



**SURGERY**

# Tendon Transfer Surgery

## What does this involve?

This involves taking a tendon from one part of the hand and sewing it into the end of a tendon that has stopped working. The aim is to restore the function of the tendon that has stopped working. The commonest tendon transfer takes one of the two extensor tendons from the back of your index finger and transfers it to the end of the tendon that pulls up the tip of your thumb. The tendons involved are called Extensor Pollicis Longus and Extensor Indicus.

You don't notice the loss of the tendon on the back of the index finger as the other tendon keeps doing that job. There are many tendon transfers described but this sheet will describe the commonest transfer.

During the operation the Extensor Indicus tendon is cut through a small skin cut near the knuckle joint and pulled out at the wrist, next to where the Extensor Pollicis Longus tendon has ruptured.

The two tendons are then woven through each other and the free ends are pulled to slide the tendons over each other until the right tension is achieved. With the right tension the transferred tendon (Extensor Indicus) now pulls up the end of the thumb. When the tension is right the woven tendons are sewn together. Extensor Indicus will now work the end of the thumb, not the index finger. The remaining tendon to the index finger still works so that finger will still straighten too.

## When is surgery needed?

The commonest reason for the tendon to the tip of the thumb to stop working is that it has torn after rubbing across a break in the end of the radius bone (see What we Treat, Wrist, Distal Radius Fractures and diagram below).

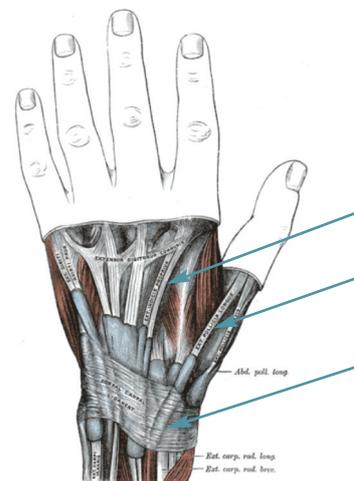
Tendons can also tear like this (rupture) if they rub over a very rough arthritic joint. Tendons can also stop working if they have been cut and not repaired promptly. Nerve damage is another common reason for considering tendon transfers. Nerves make the muscle pulling on a tendon contract. It is the pull from the muscle that makes the tendon work so without the nerve working the tendon function is lost.

## Before Surgery – Thumb extensor not working



Tip of Thumb can't be straightened.

## Diagram Showing Extensor Pollicis Longus and Extensor Indicus



Extensor Indicus – note second tendon to index finger which is left behind to work that finger after the surgery.

Extensor Pollicis Longus

Rupture occurs here, over the distal radius fracture

Type of Operation	Day case
Length of Procedure	45 mins (for this transfer, others may take longer)
Anaesthesia	Regional Anaesthetic (whole arm numb) 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 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.

### *Tendon Adhesions*

Even with your best efforts and the help of the hand therapists the area where the tendons have been woven together has a tendency to stick to the surrounding tissues. Occasionally this requires more surgery later on to try and free up the transfer and improve how it moves.

### *Infection*

This is unusual in the hand (less than 1% of cases if the wounds were clean). 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.

### *Stretching or Rupture of tendon weave*

Weaving the two tendons together before stitching them usually gives a strong repair. Slight stretching out of the tendons at the weave site is commoner than a complete rupture, although both can occur. If the weave stretches the amount the transfer pulls up the tip of the thumb is reduced. With carefully supervised rehabilitation only 1-2% of tendon repairs should significantly stretch or fail. This risk increases if rehabilitation regimes are not followed. Ruptured tendon transfers can be re-done but the results of surgery second time around are less good.

### *Nerve Injury*

The nerves supplying the skin on the back of the hand and fingers are most at risk with this surgery. Usually damage to these nerves will just leave you with a small patch of numbness which should not affect how your hand works.

## Post Operative Course

### *Day 1 – 7*

- A dressing and padded bandage with a plaster cast incorporated to keep the tip of the thumb supported is applied after the operation
- Keep the dressings clean and dry
- Keep the arm strictly elevated in a sling or on pillows to reduce swelling but move all the free joints (fingers, elbow, shoulder) to avoid stiffness there.
- Take painkillers before the anaesthetic wears off and as necessary thereafter

### *During the First Two Weeks*

- An appointment will be made for you to see the Hand Therapist. They will make you a removable splint and start your rehabilitation (see Rehabilitation section).
- The stitches will be removed between 10 and 14 days after the surgery. These arrangements will be made on the day of your surgery.
- Follow up with your surgeon will also be arranged on the day of your surgery

### *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 will be at least eight weeks before you will be able to drive. This will depend on your progress and should be discussed with your therapist.

### *Time off Work*

This will vary depending on the nature of your job. Discuss this with your surgeon.

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