



EPL TENDON RUPTURE

Patient Information, Consent and Recovery Guide



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*This leaflet is designed to support, not replace, your conversation with Miss Edwards.
There is a list of questions you may find it useful to ask later in this leaflet.*

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About the condition

The extensor pollicis longus (EPL) is a thin, strong tendon that runs from your forearm, hooks around a small bony bump on the back of the wrist on the thumb side, and attaches to the very tip of the thumb. Its job is to straighten the tip of the thumb and to lift the whole thumb back away from the palm. When it ruptures, the thumb loses the ability to point upwards, to open widely around large objects, and to hold rigid for a firm pinch.

Why the tendon snaps. It rarely gives way in a single dramatic accident. More often it has been weakened over time:

- **After a wrist fracture (distal radius fracture)** — this is the most common cause. The tendon may have been bruised at the time of the injury; slight irregularities on the healing bone can rub against it; and the swelling can reduce the delicate blood supply to the tendon within its tight tunnel, so it weakens over weeks or months. Typically the wrist feels fine after the cast comes off, and the thumb then stops lifting some weeks later.
- **Repetitive activity and inflammation** — chronic inflammation of the tendon sheath thickens it, narrows the tunnel, and increases friction until the tendon wears through. Rheumatoid arthritis is a common inflammatory cause.
- **Lister's tubercle** — the bony bump the tendon hooks around acts as a pulley. Any prominence, spur or fracture fragment there increases friction and wear.
- **Less common causes** — a direct cut, a severe wrist sprain, steroid injection close to the tendon, and conditions such as lupus or gout.
- **Spontaneous rupture** — usually in people over 70, where no clear reason is found.

Recognising it — the “dropped thumb”. The rupture itself often feels like a sudden pop or snap, frequently without much pain. What follows is characteristic:

- You cannot actively lift the tip of the thumb, or bring the thumb back behind the plane of the hand. Rest your hand flat, palm down, and try to point the thumb tip at the ceiling — if it will not move, the EPL is the likely cause.

- You cannot straighten the last joint of the thumb against resistance, and sometimes not at all.
- Key pinch and grip are weak — the thumb collapses rather than staying rigid.
- There may be mild swelling or bruising over the back of the wrist.

Diagnosis is made clinically, from that pattern of lost movement, together with examination of the wrist. X-rays are used where there has been a previous fracture.

Your treatment options

You have a genuine choice here, and it is important you understand all of the options, including doing nothing, before deciding. There is one important difference from most of the other conditions in this library: **a ruptured EPL will not heal on its own**. The tendon ends pull apart quickly and the gap fills with scar tissue, so waiting does not lead to recovery .

Non-surgical management is used mainly for people who are frail, who have medical conditions that make surgery risky, or whose demands on the thumb are low and who are content to adapt. It involves a custom splint holding the thumb tip straight, and therapy to train other muscles to compensate. Function can remain significantly impaired, and this should be a considered choice rather than a default.

Surgery restores thumb extension and is described below.

The surgery — what it involves

Tendon transfer is the usual operation and the most reliable solution — particularly for ruptures caused by a fracture or by wear, and for any rupture diagnosed weeks or months after the event. A less critical tendon, the extensor indicis proprius (EIP), which is one of two tendons which straighten the index fingertip, is taken from the back of the hand, rerouted through tunnels under the skin, and attached to the stump of the ruptured EPL. The EIP is chosen because it is the right size and strength, and because other tendons take over its original job without any noticeable loss to the index finger. In effect the transfer gives your thumb a new motor.

Direct repair — stitching the two ends back together — is the ideal but is only possible if the rupture is very recent, was caused by a clean cut, and the tendon ends are still healthy. In practice this is rarely possible.

Tendon graft — bridging the gap with a piece of tendon taken from elsewhere — is used if the remaining EPL stump is too short or too damaged for a transfer. This is less common.

Dealing with the underlying cause is an essential part of the operation, whichever is done: smoothing any rough bone, releasing a tight or inflamed tendon sheath, or removing scar tissue. Without this, the repair or transfer is at risk of failing in the same way the original tendon did.

The operation is a **day case**, usually carried out under local anaesthetic which enables Miss Edwards to get the tension correct with your participation. Afterwards your wrist and thumb are held in a splint, which stays on for six weeks while the transfer heals.

