CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION — IN DEPTH

Flexor Tendon Repair

Esta página foi traduzida automaticamente e ainda não foi verificada por um médico. A **versão em inglês** é a versão oficial.

Why this operation has been suggested

Dr Kieran Hirpara, an upper-limb surgeon at Mater Private Hospital Rockhampton, starts with the least invasive options that suit your condition. Patients are generally referred to our clinic by their GP; if a physiotherapist has suggested you see us, you will still need a referral from your GP in order to be eligible for the Medicare rebate. A clinic assessment establishes the diagnosis. For long-standing problems we usually try non-operative care first and consider surgery when that has not given enough improvement. For acute injuries, surgery may be recommended straight away.

This procedure repairs the tendons that bend your fingers or thumb. It is typically offered when these tendons are cut or torn. Our goal is to restore your ability to grip and move your hand. Adhesion formation and joint contractures are the most common complications after flexor tendon repair. Repair ruptures are documented in most reports with rates ranging from 4%-10% in finger flexors. Repair rupture rates range from 3%-17% in the flexor pollicis longus of thumbs.

Before the operation

Please fast for seven hours before your surgery. This allows your surgeon to start early if the list runs ahead. Arrange a lift home and wear comfortable clothing. Bring a list of all current medications. Your surgeon will advise which medicines to pause. Imaging such as X-rays, MRI, or ultrasound helps plan the procedure. Blood tests and an anaesthetic review are not routine. If you have other medical conditions, you may need them. Otherwise, most patients do not require these checks. We aim to make your preparation simple and stress-free. Please follow your surgeon's specific instructions closely.

On the day

You present to the hospital's surgical admissions unit, where you are checked in and prepared for theatre. You meet the anaesthetist, who explains your pain management plan. This operation is done under general

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Dr Kieran Hirpara — Specialist Orthopaedic Surgeon
Suite 2, Level 1, Mater Private Hospital Rockhampton, 31 Ward Street, The Range, QLD 4700
Phone 07 4863 6556 · office@cqupperlimb.com.au · cqupperlimb.com.au

anaesthetic. A regional nerve block is sometimes added for post-operative pain relief — the anaesthetist will discuss this with you on the day.

You are then taken into the operating theatre, where the operation is performed. You wake up in the recovery area, where nurses monitor you while the anaesthetic wears off. Once you are stable you either go to the ward or go home, depending on the procedure and your recovery.

What the operation involves

Your surgeon will make a cut along the palm side of your finger to access the injured tendon. This area is known as Zone II and is technically demanding to operate on. The surgeon repairs the torn tendon, which acts like a frayed rope, using strong multistrand core sutures. These stitches are designed to hold the tendon ends together securely.

If the injury is in Zone I or if direct repair is not possible, your surgeon may use a tendon graft. This involves taking a small piece of tendon from elsewhere in your hand to bridge the gap. In some cases, your surgeon might also reconstruct the pulleys. These are the small bands of tissue that keep the tendon close to your bone, acting like a pulley system on a window blind. Techniques may include using a strip of tissue from your wrist or a looped graft to restore smooth movement.

The goal of the repair is to make it strong enough to allow movement within a few days. This helps prevent the tendon from sticking to the surrounding tissue, which is a common complication. Your surgeon will carefully manage the soft tissues and may remove part of the flexor digitorum superficialis tendon to create space for healing.

Once the repair is complete, your surgeon will close the cut with sutures. A dressing is applied to protect the area. The specific technique chosen depends on the injury's location and your surgeon's familiarity with the method. There is no single gold standard, so the approach is tailored to your specific needs.

After the operation

You will wake up in the recovery ward with your hand elevated and protected in a soft dressing and splint. Your team will manage your pain to keep you comfortable. Your team will tell you whether you go home the same day or stay one night in hospital. We advise that someone stays with you for the first 24 hours to help. Keep your arm still and elevated to reduce swelling. Do not remove the dressing or get it wet. You must not drive while wearing a splint or taking strong pain medication. For details on when you can drive, see our guide on driving after upper-limb surgery.

Recovery

Your hand will feel stiff and swollen at first. This is normal as your body heals the repaired tendon. We manage this discomfort with elevation and gentle movement. Keeping your hand raised above your heart helps reduce swelling. You will wear a protective splint to keep your fingers in the correct position while you rest.

Our hand therapist, Ruby Doolan at Extend Rehabilitation, guides your daily exercises. She directs your therapy and makes any splint you need. You will perform gentle finger movements to prevent scar tissue from sticking to the tendon. This motion helps the tendon glide smoothly again. We balance this movement carefully to protect the repair while it strengthens. You will learn specific exercises to do at home several times a day.

As your swelling settles and pain eases, you will regain more use of your hand. You might notice your grip strength returning gradually. You will follow our advice on when it is safe to drive. This depends on your ability to hold the wheel and react quickly, not just on time passing. Your timeline may differ; your surgeon and hand therapist will guide you through each stage of your recovery.

What can go wrong

Most patients do well, but problems can occasionally happen. Your surgeon and the team monitor you closely to spot any issue early.

