

Information for patients

Improving upper limb function after cervical spinal cord injury



MCSI

After a cervical (neck) spinal cord injury you may not be able to move and feel your arms and hands like you did before your injury. Spinal cord injury will affect everyone differently depending upon where the damage is in the spinal cord and the extent of the damage. Some people may recover enough useful movement and sensation in their arms and hands that they are independent in carrying out daily activities. They may use a different technique or equipment to enable them to do this.

If you do not have much movement in your arms and hands and you have difficulty reaching, or opening your hand or picking items up, there are a number of options which may help. These include reconstructive surgery.

Reconstructive surgery

These operations include:

- Tendon transfers – Non essential muscles that work are moved to paralysed muscle to help restore a useful function.
- Tendon lengthening – Muscles that have become very tight or fixed in a position due to spasm are released surgically.
- Tenodesis – A tendon is tethered to stabilise a joint or provide passive movement.
- Fusion of joints – The joint is fixed in a position that helps function.
- Nerve transfers – Part of a non-essential working nerve is used to power a non-working nerve to restore its function.

Note: Not all these operations will be suitable for you.

Patients who may benefit from surgery will be referred to a specialist clinic where they will be assessed by a surgeon and therapist who have experience in this field. During your appointment they will assess:

- What muscles in your arms are currently working
- How strong the muscles are in your arms
- What sensation (feeling) you have in your hands
- The range of movement in your arms and if there are any joint problems such as stiffness
- If you have any pain or spasm
- Other injuries to your upper limbs.

To have a clearer picture of your abilities, the therapist will assess how you are using your hands and arms to do daily activities such as picking up a mobile phone or operating your wheelchair. There may be non-surgical treatment that can help with daily tasks and these will be discussed with you during the assessment.

It is really important that we understand what you want your arms and hands to do. This will help us explain if these goals can be achieved by having surgery. It will also help us plan your treatment with these in mind. It is therefore helpful if, prior to your appointment, you spend some time thinking about activities that you would want to be able to do or improve.

Before having any surgery it may be that other treatment or investigations are required. We shall discuss this further with you during your appointment.

Following the initial assessment

- Some patients may be offered surgery.
- Some patients may require exercises, stretches or splinting to give surgery the best chance of success.
- Some patients may undergo Botox (Botulinum toxin) injections to see what effect surgery may have, relax muscles, increase range of movement and help plan further treatment.
- Some patients may need further investigations (such as nerve conduction studies) to provide information to help with planning.
- Some patients are continuing to improve and need some more time before a decision can be made. This can be reviewed at a later date in clinic.

Every patient is different and will follow their own unique treatment pathway. If an operation is appropriate then you will be given a date and will need to attend a pre-op assessment approximately two weeks before your planned surgery.

Pre-Op Assessment

As part of the pre-op assessment you will be seen by the occupational therapist, doctor and nurse.

The occupational therapist will ask you to think of up to 5 activities that you would like to improve. For example, picking up a cup or operating your wheelchair. If you are happy to do so, the activities will be filmed so there is a measure of your hand and arm function before your operation. This process will be repeated after the operation and rehabilitation to compare the difference.

The Therapist will also discuss plans that you need to consider following the surgery. After any operation, your function will be more limited for a period of time. Depending on your surgery you may need to wear a splint for a while. This may impact on how you do your daily activities, so you may need to think about additional help with personal activities, how you will mobilise in your wheelchair and how you will transfer.

During this appointment you will be consented for the operation by one of the doctors. During the consent process the benefits and risks of the procedure will be discussed and a consent form will be completed.

You will also be seen by the pre-op nurse and possibly an anaesthetist. Your medical problems will be reviewed. These include respiratory and heart problems as well as any other medical concerns.

You may also be seen by the pharmacist who will make a note of any medications you take. Please bring these with you. Please note that your medications may need to be changed prior to or after surgery. Due to the number of people you have to see, this process may take a few hours. Please be prepared for the time it takes.

Generic risks and complications of surgery will be discussed with you:

- Bleeding
- Infection
- Blood clots in the legs (deep vein thrombosis) or lungs (pulmonary embolism)
- Worsening of spasticity
- Increase in pain
- Failure of repair
- Failure to achieve desired results
- Swelling
- Scarring.

The recovery and rehabilitation will vary for different procedures. You may not be able to fully use the operated arm for several weeks. You may experience hypersensitivity in your arm following surgery. This should settle but may take some time.

If you require a special edition of this leaflet

This leaflet is available in large print. Arrangements can also be made on request for it to be explained in your preferred language. Please contact the Patient Advice and Liaison Service (PALS) email: rjah.pals.office@nhs.net

Feedback

Tell us what you think of our patient information leaflet. Please send your comments to the Patient Advice and Liaison Service (PALS) email: rjah.pals.office@nhs.net

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