



SURGERY

Flexor Tendon Repairs

What does this involve?

This involves sewing the two ends of a cut tendon together after they have been cut.

Tendons are attached to muscles which contract and pull the ends of a cut tendon apart. This means the tendon will not heal if the ends are not retrieved and put back together again. Also a small cut from your injury may need to be made considerably bigger to retrieve the ends of the tendon.

There are two flexor tendons for each finger and one for the thumb. In the fingers there is not

much space as the tendons are held down at various points by straps to keep them close to the bone (see diagram below). Repairing tendons in the fingers is therefore quite difficult. Straps are not present in the palm of the hand so repairing the tendons is a little easier.

Tendons are made out of a fibrous tissue called collagen. This tissue only has a limited blood supply. This means tendons heal very slowly and repairs take a long time to become strong. Hand tendons normally glide smoothly when they work. Damage around a tendon will

tend to make the tissue layers in the hand stick together. This stops the tendons gliding properly. Getting the right balance between moving the tendon repair and pulling it apart before it is healed is tricky. The Hand Therapists play a crucial role here. All flexor tendon injuries need supervised rehabilitation with the therapists for at least 6 weeks and often longer. Full, normal function of the finger is rarely obtained after a flexor tendon injury, but close adherence to the rehabilitation protocols will ensure you get the best possible result.

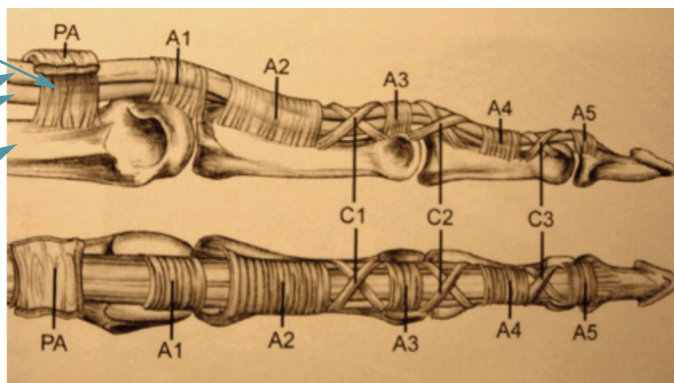
When is this surgery needed?

When the flexor tendons are cut they need to be repaired or the finger will not bend again properly. Fresh injuries should be repaired within a week of the injury.

Sometimes injuries are missed. In this case delayed repairs or reconstructions of the tendons can be undertaken but the results of this sort of surgery are less good than for early repairs.

Flexor Tendons in the Fingers

Strap over tendons (pulley)
Two tendons on top of each other going into the finger
Finger bones



Side view of a finger with straps over the tendons

Front view of the finger

Type of Operation	Day case
Length of Procedure	0.5 – 2 hours (depending on how many tendons are cut)
Anaesthesia	Regional Anaesthetic (whole arm numb) or (rarely) 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 flexor tendon repairs may become stuck to the surrounding tissues. Occasionally this requires more surgery later on to try and free up the repaired tendon so it moves more easily.

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.

Tendon Re-Rupture

With strong tendon repair techniques and carefully supervised rehabilitation only 1-2% of tendon repairs should fail. This risk increases if rehabilitation regimes are not followed. Re-ruptured tendons can be repaired again but the results of surgery second time around are less good.

Nerve Injury

The nerves to the finger are very close to the tendons. Nerve and tendon injuries often occur together in the fingers and hands. If your nerves have been damaged they will be repaired at the same time as your tendons (see 'Nerve Repairs').

Further damage to your nerves during your tendon repair is very rare provided your surgery is carried out by an experienced hand surgeon.

Blood Vessel Injury

The blood vessels for the finger run with the nerves, very close to the tendons. There are two little arteries to each finger. If both arteries have been damaged when you injured the finger it is usually very obvious (the finger will be cold and blue). In this case immediate surgery is necessary to restore the blood supply to the finger. If a single artery has been damaged this might not be obvious until the wound is explored in theatre as most fingers can survive well with a single artery.

Further damage to the arteries of the finger while you are having your tendons repaired is very unlikely provided your surgery is carried out by an experienced hand surgeon.

Even if both arteries to the finger are intact after your operation the blood supply to the finger can become poor after this sort of surgery. Factors that might impede blood flow after this sort of surgery include:

- Swelling in the hand/finger – reduced by keeping the arm elevated
- Cold – makes the vessels narrow down – keep the hand warm
- Smoking – makes the vessels narrow down – don't smoke
- Poor vessels to start with – peripheral vascular disease, diabetes
- Infection – can make the blood clot inside the vessels

You should urgently re-attend your surgical centre or local Accident and Emergency department if you feel the blood supply to your operated finger(s) is poor.

Post Operative Course

Day 1 - 7

- A dressing and padded bandage with a plaster cast incorporated 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
- Use your other hand to gently bend down the damaged digit towards the palm in the plaster
- Take painkillers before the anaesthetic wears off and as necessary thereafter

During the First Few Days

- An urgent appointment will be made for you to see the Hand Therapist. They will make you a removable splint and start your rehabilitation
- It is essential you start rehabilitation as soon as possible so make sure you attend this appointment

10 - 14 Days

- The stitches will be removed
- Rehabilitation will continue with the Therapists

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.

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.