NHS
Royal Berkshire
NHS Foundation Trust

Wrist (distal radius) fracture surgical management: exercises and advice

This leaflet outlines surgical management (an operation) of a wrist fracture.

My operation details

Where do I need to come to?	
Date	
Time	
Do not eat or drink anything but water after:	
Do not drink after:	
You will need someone to collect you and be with you for 24 hours after your surgery.	

All contact details are at the end of this leaflet

What is a distal radius or wrist fracture?

It is a break in one of the long forearm bones (radius) at your wrist, you can also break the ulna at the same time.

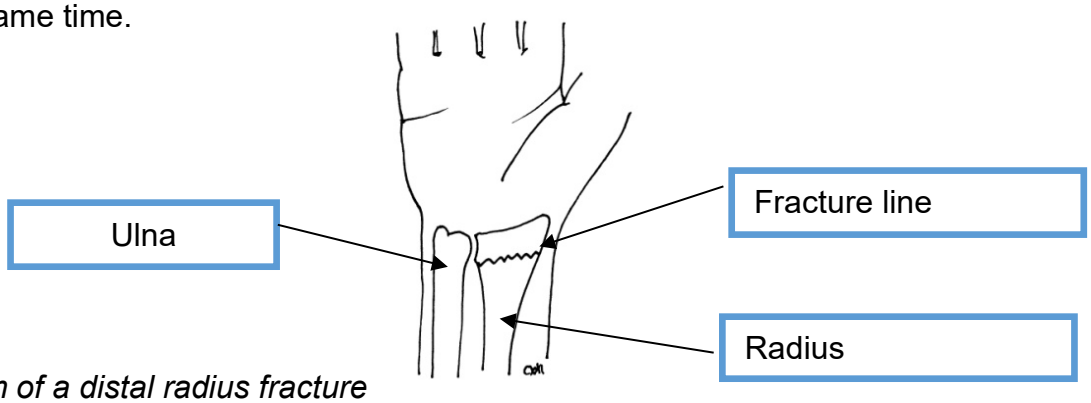


Diagram of a distal radius fracture

Why does my surgeon recommend surgery for my wrist fracture?

If the broken bone becomes displaced or out of line it can affect the movement of the wrist and forearm. A step in the joint surface can lead to secondary arthritis.

These are the two commonest reasons to recommend surgery.

What does the surgery achieve?

The aim of the surgery is to realign and stabilise the bone while it is healing. This aims to prevent poor movement and secondary arthritis.

What are the other options?

Your wrist fracture can be treated in a plaster if you accept the displaced position. The advantage to this is that it avoids surgery and may function well enough for your needs. The disadvantage is that there may be reduced movement in the wrist and there may be an increase chance of secondary arthritis.

If you are not sure, it is important that you discuss this with your surgeon and decide which treatment you wish to have before the day of surgery.

What will the surgery entail?

The surgery is done under either a general anaesthetic or a regional anaesthetic. The bone will be manipulated under X-ray in theatre to improve the alignment. It is then held with either pins that go through the skin (k-wires) or by a plate and screws that sit under the skin and muscle on the bone. Occasionally, the bone is held with a frame that is outside the body with pins going into the bone. This is called an external fixator. Ask your surgeon which they think is the best option for your wrist fracture.

What are the possible complications of surgery?

Possible complications that can occur include: bleeding, infection, damage to nerve/tendons/arteries, failure to fully correct the bone position, poor bone healing, stiffness and reduced movement and complex regional pain syndrome (a condition that affects the nerves causing burning pain, stiffness, swelling and colour change – it can happen after any trauma including surgery and occurs in 3-4% of people with distal radius fractures. Treatment for complex regional pain syndrome consists of physiotherapy and pain management).

The metalwork of plate and screws is usually left in the wrist. However, if there is any sign that they may irritate the tendons, they will be removed.

What do I need to do before the surgery?

You will have some swabs taken in the clinic and fill out a questionnaire. Depending on your medical background, you may need blood tests or a heart tracing (ECG).

It is important that you keep the swelling in the wrist and hand to a minimum, so keep your hand higher than your heart and try to move your fingers in and out of a fist at intervals until the swelling settles.

It is also important that the cast is comfortable, please return to the plaster room if it is uncomfortable, or stopping your fingers from moving.

What happens after the surgery?

You will usually go home the same day as the surgery. It is important you take the painkillers as directed and keep the swelling down by elevating your hand above your heart and getting your fingers moving. Follow-up will depend on the type of fixation used.

K-wire fixation	Plate and screw fixation	External fixator
You will be seen in the Fracture Clinic one week after your surgery to check your pin sites, change to a full plaster and to have an X-ray to check the position of the bone.	You may be referred to the Hand Therapy Team who will contact you to arrange to see you two weeks after your operation. They will review your wound, fit you with a splint and start you on gentle exercises.	You will be seen in clinic one week after surgery to check your pin sites, check the fixator bolts are tight and for an X-ray.