Benefits of surgery

- Tendon transfer restores functional thumb extension in the great majority of cases
- The dropped thumb deformity is corrected, and most people regain full or nearly full extension of the thumb tip
- Pinch and grip strength improve substantially, often approaching normal
- The great majority return to their previous work, hobbies and daily activities without major limitation

Realistic expectations matter here:

- Strength improves greatly but may not quite match the uninjured side, particularly for very forceful tasks
- Full movement is usually achieved, though a slight limitation in the last few degrees of extension or bending can remain
- Some initial stiffness is normal and improves with therapy; occasional aching with heavy use or weather changes can persist
- The scars fade but remain visible; scar tenderness usually settles
- The nerves around the surgical site can be sensitive to cold, sometimes for a long time
- It takes months for the transferred tendon to feel natural — your brain adapts well, and the movement eventually becomes automatic

Risks and possible complications

As with any surgery, there are risks:

- **Infection** at the wound
- **Rupture of the repair or transfer** — this is why the splinting regime and the early restrictions matter so much
- **Adhesions** — scar tissue tethering the tendon down, limiting movement and sometimes needing further surgery to release it
- **Stiffness** of the thumb or wrist
- **Injury to nearby nerves**, causing numbness or a tender spot at the scar
- **Weakness of index finger extension** — the index finger keeps near-normal movement and can still be straightened on its own, but measured extension strength is around a fifth to a third lower than the other hand (Lemmen et al., 1999; Ha et al., 2024)
- **Incomplete correction** — some loss of the last few degrees of movement is common, and thumb extension strength is typically around a fifth lower than the other side (Ha et al., 2024)
- **Cold sensitivity** around the scars
- **Complex regional pain syndrome (CRPS)** — uncommon but recognised

Everyone's circumstances are different, and something that seems minor to one person may matter a great deal to another. Please tell Miss Edwards about anything on this list — or anything else — that particularly concerns you, so your discussion covers what matters most to you personally.

Your consent

Before you have surgery, Miss Edwards wants to be sure you have been able to make a properly informed decision, in line with GMC guidance on decision making and consent. This means:

- You have the right to be as involved as you want in decisions about your care, and to be given the time and support you need to understand your options.
- The alternatives to surgery — including splinting and adapting without a working tendon — and their benefits and risks, should have been discussed with you.
- Miss Edwards will try to understand what matters to you personally, not just the clinical facts.
- You can ask questions at any point, and you are welcome to bring someone with you to appointments.
- **You can change your mind at any time** — including after signing a consent form — right up until the moment surgery begins, without needing to give a reason.
- Your discussion and decision will be recorded in your notes, and you will be asked to sign a consent form on the day of surgery.
- You have the right to seek a second opinion if you would like one.

Questions you may want to ask your surgeon

It's easy to forget questions in the moment, so you may find some of these useful:

- Which operation would you do in my case — transfer, direct repair or graft?
- What caused mine to rupture, and what will you do about that cause?
- Will I notice anything different about my index finger afterwards?
- How much hand therapy will I need, and how is it arranged?
- What would happen if I chose not to have surgery?
- How long will I be off work, given what my job involves?

On the day of surgery

- The operation is a day case, usually under local anaesthetic — no need to fast beforehand, and you can eat, drink and take your usual medications as normal.
- Do let Miss Edwards know in advance if you take blood-thinning medication.
- Remove rings and nail varnish (including false nails) from the operated hand before you arrive. You may be asked to change into a gown.
- Your hand and forearm will be cleaned with antiseptic and covered with a sterile drape before starting. Local anaesthetic will be injected to fully numb the area, this stings as it goes in but then the procedure is pain free.
- You will go home in a splint holding the wrist and thumb in a protected position, which stays on for six weeks.
- Miss Edwards recommends that you arrange for somebody to drive you home on the day.

Recovery and rehabilitation

Recovery from an EPL tendon transfer is a marathon rather than a sprint. Expect the process to span **three to six months or more** for full functional return, and be prepared for it to need real commitment. Attending your therapy appointments and doing your home exercises several times a day is what determines the result. Pushing too hard risks rupturing the transfer; not pushing hard enough leaves you stiff.