Tendons can stick to the surrounding tissue as they heal. This is called adhesion formation. You might notice that your finger feels stiff or stuck. It may not bend or straighten as smoothly as it did before. If you feel a sudden loss of movement or increasing tightness, let us know at your next review. We can adjust your therapy to help the tendon glide better.

Your joints can also become stiff and tight. This is known as a joint contracture. You might find it hard to fully straighten or bend your finger. The skin over the joint may feel tight. If you struggle to move the joint during your exercises, tell us. We can guide you on safe ways to improve flexibility without straining the repair.

Sometimes, the repaired tendon can break or tear again. This is called a rupture. You might feel a sudden pop or snap in your finger or thumb. There could be immediate pain, swelling, or a change in how the finger looks. If this happens, do not try to force the finger to move. Contact the clinic immediately or go to the emergency department. Early attention is important to discuss your next steps.

Injuries at the very tip of the finger (Zone I) can be harder to treat. You might find that full movement of that finger is difficult to regain. This area has a higher chance of stiffness and limited motion. If you notice that the tip of your finger remains stiff or weak, discuss this with us. We can set realistic expectations for your recovery and tailor your exercises to help you get the most function possible.

The complications table on this page lists typical rates if you want the specifics.

When to call us

Call us if you have fever, increasing wound redness or discharge, sudden severe pain, loss of sensation, or inability to move your hand. Go to emergency if you notice calf swelling or shortness of breath. These signs need urgent assessment to keep your repair safe and support your recovery.

In more depth

This section goes further than you need for your own treatment decisions. Flexor tendon repair is worth the extra reading because it is governed by a single unforgiving trade-off: the movement that stops the tendon sticking down is the same movement that can pull the repair apart. Almost every technical decision in this operation is an attempt to buy room between those two failures.

THE TRADE-OFF, MEASURED

A meta-analysis of **569** zone II repairs compared early active motion with early passive motion after surgery. The early **active** group achieved greater total active motion — the outcome that determines whether the finger is useful [1].

The same analysis found the cost. A higher risk of rupture was observed in the group doing active flexion and extension **when the tendon had been repaired with a 2-strand core suture** [1].

That conditional is the whole point, and it is easy to miss. Early active motion is not inherently dangerous, and 2-strand repair is not inherently weak. The combination is the problem. The strength of the repair and the aggressiveness of the rehabilitation are a single decision made by two people, and they have to be made to match. If your hand therapist and your surgeon appear to be talking to each other about the specific suture used, that is the system working as intended.

WHY THE LITERATURE IS HARDER TO READ THAN IT SHOULD BE

A systematic review of **1,878** digital flexor tendon repairs set out to compare 2-strand against multistrand core suture techniques and could **not** definitively confirm its hypothesis — not because the answer was negative, but because of wide variation in how outcomes and study designs were reported [2].

This is a recurring problem in hand surgery. Different papers use different motion measurements, different definitions of a good result and different follow-up points, which makes pooling them close to meaningless. Where you see confident claims that one repair technique is superior, the honest position from the pooled evidence is that the reporting is not yet consistent enough to say.

SPLINTING IS MOVING, WITH THE EVIDENCE LAGGING

Relative motion orthoses — splints that hold the repaired finger slightly differently from its neighbours, so tendon glide is shared — have changed extensor tendon rehabilitation. A systematic review of **529** patients concluded there is now good evidence that the approach is **safe in zones V–VI extensor repairs**, but that evidence for **flexor** repairs remains limited [3].

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So it is a promising direction rather than an established standard on the flexor side, and it is reasonable to ask what protocol is being used and why.

WHERE TECHNIQUE IS HEADING

One line of work accepts the trade-off and engineers around it. A zone II technique using an externalised detensioning suture — a temporary suture outside the skin that takes load off the repair — substantially strengthened the construct and allowed early active motion with reduced rupture risk, at the cost of limiting distal joint motion until the suture is removed [4].

That is a fair summary of the field: the fundamental tension has not been dissolved, only managed more cleverly.

WHAT THIS MEANS FOR YOUR RECOVERY

The therapy is not aftercare, it is part of the operation. Attendance, and doing exactly the prescribed amount rather than more, is what keeps you on the right side of the trade-off described above. A rupture in the first six weeks usually means a second operation with a worse starting point than the first.

REFERENCES

1. Xu H, Huang X, Guo Z, Zhou H, Jin H, Huang X. Outcome of surgical repair and rehabilitation of flexor tendon injuries in zone II of the hand: systematic review and meta-analysis. J Hand Surg Am. 2023;48(4):407.e1-407.e11.
2. Hardwicke JT, Tan JJ, Foster MA, Titley OG. A systematic review of 2-strand versus multistrand core suture techniques and functional outcome after digital flexor tendon repair. J Hand Surg Am. 2014;39(4):686-95.e2.
3. Shaw AV, Verma Y, Tucker S, Jain A, Furniss D. Relative motion orthoses for early active motion after finger extensor and flexor tendon repairs: a systematic review. J Hand Ther. 2023;36(2):332-46.
4. Suszynski TM, Coutinho D, Kaufmann RA. Flexor tendon repair in zone II augmented with an externalized detensioning suture: protected flexor tendon repair. J Hand Surg Am. 2023;48(10):1065.e1-1065.e4.

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