



SURGERY

# Partial Wrist Fusions

### What does this involve?

In these operations the moving surfaces of some of the bones in the wrist are removed in order to get those joints to fuse together. Frequently this is combined with removing some of the wrist bones altogether. Some of the joints of the wrist are left undisturbed and these provide some wrist joint movement after the operation.

Various combinations of this approach are used but the most common pattern is called a scaphoidectomy and 4 corner fusion. This involves removing the scaphoid bone (which is arthritic) and fusing the lunate, capitate, hamate and triquetral bones together (to stop them falling apart). Joint motion is preserved at the base of the thumb and between the lunate and the distal radius. The bones to be fused can be held together in various ways including a 4 pronged metal staple.

### When is this operation needed?

This operation is performed to relieve pain from the worn out part of the wrist joint but to keep movement in the parts of the wrist that are not arthritic.

Painkillers, activity modification, aids to help with certain tasks, splints (removable supports) and steroid injections into the painful joint should be tried before considering surgery. The majority of patients with wrist arthritis can manage their symptoms in this way without ever needing an operation.

### Which is the right operation for you?

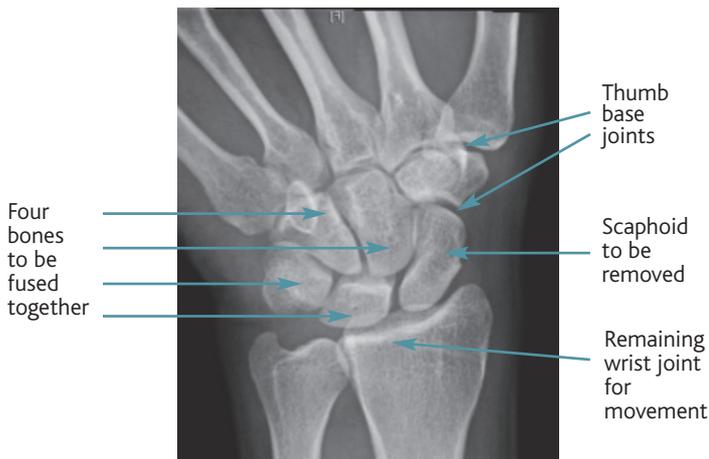
There are a number of surgical alternatives to a partial wrist fusion. The right option for you depends on what you feel about surgical risks, your functional requirements and the pattern of arthritis you have. Options include:

- Wrist denervation – this involves removing the small nerves that supply sensation to the wrist joint. In some people this can relieve pain for a few years to allow you to function more effectively.
- Radial styloidectomy – in early arthritis around the scaphoid just the pointed end of the radius is arthritic. Sometimes removing just this tip of bone can relieve pain for a while.

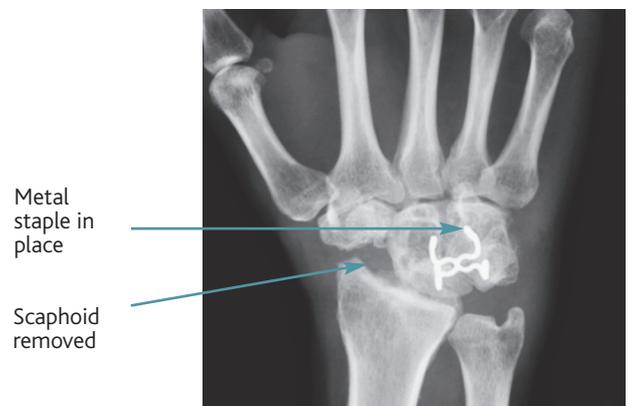
- Total Wrist Fusion – this involves fusing all the wrist bones together but leaving the rotating joint between the radius and the ulna (see 'Total Wrist Fusion')
- Wrist Replacement – this involves fusing some of the wrist bones together and replacing others (see 'Wrist Replacement')
- Proximal Row Carpectomy – this involves removing the first row of wrist bones and relying on the remaining bones for movement

Your surgeon will discuss the options for your individual case with you.

Normal Wrist Xray to show bones involved in a Scaphoidectomy and 4 Corner Fusion



Xray after the surgery



Type of Operation	Day case
Length of Procedure	1.5 hours
Anaesthesia	Regional Anaesthetic (whole arm numb) and/or General Anaesthetic



## 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. In most people the general swelling reduces dramatically in the first week after the operation.

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.

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

Reduced movement in the wrist joint is expected after this operation. On average patients keep about half of the range of wrist motion that they start with.

### *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 major nerves to the hand should not be damaged by these operations but small skin nerves can be affected. This may lead to small patches of numbness on the back of the hand and wrist which can sometimes be permanent. This might be irritating but should not affect how your hand works.

### *Failure of bone fusion*

The chance of the bones joining together very slowly or not at all (non-union) after this operation have been reported as about 10%. If the bones do not join together the joint can remain painful and the metalwork can start to work loose after some time. In either of these two cases further surgery might be necessary.

### *Metalwork problems*

The staple fixation used for this operation is impacted below the surface of the bones to be fused but it can still irritate the back of the joint on occasion. This might require further surgery.

### *Residual symptoms*

This operation seems to be reliable at relieving pain in the arthritic joint with an average pain score of 1.31 out of 10 at rest and 2.62 with loading by 6 months after the surgery in one study. This does mean, however, that most patients still had some residual discomfort in the wrist.

### *Arthritis in the remaining joints*

It might be expected that the remaining joints in the wrist would start to wear out over time with this operation as there are fewer joints to spread any load across. A recent 10 year follow up study suggests that this is unlikely – they reported no cases of this happening, although they only had 35 patients with this length of follow up. Conversion to a total wrist fusion is still possible if this does occur.

## Post Operative Course

### *Day 1 - 14*

- A dressing and padded bandage with a splint or plaster support 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 as soon as possible to prevent stiffness (see relevant exercise sheets in 'Rehabilitation')
- Take painkillers before the anaesthetic wears off and as necessary thereafter

### *Two Weeks*

- An appointment will be made for a wound check, dressing change, removal of sutures (if needed) and a further splint or plaster cast to be made
- Continue to exercise any joints not immobilised

### *Six Weeks*

- The plaster is removed and a check xray taken to assess whether or not the bones have joined
- Rehabilitation of the wrist starts from a removable splint
- Loading of the wrist can be gradually increased

### *Three Months*

- Contact sports can be re-introduced if x-rays are satisfactory
- Exercises to continue

### *1 Year*

- Improvements in the range of motion can continue up to this point

### *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.

It is usually 2 months before patients feel able to re-introduce driving after this surgery.

You should discuss it with your insurer if you are considering driving with a splint or cast in place.

### *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.