Phase 1: protection and early motion (weeks 0–6)

You will be in a specialised splint holding your wrist and thumb in a position that protects the transfer and keeps tension off it. It stays on for the full six weeks, almost constantly at first.

Early controlled motion, usually starting around weeks 3–4, begins under the strict guidance of your hand therapist. It may involve the therapist moving your thumb for you, or activating specific muscles without moving the repaired tendon much. The aim is to prevent severe stiffness and adhesions without stressing the healing join.

Swelling control is important throughout: elevation, compression, and the massage techniques your therapist will show you. Swelling that is left unchecked impedes both healing and movement.

Scar management — gentle massage and silicone sheeting — begins once the incision is well healed, to keep the scar soft and mobile.

Phase 2: building motion and light function (weeks 6–12)

The protective splint is modified or worn less, often only at night or during risky activities. Therapy shifts to actively regaining thumb extension, and you learn exercises that specifically activate the transferred tendon. Gentle strengthening begins with soft putty, light bands or specific grips. Basic light daily activities are reintroduced — holding a toothbrush, light keyboard use — guided by your therapist. Swelling and scar work continue.

Phase 3: strengthening and functional integration (3–6 months and beyond)

Splinting is usually stopped. Strengthening becomes the main focus, progressing through firmer putty, resistance bands, hand exercisers and functional tasks such as squeezing pegs, manipulating coins and turning door handles.

Neuromuscular re-education matters as much as strength: your brain has to learn to use the transferred tendon for thumb movement instead of its original job. This means practising thumb extension in increasingly complex and functional patterns, and it is the reason the movement gradually stops feeling deliberate and becomes automatic.

Therapy is then tailored to your own work and hobbies — typing, writing, using tools, playing an instrument, sport — with a final focus on fine motor control and dexterity.

Most people are back to desk-based work at 3–4 weeks. Driving waits until the splint comes off at six weeks, and manual work usually takes 8–10 weeks, depending on what your job involves.

When to seek help

Contact the clinic promptly if you notice:

- Increasing redness, swelling, warmth, discharge or fever (signs of infection) — please contact us before anyone starts you on antibiotics
- Pain that is uncontrolled by the painkillers you've been given
- **A sudden loss of the thumb extension you had regained** — this may mean the transfer has ruptured, and needs to be seen urgently

- New numbness, tingling or weakness in the hand
- A splint that is loose, uncomfortable or no longer holding the thumb correctly
- A feeling that you are not recovering at the pace described here — we can arrange for you to see the hand therapist or Miss Edwards quickly

Summary Table: Recovery Milestones

Time after surgery	What to expect
Weeks 0–6	Splint worn for the full six weeks; controlled motion begins with the therapist at 3–4 weeks; desk work at 3–4 weeks; swelling and scar management
Weeks 6–12	Splint worn less; driving from 6 weeks; active thumb extension retrained; gentle strengthening; manual work at 8–10 weeks
3–6 months	Splint stopped; progressive strengthening; retraining the brain to use the transferred tendon
6 months and beyond	Movement becomes automatic; activity-specific training; fine motor control and dexterity

Contact details

Mendip Hand Clinic Practice Plus Group Hospital, Old Wells Road, Shepton Mallet, Somerset BA4 4LP

Bookings: 0330 818 8981

If you think anything in this leaflet is unclear or needs updating, please tell us using the contact details above. For further background on this condition, the British Society for Surgery of the Hand also publishes patient information at bssh.ac.uk/patients.

A final note

This leaflet is general information and does not replace individual advice. Your own risks, alternatives and expected recovery should be discussed personally with Miss Edwards, in line with GMC guidance on decision making and consent.

References

Ha C, Hong IT, Oh CH, Ryu HS, Chung J, Han SH. Clinical outcomes of extensor indicis proprius tendon transfer for extensor pollicis longus tendon rupture. *Journal of Hand Surgery (European Volume)*, 2024;49(10):1243–1249.

Lemmen MHM, Schreuders TAR, Stam HJ, Hovius SER. Evaluation of restoration of extensor pollicis function by transfer of the extensor indicis. *Journal of Hand Surgery (British Volume)*, 1999;24(1):46–49.

Note: published series of this operation are small, so the other risks listed above have not been given reliable percentages in the literature and are described in words rather than numbers.