

Upper limb surgery in high spinal cord injury



Information for patients

Therapy Services



PROUD TO MAKE A DIFFERENCE

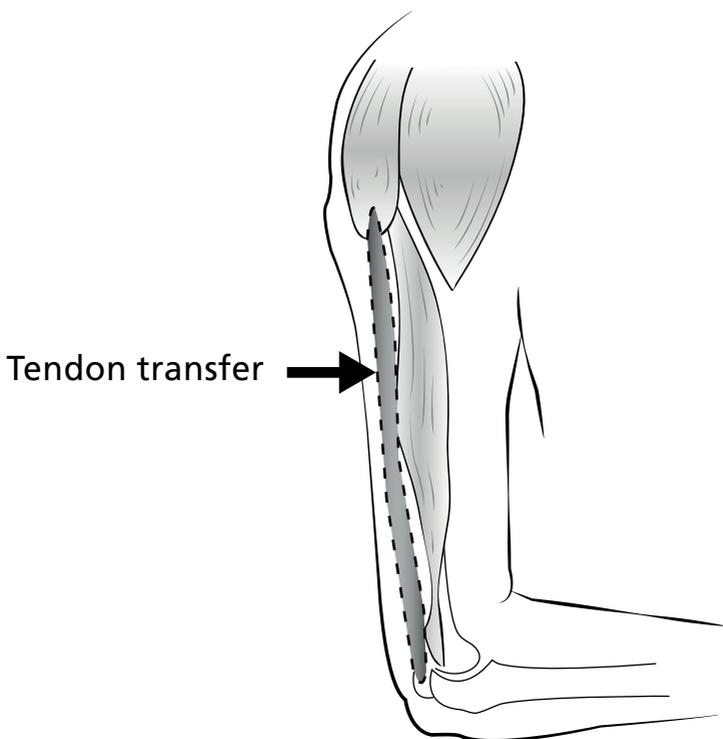
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Introduction

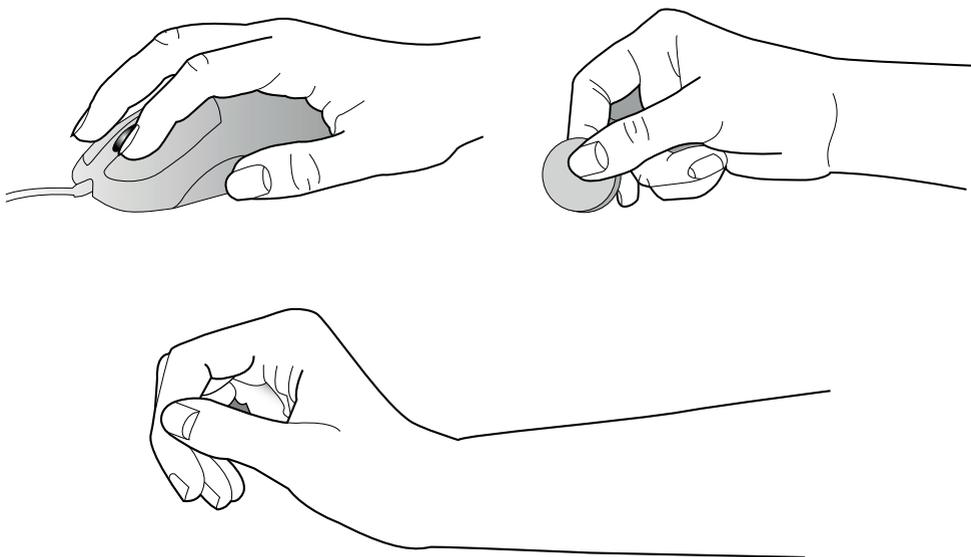
If you have had an injury to the upper part of your spinal cord, you may have very limited or no movement or sensation in both your arms and your legs (tetraplegia).

