Sussex Hand Surgery



SURGERY

# Thumb Base Surgery

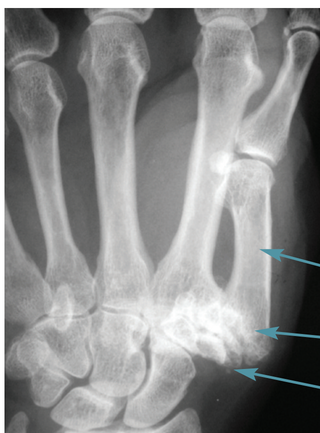
## *What does this involve?*

Surgery on the base of the thumb involved removing some, or all, of the arthritic joint and replacing it with something less painful. Many different operations have been described for this but none has been conclusively shown to be better than any of the others. The simplest operations have the fewest complications, however.

## *When is surgery needed?*

This operation is performed to relieve pain in an arthritic joint. Most surgeons would encourage you to try painkillers, splints, activity modification, aids to help with certain tasks (opening jars etc) and steroid injections into the painful joint before recommending surgery. The majority of patients with thumb base arthritis can manage their symptoms in this way without ever needing an operation.

## *X-Ray of left hand showing thumb base arthritis*



Thumb metacarpal

Arthritic joint

Remains of trapezium

| | |
|---|---|
| *Type of Operation* | Day case |
| *Length of Procedure* | 1 hour |
| *Anaesthesia* | Regional Anaesthetic (whole arm numb) or General Anaesthetic (asleep) |

## *Which operation is the right one for me?*

The standard operation for this condition is a simple trapeziumectomy. In this operation the trapezium bone is removed preserving the surrounding bones. The capsule around the joint is tightened up to keep the thumb well aligned and a moulded plaster is applied for 4 weeks. Sometimes a wire is also used to support the bones whilst the soft tissues heal – this is removed later in clinic. During the time in plaster the space where the trapezium was fills in with scar tissue which acts as a soft pad for the thumb to work against. You then need to work on regaining movement of the thumb, which usually takes another 4 to 6 weeks.

If the tissue around the base of the thumb is very lax a trapeziumectomy may be combined with a ligament reconstruction and tendon interposition. The ligament reconstruction is usually done with part of a tendon from the front of your wrist passed through the base of the thumb metacarpal and sewn back on itself to act as a sling around the thumb base. The end of the tendon is then folded up and put into the space where the trapezium was to act as extra padding.

Various other sorts of 'replacement' have been tried for this joint. Solid joints put into the small bones (rather like a tiny hip replacement) have been very difficult to fix in place and often loosen after a short period of time and cause more problems. More recently interest has turned to using a solid, smooth ring of pyrocarbon (a material which has been used for many years in heart valve surgery) as a replacement (The Pyrodisk). The end of the trapezium and base of the thumb metacarpal are removed and the circular replacement put between the bone surfaces. A ligament reconstruction is then carried out but the strip of tendon passes through the remains of the trapezium, the replacement and the base of the thumb metacarpal.

If very heavy loading of the thumb is likely to be necessary (eg working in the building profession etc) a fusion of the thumb base joint may be the preferred option. Your surgeon will discuss the best option with you.

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## 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 (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 branches of the superficial radial nerve (supplying sensation on the back of the thumb, index and middle fingers) and the palmar branch of the median nerve (supplying skin sensation at the base of the front of the thumb). This second nerve is only at risk with ligament reconstruction operations. The lost patch of skin sensation from these injuries might be irritating but should not affect how your hand works. Damage to these nerves can sometimes make CRPS worse.

### Worsening of Carpal Tunnel Syndrome

Patients with evidence of carpal tunnel syndrome before thumb base surgery may find that these symptoms are much worse around the time of the operation, probably because of increased swelling in the area. Many surgeons would, therefore, consider decompressing the carpal tunnel at the same time as the thumb base surgery if you already have some signs of carpal tunnel syndrome.

### Residual thumb base discomfort

No operation for thumb base arthritis is perfect. Some patients will still have some discomfort at the base of the thumb with any of the operations described above. In most cases the pre-operative pain is much reduced and the residual symptoms are a manageable nuisance only. Occasionally the symptoms are so marked as to require further surgery. For instance the base of the thumb may become unstable after a simple trapeziumectomy necessitating a ligament reconstruction or the joints left behind after a Pyrodisk has been inserted may wear out and need more attention.

### Reduced pinch grip strength (thumb to index finger)

This is likely to be less than in a normal thumb after these operations but more than before the operation, when the joint was very painful. One of the goals of solid replacements or a fusion is to gain more pinch grip strength that with a soft tissue procedure.

## 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 Finger exercise sheet in 'Rehabilitation'
- Take painkillers before the anaesthetic wears off and as necessary thereafter

### Two Weeks

- An appointment will be made for a wound check, removal of stitches (if necessary) and a new moulded cast to be applied

### 4 Weeks

- Plaster will be removed and rehabilitation will start from a removable splint under the supervision of the hand therapists

### 6 Weeks

- Strengthening starts
- Splint only being worn at night

### 3 Months

- Contact sports may be re-started

### 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 thumb base surgery it is usually two months before you should consider driving again.

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 and the exact nature of your surgery.

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

*These notes are intended as a guide and some of the details may vary depending on your individual circumstance and at the discretion of your surgeon.*

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