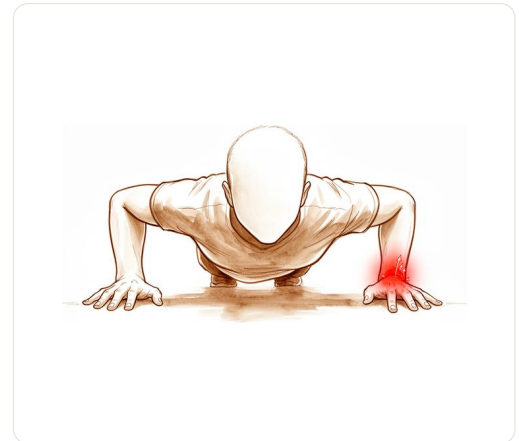


TFCC Injury

The triangular fibrocartilage complex (TFCC), on the little-finger side of the wrist.

Kieran Hirpara © ⓘ ⓘ 4.0



What you're feeling

You are likely noticing pain on the outside of your wrist, near the little finger side. This area is where your triangular fibrocartilage complex sits. This structure acts like a cushion and stabiliser for your joint. When it is injured, that cushion wears thin or tears. You may feel a dull ache that turns sharp when you move your wrist in certain ways.

The pain often flares up when you put weight on your hand. Simple tasks like pushing open a heavy door, turning a stiff key, or lifting a kettle can trigger a sharp sting. You might also feel a clicking or catching sensation when you rotate your forearm, such as when turning a doorknob or using a screwdriver. This happens because the damaged tissue is getting pinched between the bones.

You may find that your wrist feels weak or unstable. Gripping objects firmly can become difficult and uncomfortable. You might notice swelling around the joint, especially after you have been active during the day. The pain can linger into the evening, making it hard to relax. Some people find that resting their hand on a pillow at night helps, but the ache can still disturb your sleep if you roll onto that side.

Morning stiffness is also common. You may feel tight and sore when you first wake up, which slowly loosens as you move around. However, this relief is often temporary. As the day goes on and you use your hand more, the discomfort returns. You might avoid using your affected hand for fear of causing more pain, which can make daily routines like washing your face or getting dressed feel more challenging.

What's actually happening

Your wrist contains a small, tough disc of cartilage called the triangular fibrocartilage complex. You can think of this structure as a shock absorber or a gasket. It sits on the outer side of your wrist, between your forearm bones and your hand bones. Its main job is to cushion the joint and keep everything stable when you move your wrist or grip things.

When you injure this area, that gasket can tear or wear down. This damage disrupts the smooth surface of the joint. Instead of gliding easily, the bones may rub against each other or press on sensitive tissues. This is what causes your pain and stiffness. The injury often happens after a fall or a sudden twist, but it can also develop slowly over time due to wear and tear.

Your surgeon uses a tiny camera to look inside the joint. This tool allows for an accurate assessment of the damage. It helps detect any other soft-tissue injuries that might be happening at the same time. By seeing exactly what is wrong, your surgeon can plan the right treatment to fix the tear and restore stability.

What we can do about it

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, including history, examination, and imaging where needed, establishes the diagnosis. For degenerative or long-standing problems we usually try non-operative care – activity change, physiotherapy or hand therapy, splinting, and injections – and consider surgery when that has not given enough improvement. For structural or acute problems, surgery may be recommended straight away, without a preceding non-operative trial.

We begin with self-management and physiotherapy. You can adjust your activities to avoid movements that cause pain. Physiotherapy aims to restore strength and flexibility in your wrist and hand. We typically recommend giving this approach a fair amount of time to work before considering other steps.

If pain persists, we discuss medical management. This may include pain medication or anti-inflammatory drugs to help you manage discomfort. We may also offer injections, such as cortisone or hyaluronic acid, to reduce inflammation and provide relief. These treatments can help you stay active while your wrist heals.

Surgery is considered when conservative care has not provided enough improvement. Wrist arthroscopy allows us to look inside your joint directly. It helps us diagnose the issue accurately and treat it at the same time. Participants undergoing this procedure for persistent wrist pain improved on average by approximately 50% at one year. However, most patients continue to have some pain and disability after one year. We discuss these outcomes with you to help you make a shared decision about your care.

What to expect

You may notice some improvement in your wrist pain and function within the first year after treatment. On average, participants in studies improved by approximately 50% at one year. This means that while you will likely feel better, you should not expect a complete return to how your wrist felt before the injury.

Most patients with persistent wrist pain continue to experience some level of pain and disability after one year. You may find that moderate levels of discomfort remain even as your daily activities become easier. Recovery is a gradual process rather than a sudden fix.

Wrist arthroscopy is a safe procedure associated with minor and transient complications. However, the true incidence of these issues may be higher than previously reported. There may be more instances of trauma to the posterior interosseous nerve during routine wrist arthroscopy than have been previously reported. Detailed knowledge of anatomy is essential to minimize these risks.

If your condition is managed well with appropriate care, you can expect a steady, albeit partial, improvement in your wrist's ability to move and bear weight. If left alone, persistent pain often continues without significant resolution. Recent technical developments allow for advanced treatments of difficult wrist disorders, which may help manage symptoms more effectively than previous methods.

