



SURGERY

ORIF of Distal Radius Fractures

(Open Reduction & Internal Fixation, plates & screws)

Normal Wrist Xray



Broken distal radius



Fixed distal radius



What does this involve?

This involves fixing the broken parts of the distal radius bone back together using screws and a plate. The metal components rest snugly on the bone and are buried under the skin so you can only see them on an xray.

To get to the broken parts a cut is made on the front of the forearm, about as long as the plate to be put in. Very occasionally other injuries need to be treated in the same operation or the plate and screws need to be put in from the back of the forearm, not the front.

When is this surgery needed?

Most distal radius fractures heal up well by themselves given time, appropriate support and exercises.

If the bone fragments are not well lined up they are often manipulated in the Accident and Emergency department, with some anaesthetic, to try and improve the position. The wrist is then put in a temporary plaster and further xrays taken.

If the xrays after the manipulation, or on subsequent review in a fracture clinic, show that the bone fragments are not well lined up further intervention may be suggested. ORIF is the commonest procedure currently performed for this sort of fracture, but other options are available.

Which operation is the right one for me?

The decision to go ahead with an operation depends on many things including your feelings about the risks of an operation, how badly out of position the bone fragments are and what function you would like to regain in your wrist when you have recovered.

Your surgeon will discuss the options with you.

Type of Operation	Day case
Length of Procedure	0.5 – 1.5 hours (depending on complexity of injury)
Anaesthesia	Regional Anaesthetic (whole arm numb) or (rarely) 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. 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.

After an injury and surgery the gliding layers around the wrist and in the fingers can easily become stuck together. These adhesions can limit movements. Early movement of the joints helps limit these adhesions becoming too strong.

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 are the small skin branches supplying sensation around the scar. The lost patch of skin sensation from these injuries might be irritating but should not affect how your hand works.

Swelling from the injury and from this surgery can put pressure on the median nerve nearby causing carpal tunnel syndrome symptoms. Carpal tunnel syndrome in these circumstances can involve a big increase in the pressure on the nerve at the wrist and can cause permanent damage of the nerve more rapidly than 'normal' carpal tunnel syndrome. If you develop tingling or numbness in your fingers at any stage you should contact your surgical centre urgently. Direct damage to the median nerve at the time of surgery is very rare but has occasionally been described.

Tendon irritation/ruptures

The metal plates and screw can sometimes irritate or even wear through surrounding tendons. This is rare now with the newest plate designs and should occur in less than 1% of cases. The two commonest tendons to be affected are flexor pollicis longus (that bends the tip of your thumb down) and extensor pollicis longus (that straightens and pulls up the tip of your thumb). If this complication occurs further surgery will usually be recommended.

Metalwork problems

Although the plates and screws used for this surgery are designed to sit on the bone below a muscle they can irritate the soft tissues and sometimes have to be removed after the bone has healed.

Metalwork can also work its way loose over time or break. This usually happens if the bone has not healed up properly. Further surgery might be required in these circumstances.

Loss of bony position

Plate and screw fixation generally gives strong fixation of the bony

fragments but if the fractured bone fragments are small or the bone is weak the position of the fragments may move after the operation. Sometimes this may require further surgery.

Arthritis

Not infrequently these fractures involve the joint surfaces between the distal radius and the wrist bones or between the side of the distal radius and the end of the ulna. This sort of injury increases the risk of developing arthritis in that joint later on. Any step off in the normally smooth surface of the joint probably increases the likelihood of arthritis but steps of more than 2mm seem to be most important to avoid.

Post Operative Course

Day 1 -14

- A dressing and padded bandage is applied after the operation. Sometimes a temporary plaster is also applied for support
- Keep the dressings clean and dry
- Keep the arm elevated in a sling or on pillows to reduce swelling
- Start moving any free joints immediately to prevent stiffness
- Take painkillers before the anaesthetic wears off and as necessary thereafter

During the first 2 Weeks

- An appointment will be made for you to have your dressings changed, the stitches trimmed/removed and a removable support provided.
- You will also be reviewed by one of our Hand Team who will assess your need for any extra rehabilitation. This will supplement the exercise sheet given to you after surgery.
- Further follow up will be made as necessary, depending on your individual progress.

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 might be six weeks before you feel able to consider driving again but some patients and fracture types will recover more quickly than this.

Your surgeon can advise you on your individual case.

You should discuss it with your insurer if you are considering driving with a splint 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.