What should I do and what should I avoid after the surgery?

Do	Don't
• Keep the swelling down. • Move your shoulder, elbow and fingers regularly. • Keep your cast dry. • Keep your pain under control.	• Push through your pain. • Do strong gripping or heavy lifting activities. • Drive. • Play contact sport.

If you have had a plate fixation of your wrist

You may be referred to the hand therapists at Royal Berkshire Hospital for a removable splint to be fitted around one-two weeks after your surgery. At this point the hand therapists will advise you on removing the splint for controlled exercises. You may notice dry skin, mottling of the skin, excessive hair growth on the forearm or hand, and some residual swelling and some intermittent discomfort. This is perfectly normal and can slowly improve over a few months as long as it is not accompanied by excessive pain.

When can I return to work?

This depends on the demands of your job. It is likely that you will require 2-3 weeks off to recover from the surgery and allow the discomfort to settle. If you have an office job, returning to work after this for light duties should be possible, but you should avoid anything which makes your wrist uncomfortable, such as prolonged typing. For manual work requiring lifting, you will need at least 6 weeks off, which may be longer depending of the extent of your injury.

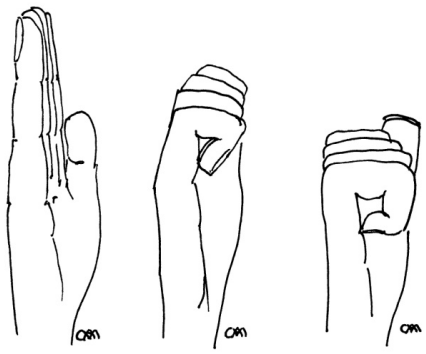
When can I return to driving?

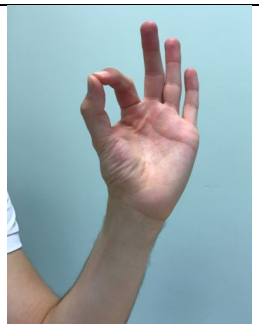
You should not drive while you are in a cast or thermoplastic splint. After this you can drive when you are able to control your vehicle without distraction. This is your decision, you can discuss this with your doctor or physiotherapist if you are unsure. You must be safe and in control of the vehicle. The law is very clear that you have to be able to prove to the police that you are **'safe'** to drive, so it is entirely your own responsibility and we cannot give you permission to drive.

When can I return to sport?

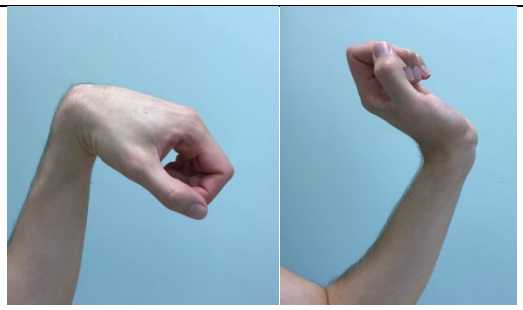
You should only return to contact sport 12 weeks after your injury. Other sport may be earlier but you should take the advice of your doctor or physiotherapist who will guide you.

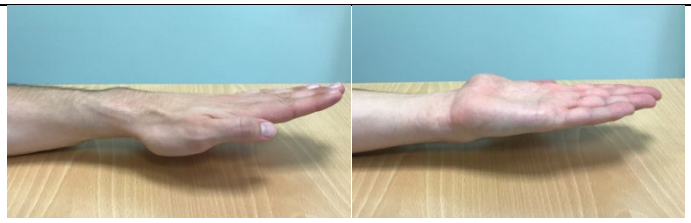
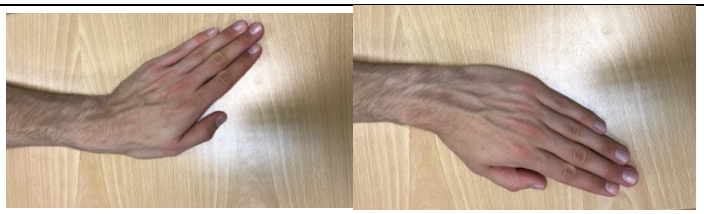
Exercises to do while the cast/splint is on

Shoulder	Lift your hand above your head as high as you can and back down slowly. Lift your arm out to the side as high as you can and back down slowly.
Elbow	Bend your elbow fully and straighten fully.
Fingers	
Thumb	Beginning with your index finger, touch the tip of each finger with your thumb. When you reach your little finger, take your thumb down the finger to meet the palm.

