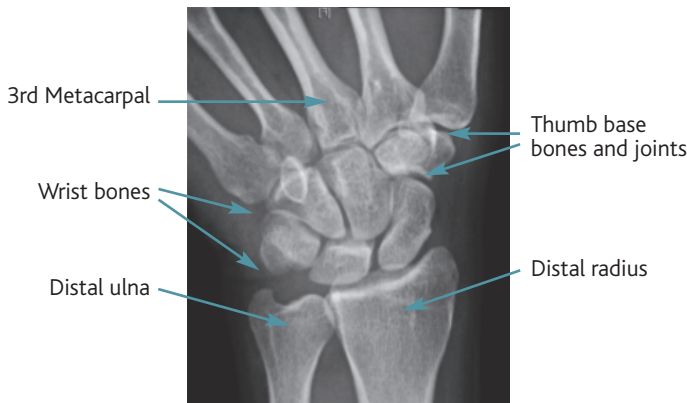




SURGERY

Total Wrist Fusion

Normal Wrist Xray to show bones involved in a Total Wrist Fusion



Side view after the surgery

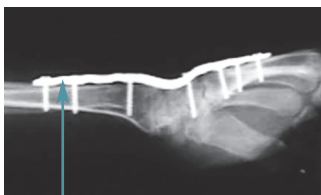


Plate and screws in place

What does this involve?

In this operation the moving surfaces in the wrist are removed in order to get those joints to fuse together. The surfaces to be fused include the end of the radius, most of the small bones in the wrist and the joint between the wrist and the base of the 3rd metacarpal. Usually the joints below the thumb and between the radius and ulna are not disturbed so thumb movement and forearm rotation are maintained.

The bones need to be held still whilst they fuse together. Most hand surgeons now use a specially designed plate to do this.

When is this operation needed?

This operation is performed to relieve pain from an arthritic wrist.

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 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.
- Partial wrist fusion – this involves fusing some of the wrist bones together, taking some of the bones out and relying on the few remaining parts of the joint that are still in a good condition for movement (see 'Partial Wrist Fusions')
- 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.

About 70% of patients having this surgery will eventually return to their previous employment, after rehabilitation. On average a grip strength of 80% of the other hand returns after rehabilitation. Difficulties can be encountered with dextrous tasks in tight corners because of the loss of wrist flexibility.

Type of Operation	Daycase/Overnight stay
Length of Procedure	1.5 hours
Anaesthesia	Regional Anaesthetic (whole arm numb) 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. In most people the general swelling reduces dramatically in the first two weeks 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.

Infection

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

Wound Breakdown/Haematoma formation

This is a big operation and there is always some swelling and bleeding after the operation. Sometimes this is more marked and very rarely there is so much swelling that the wound stitches fail. Usually the body will reabsorb any swelling gradually over time but if the wound does open up considerably returning to theatre to wash out the blood and re-stitch the wound might be recommended.

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.

Pre-existing carpal tunnel syndrome symptoms can be made worse after this operation if swelling is considerable.

Failure of bone fusion

The chance of a non-union (the bones not fusing together) following this operation has been reported as about 7%. 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 plate can irritate the overlying tendons or be painful itself over time. These symptoms usually resolve if the plate is removed. This is necessary in about 14% of cases.

Residual symptoms

This operation seems to be reliable at relieving pain in the arthritic wrist joint with about 75% of patients being completely pain free and most of the remainder only having mild symptoms.

Arthritis in the remaining joints

The occasional patient develops arthritis in the joint between the distal ulna and radius after this operation (5%). This is treated as a separate joint. Treatment for problems in this joint is explained in other pages of this website.

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
- 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 x-ray taken to assess whether the bones have joined. A CT scan may also be obtained to give more detail on whether the bones have joined.
- Rehabilitation continues with a removable splint used for intermittent support
- 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 movements of the surrounding joints, and strength, may 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.