

- A sticky dressing and padded bandage with a plaster incorporated is applied after the operation
- Keep the dressings clean and dry
- Keep the arm elevated in a sling or on pillows to reduce swelling
- Start moving all the joints that are not immobilised immediately after the operation to prevent stiffness
- Take painkillers before the anaesthetic wears off and as necessary thereafter

In the first 2 weeks

- An appointment will be made for a wound check, trimming of sutures and application of a new plaster cast. The details will be arranged on the day of surgery

6 - 8 Weeks

- The wrist will start rehabilitation and movement at this stage.
- If wires have been used they will need to be removed. If wires have not been used just the plaster cast will need to be removed.
- A removable splint will be supplied for intermittent support and stretching exercises started.
- You will start gently loading the wrist but will need to build up gradually and not overdo it.

3 Months

- Heavy loading and contact sports can be gradually re-introduced at this stage

1 Year

- Recovery can take up to a year in the more complex cases.

Plaster Cast Information

Contact your surgical centre if:

- Your fingers become blue, swollen or numb and tingling with a plaster cast in place
- You see any discharge, wetness or detect any unpleasant smells from around your cast
- The cast becomes cracked, soft, loose or uncomfortable.

Outside normal working hours you may need to attend your local Accident and Emergency Department for help with these issues.

Driving

You may drive when you feel confident to control the car, even in an emergency.

Driving is not recommended until at least 2 months after this surgery, depending on your progress.

Time off Work

This will vary depending on the nature of your job.

Sick notes can be provided on the day of your operation, at your clinic visits and by your own GP.