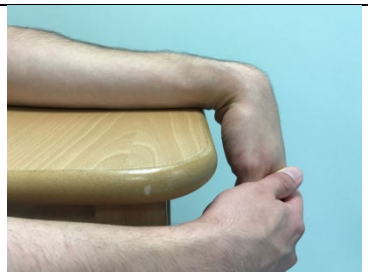
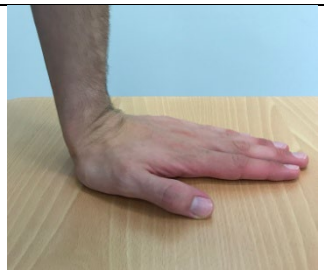
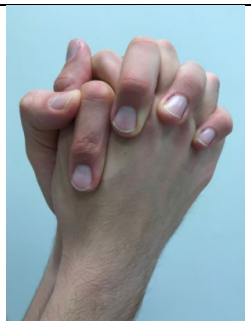
Thumb exercises	
Beginning with your index finger, touch the tip of each finger with your thumb. When you reach your little finger, take your thumb down the finger to meet the palm.	

Exercises to do once you can remove the splint intermittently (usually two weeks after your operation)

Wrist exercises	
Remove your splint and allow your wrist to move forwards and backwards, using the other hand for gentle support if required.	

Remove your splint and with your elbow by your side, place your hand on the table. Place the palm flat to the table and then turn your hand over (palm to ceiling) *without* moving your elbow.	
Remove the splint and with your palm flat on the table, move your hand to the left and then the right as if waving.	

Exercises to start six weeks after your operation when you can remove your splint more

Stretches	
With your wrist over the edge of the table, lower hand down and over-press with the other hand.	
With your hand flat on the table, raise elbow to see a crease along the back of your wrist.	
Interlock your fingers and keep the heels of your hands together. Twist your hands around each other achieving a turn of your wrists.	

Strengthening – start these exercises 6 to 8 weeks after your operation

With your wrist over the edge of the table in a neutral position, slowly lower hand and then return to the starting position. A light weight can be added, as able.	
With your wrist over the edge of the table in a neutral position, slowly lift hand and then return to the starting position. A light weight can be added, as able.	
With your wrist over the edge of the table in a neutral position and on its side, slowly turn the hand backwards (palm up) and forwards (palm down) A light weight can be added, as able.	

Things to look out for

You should monitor your arm and hand for any of the following problems.

- **Carpal tunnel syndrome** – if you have pins and needles or numbness in any of your fingers tells your physiotherapist or doctor as soon as you can. The median nerve in the front of the wrist can sometimes be compressed as a result of the injury or swelling you may develop afterwards. If this becomes severe you may require a small operation to release the nerve.
- **Severe pain** – one of the complications of a fracture and the post-operative immobilisation can be a severe pain reaction which is accompanied by stiffness, discolouration of the skin, increased sensitivity of the skin, increased sweating in the hand and an inability to control the temperature of your hand. It is very important to talk to your physiotherapist or doctor about this as soon as you can. You can then be started on appropriate medication and exercise regime which is helpful in managing this condition.
- **Thumb problems** – if you notice pain in your thumb when you are trying to straighten it, it may be that the tendon that straightens your thumb is becoming damaged. In the first place rest your thumb from the straightening exercises for a week or two as this often allows it to settle. If you notice you are no longer able to straighten your thumb, mention this to your physiotherapist or doctor as soon as you can.
- **Skin problems** – if your skin is sore or being rubbed by your cast or splint contact the plaster room or your physiotherapist for adjustments to be made.

What if I have questions?

It is important that you feel you have had all your questions answered. If not, please contact the trauma co-ordinator, who can often answer your questions directly or put you in touch with someone who can.

Contact information

Adult Day Surgery Unit (RBH):	0118 322 7622
Day Surgery Unit (WBCH):	01635 273492/3/4
Redlands Ward:	0118 322 7484 / 7485
Pre-Op Assessment Clinic:	0118 322 6546 / 6812
Plaster Room:	0118 322 7040
Upper Limb Admin Team (CAT5):	0118 322 7415 Monday to Friday

If you have any concerns during the first 24 hours of your discharge please phone the ward / unit you were admitted to. Adult Day Surgery Unit's opening hours are from 7.00am to 10.00pm (Mon-Fri). After 24 hours please seek advice from your GP.

Further information

- www.readinghandsurgery.com
- Versus Arthritis www.versusarthritis.org. As well as funding research, Versus Arthritis produce a range of free information booklets and leaflets.
- Arthritis Care www.arthritiscare.org.uk
- The Royal College of Surgeons of England have some patient information publications available on their website www.rcseng.ac.uk/patient_information

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

RBFT Hand Clinic CM, JR, JV, May 2023. Next review due: May 2025