You should approach your recovery with realistic expectations. While the procedure can significantly reduce pain and improve wrist flexion and extension, it does not guarantee a return to full, pain-free function for everyone. Your surgeon will guide you through this process, ensuring that the benefits of treatment are weighed against the potential for ongoing, albeit reduced, symptoms.

When to see someone

See your GP if you have ongoing wrist pain that does not improve with rest. Ask for a specialist review if you notice weakness, instability, or symptoms that interfere with sleep or work. These signs suggest a mechanical issue, such as a tear in the triangular fibrocartilage complex (TFCC), which is the cartilage cushion on the pinky side of your wrist. Wrist arthroscopy can help diagnose and treat this. Be aware that while many patients improve by about 50% within a year, some may still experience moderate pain or disability. Minor complications from surgery are usually temporary, but serious nerve injury is rare. Early assessment helps manage these risks and guide your recovery.

In more depth

This section goes further than you need for your own treatment decisions. Triangular fibrocartilage complex injury is worth the extra reading because the technique debates that dominate discussion have not separated – while one detail of the post-operative regime, which attracts far less attention, appears to matter.

WHAT THE STRUCTURE ACTUALLY DOES

The TFCC is a disc of cartilage with a surrounding sling of ligaments, sitting between the end of the ulna and the carpal bones. It performs two jobs at once: it cushions load transmitted across the ulnar side of the wrist, and it stabilises the joint between the two forearm bones at the wrist – the distal radioulnar joint.

That dual role explains why injuries here present in two distinct ways. A tear affecting mainly the disc produces pain on load – pushing up from a chair, gripping and twisting. A tear detaching the deep fibres from their attachment on the ulna, the **foveal** insertion, produces instability, with the sense that the wrist gives way or clunks when the forearm rotates. The second matters more, because the ligamentous attachment is what holds the joint together.

MRI IS ACCURATE, WITH A QUALIFICATION WORTH KNOWING

Diagnosis rests substantially on imaging. Across **1,298** patients, the overall accuracy of MRI was acceptable, and for **peripheral tears the pooled accuracy was relatively high** – with MRI using appropriate parameters described as an ideal method for diagnosing the different tear types [1].

The qualification is in the word “peripheral”. MRI performs best at the outer, better-vascularised part of the complex, which is where repairable tears sit. Central and degenerate tears, and the precise state of the foveal attachment, are harder to characterise, which is why examination findings and sometimes arthroscopy carry weight alongside the scan.

THE TECHNIQUE COMPARISONS DO NOT SEPARATE

Two operative debates recur, and neither has resolved.

For the common peripheral, ulnar-sided tear, a systematic review of **240** patients found a **lack of high-quality evidence** to draw firm conclusions on arthroscopic versus open repair, and **no scientific evidence to suggest superiority of one technique over the other** [2].

For foveal repair, comparing suture anchor with transosseous suture across **904** patients, both achieved improvement in functional outcomes, pain and grip strength with a low reoperation rate – though the range-of-motion comparison remained **inconclusive** [3].

The consistent message is that the repair needs to restore the attachment; the hardware used to achieve it has not been shown to change the result.

THE POST-OPERATIVE DETAIL THAT DOES APPEAR TO MATTER

Here the evidence is more discriminating, and it is practically useful. Comparing immobilisation regimes after foveal TFCC repair across **288** patients, post-operative immobilisation **may benefit more from restricting forearm rotation than from restricting elbow motion**, and the additional restriction of elbow flexion and extension **has not shown a consistent advantage** [4].

This follows directly from the anatomy. The repaired structure is loaded by rotation of the forearm, not by bending the elbow – so the splint needs to control the palm turning up and down. An above-elbow cast is often used to enforce that indirectly by preventing the elbow rotating, and this evidence suggests the elbow component is not the part doing the work. For a patient, six weeks in a brace that leaves the elbow free is a substantially different experience from six weeks in a cast above it.

REFERENCES

1. Wang ZX, Chen SL, Wang QQ, Liu B, Zhu J, Shen J. The performance of magnetic resonance imaging in the detection of triangular fibrocartilage complex injury: a meta-analysis. J Hand Surg Eur Vol. 2015;40(5):477-84.
2. Robba V, Fowler A, Karantana A, Grindlay D, Lindau T. Open versus arthroscopic repair of 1B ulnar-sided triangular fibrocartilage complex tears: a systematic review. Hand (N Y). 2019;15(4):456-64.
3. Ma H, Wang J, Yang C. Effectiveness of suture anchor and transosseous suture technique in arthroscopic triangular fibrocartilage complex foveal repair: a systematic review and meta-analysis. J Orthop Surg Res. 2024;19(1).

CQ HAND + UPPER LIMB

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

4. Lee J, Lee T, Lee S, Lim H, Chang E, Park MO, et al. Postoperative immobilization after foveal triangular fibrocartilage complex repair: a systematic review and meta-analysis. J Hand Surg Am. 2026;51(5):512.e1-512.e11.