



**SURGERY**

# Hand Joint Fusions

### What does this involve?

In these operations the moving surfaces of the joint to be fused are removed in order to allow the two bones either side of the joint to join together. The two ends of the bone are held together with various types of metalwork to keep them still whilst the bones fuse.

### When is this operation needed?

This operation is performed to relieve pain in an arthritic, damaged or unstable joint.

Painkillers, activity modification, splints (removable supports), aids to help with certain tasks and sometimes steroid injections into the painful joint are often tried before recommending surgery. The majority of arthritic hand joints can be managed in this way without ever needing an operation.

### Which joints in the hands can be fused?

Common joints to be fused in the hand are the distal and proximal interphalangeal joints of the fingers, the interphalangeal joint of the thumb, the metacarpophalangeal joint of the thumb and the basal joints of the thumb.

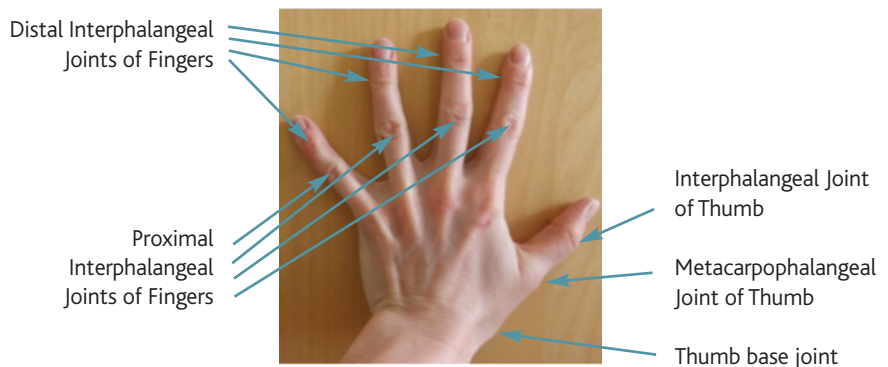
### Distal Interphalangeal Joint Fusion with a screw



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### Normal Hand to show different Joints



<b>Type of Operation</b>	Day case
<b>Length of Procedure</b>	1 hour
<b>Anaesthesia</b>	Local Anaesthetic (small joints) or Regional Anaesthetic (whole arm numb) occasionally 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.

### *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 skin 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 not joining together after this operation is different for each joint. The most common joint to be difficult to fuse is the thumb base joint. Non-union rates of up to 15% have been found in recent studies looking at the thumb base joint (higher rates in older studies). For other joints in the hand non-union rates are 1-5%. 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*

This is unusual when the metalwork is buried in the bone and the bone unites solidly. If parts of the metalwork remain outside the bone they can sometimes irritate the local tissues after some time, even if the bones solidly unite. If this happens removing the metalwork is often recommended. As mentioned above if the bones fail to unite the metalwork can become loose in time and require removal.

## 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 higher than your heart as much as possible 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

### *10 - 14 Days*

- An appointment will be made for a wound check, dressing change, removal/trimming of sutures and a further splint or plaster cast to be fitted.
- Further rehabilitation will depend on which joint was fused but a total of 6 weeks of support around the fused joint is usually recommended.

### *6 Weeks*

- A review in clinic will be arranged and check x-rays obtained to see if the bones have fused.
- Further rehabilitation will be arranged as necessary.

### *3 Months*

- Contact sports can usually be re-introduced at this stage.

### *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.

For the small joints of the hand this may be after the first clinic visit at two weeks but for the larger joints it will usually be a couple of weeks after the splint is removed (two months after the operation).

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 and the exact joint you have had surgery on.

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