



SURGERY

Nerve Repair

What does this involve?

If you have had an injury that has cut one of the main nerves in your arm or hand it is best treated by carefully sewing the cut ends of the nerve together again. In the diagram below the stitches go in the layer called the epineurium. The individual nerve fibres (labelled 'axon' in the diagram below) then have to re-grow past the injury site down into the hand.

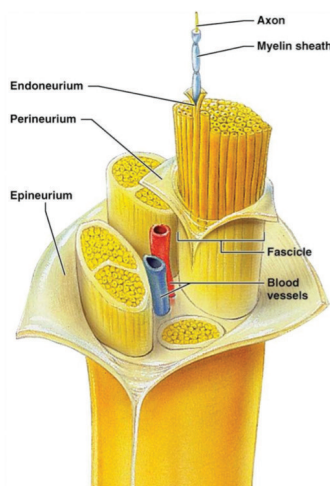
On average not much nerve growth occurs in the first 2 -3 weeks after the repair and then the nerve can be expected to progress at about 1mm per day until it reaches the skin (for sensation) of the muscles (for muscle contraction).

If a section of nerve has been lost a nerve graft might be necessary. This involves taking a nerve from somewhere else and sewing it into the gap in the damaged nerve.

When is surgery needed?

Fresh nerve injuries are best repaired in the first week after the injury but occasionally injuries are missed. Later repairs tend to do less well than early repairs.

Diagram of a Nerve



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. 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.

Poor nerve function recovery

An injured nerve will never regain perfect function again. The best results seem to be with:

- Injuries in children – the younger you are the better your nerves will recover
- Clean, sharp cuts – ragged cuts in dirty wounds do less well
- Early repair – recover better than late reconstructions/repair
- Direct repair – does better than repairs needing a graft
- Cuts close to what the nerve supplies – the recovering nerve has less distance to re-grow
- Healthy patients – diabetes and smoking for instance impair nerve healing and recovery

The amount of function lost will depend on which nerve(s) were cut and what they normally supply.

Abnormal sensations in the recovering part

A damaged nerve can send all sorts of peculiar signals to your brain. Commonly patients complain of shooting or 'electric shock' type pains into the affected part. Sometimes these sensations can be quite unpleasant. The damaged nerve usually settles down with time. Massage of the sensitive area can be helpful. Your hand therapist can help you with this. In the fingers cold intolerance can be an issue. In this condition the digit feels uncomfortable or painful in cold weather. This can persist for several years after an injury.

Type of Operation

Day case

Length of Procedure

Variable, depends on other damaged structures that may need repairing

Anaesthesia

Local Anaesthetic Regional Anaesthetic (whole arm numb) or General Anaesthetic (asleep)



Post Operative Course

Day 1 and 2

- A sticky dressing and padded bandage is applied after the operation
- Occasionally a splint or plaster cast is necessary to protect the repair
- Keep the dressings clean and dry
- Keep the arm elevated in a sling or on pillows to reduce swelling
- Start moving all the free joints immediately after the operation to prevent stiffness (see Finger and Wrist exercise sheet in 'Rehabilitation')
- Take painkillers before the anaesthetic wears off and as necessary thereafter

Day 3 - 14

- You can take off the padded bandage but keep/replace the sticky dressing over the wound to protect it (if you have had a splint or plaster applied you should leave your dressings in place).
- Keep the wound clean and dry
- Continue gently exercising the free joints.
- Don't use the hand to carry or lift things and continue to keep the arm elevated as much as possible

2 Weeks

- A wound check and removal of stitches should occur between 10 and 14 days after your surgery. The details will be arranged on the day of your surgery.
- Splints will only need to be continued in certain circumstances – your surgeon will discuss your individual case with you
- Start to gradually increase activities with the hand and wrist as comfort allows.
- Once the wound is completely sealed a daily session of 10 minutes massaging the scar with unscented hand cream is often useful to disperse swelling and desensitise the scar.
- Hand therapy will be arranged as necessary

6 Weeks

- Most people are back to using the hand by this stage although the nerve will still be recovering and scar massage may still be useful.

Up to 2 years

- It may take this long to see the final results of how well the nerve has recovered.

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.

This will depend very much on how much function you have lost when your nerve was damaged. Your surgeon will discuss your individual case with you.

Time off Work

This will vary depending on the nature of your job and your particular.

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.