A surgical technique called a 'tendon transfer' may help improve your arms and hands by giving working muscles different and new functions. This may enhance your quality of life by enabling you to do many more daily activities. The type of tendon transfer surgeries that can be performed is determined by the level of the spinal cord injury, which muscles are affected and which muscles are still working.



What are the aims of tendon transfer surgery?

To improve function of your arm and hand, which will give you greater independence in performing functional tasks such as feeding, dressing and picking up heavier objects.



When can it be done?

Tendon surgery is generally performed around 12 months after a spinal cord injury, or when all neurological changes have stopped and recovery is as complete as it is going to be.

What does it involve?

Tendons of working muscles (usually above the level of injury) are attached to those of non-working muscles, in order to create more functional movements. In other procedures, tendons involved in a functional activity have their 'line of pull' altered to improve a particular action at a joint.

What will happen before surgery?

If it is appropriate for you to have surgery, you will be assessed in the consultant's outpatient clinic by the consultant and physiotherapist. Your assessment will include:

- assessment of the strength of your working muscles,
- assessment for the presence of any joint problems, muscle shortening or spasm,
- assessment of your sensation,
- discussion about your goals following surgery and any precautions you may need to take.

Following your assessment, your consultant or physiotherapist will discuss with you what type of surgery would be appropriate.

You will then be offered a date to be admitted for surgery.

What type of surgery can be done?

Surgeries commonly offered include:

- **Improving key pinch:** the flexor tendon of the thumb is moved and the thumb joint is fused to improve key grip strength.
- **Improving elbow extension (straightening of the elbow): deltoid to triceps transfer.** The back portion of the deltoid muscle is released and reattached to the triceps muscle by using a graft.
- **Improving elbow extension (straightening the elbow): biceps to triceps transfer.** The biceps tendon is re-routed and inserted to the triceps tendon.

What are the risks of having tendon transfer surgery?

Any anaesthetic has risks and there is an information leaflet regarding the different types of anaesthetic. If you have any concerns, please speak to the anaesthetist before your operation.

From the surgical point of view, the main risks are:

- bleeding following the surgery
- infection
- blood clots in the legs (deep vein thrombosis)
- blood clots in the lungs (pulmonary embolus)
- failure of repair or reattachment of tendons
- failure to achieve desired results.

The chance of problems occurring depends upon the operation performed and your general health. The consultant will be able to explain how these apply to you before the operation.

We must seek your consent for any procedure or treatment beforehand. Staff will explain the risks, benefits and alternatives where relevant before they ask for your consent. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to ask for more information.

What will happen after surgery?

- Your elbow and/or hand may be in a cast for up to 4 weeks following surgery and your arm movement will be limited.
- You will need to return as an outpatient to have your cast adjusted or removed. This may be once a week for 4 weeks.
- You may then need to wear a brace to limit your movement for a further 4 to 6 weeks.
- You will possibly be re-admitted for physiotherapy and occupational therapy to practise using the tendon transfer.

What happens if I decide not to have tendon transfer surgery?

If you decide not to have surgery you will continue with your current level of function.

What will I need to consider before having the surgery?

Following surgery, your arm will be in a cast and the movement will be limited for several weeks. Therefore, you will need to consider the following before undergoing surgery:

- How will I propel my wheelchair?
- Will I need to arrange to borrow a power chair?
- How will I look after my skin?
- How will I transfer (from/to bed, car, shower chair)?
- Will I require a hoist?
- How will I manage my bladder and bowel?
- Will I be able to drive?
- Will I be able to feed and wash myself?
- Will I need to arrange extra care input?

This is not an exclusive list but will give you some idea of things to consider.

Who should I contact if I have a problem after my surgery?

You may experience some soreness and swelling in the first few days after your surgery. This is normal and we would suggest you keep the limb elevated on pillows to help with the swelling.

If the pain and swelling persist, or if there is bleeding and/or changes in colour and temperature of the limb, you should seek medical advice.

If you have a problem or need advice after going home, please contact the Physiotherapy Department on:

- **0114 271 5673**



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