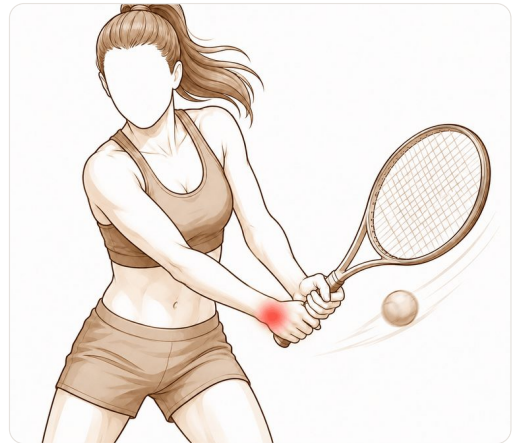


ECU Tendinopathy and Snapping ECU

The ECU tendon runs in a shallow groove on the little-finger side of the wrist, held down by its own sleeve. It is loaded by gripping with the wrist turned towards the little finger while the forearm rotates — the position shown here — so pain comes either from the tendon becoming irritated, or from it flicking in and out of its groove.

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What you're feeling

This is pain on the little-finger side of the back of your wrist — the side your watch strap sits nearest if you wear it low. It is usually worst when you turn your palm upwards and bend the wrist towards your little finger, which is exactly what happens in a tennis backhand, a golf swing, or wringing out a cloth.

There are two versions of the problem, and many people have a bit of both.

An irritated tendon. The pain is a dull ache along the tendon, sometimes with swelling you can feel, and it hurts to push the wrist back against resistance. It tends to build over weeks with repeated use rather than starting in one moment.

A tendon that slips out of its groove. Here you get a distinct snap, click or clunk as you rotate the forearm — often something you can demonstrate yourself, and often something you first noticed after a specific incident, like the club catching the ground or a hard backhand. It can feel alarming, as though something is giving way.

What's actually happening

The tendon involved is the extensor carpi ulnaris, usually shortened to ECU. It runs from the muscle in your forearm down the little-finger side of the wrist, sitting in a shallow groove in the end of the ulna — the forearm bone on that side. A small sleeve of tissue, its own private tunnel, holds it in that groove.

That groove is genuinely shallow, averaging only about a millimetre and a half deep, so the sleeve does most of the work of keeping the tendon in place. If the sleeve is torn or stretched — usually by a forceful twist with the palm turning up and the wrist bent — the tendon can ride up out of the groove and snap back in. If instead the tendon and its lining become irritated and thickened from repeated loading, it becomes painful to glide, which is the tendinopathy version.

An important thing to know, because it changes how the tests should be interpreted: a certain amount of tendon movement is completely normal. When researchers examined 755 people with no wrist symptoms at all, **about 1 in 15 had a snapping ECU**, and nearly half of those had the tendon visibly leaving its groove on ultrasound – with no pain and no problem. A snap on its own is not proof that anything is wrong.

What we can do about it

At Mater Private Hospital Rockhampton, Dr Kieran Hirpara will base the diagnosis mainly on the examination rather than on a scan, and it's worth explaining why.

Scans need careful interpretation here. In a study of more than 4,000 wrist MRIs, changes in the ECU tendon showed up in around one in eight scans, including in people having the scan for something else entirely. If you take an abnormal-looking ECU on MRI and ask how often that person actually has ECU trouble, the answer is only about 6% of the time. An MRI is genuinely useful for ruling out other causes of pain on that side of the wrist – a cartilage tear, for instance – but a mark on the tendon is not by itself the answer. Ultrasound is often more helpful, because we can watch the tendon move in real time while you reproduce the snap.

Most people get better without surgery. Treatment usually starts with modifying the activity that provokes it and a period in a splint or cast. For a tendon that is slipping out of its groove, the position matters: the wrist is usually held with the forearm turned palm-down and the wrist slightly cocked back, for around four to six weeks, because that is the opposite of the position that lets the tendon escape.

A steroid injection into the tendon sheath is a reasonable next step for the irritated-tendon version. In the best study available, 13 patients with a confirmed diagnosis all got some relief, 10 of them complete relief, and **none went on to need surgery** – with most still comfortable four to five years later. A useful early signal: if the first injection settles things completely, that tends to last. If it only half-works, it more often leaves some residual ache.

We do limit injections to a maximum of about three, and we are more cautious in throwing and racquet athletes, because there is a concern – not proven with numbers, but reported – that repeated steroid around this tendon may contribute to it eventually tearing.

Surgery is reserved for people whose instability keeps causing pain despite a proper trial of casting, usually assessed at around two months. The operation rebuilds or reinforces the sleeve that holds the tendon in the groove. Several techniques exist and all report good results.

What to expect

Recovery from the non-surgical route depends on how irritable things are. Athletes with a mild problem are often back within two to three weeks; more severe cases take six to eight weeks; and a complete slip treated in a cast can take five to six months before returning to a demanding sport like tennis.

After surgery, expect around four to six weeks in a cast or splint with the forearm held palm-down, then a gradual return of movement, strengthening from about two months, and sport-specific work at three to four

months. Published series report people returning to their previous activity at around two and a half to three and a half months.

Two honest points about the surgery. First, essentially every published series reports that the snapping does not come back – but the one study that scanned people afterwards found the tendon still sitting out of its groove in about half of them, *even though they were happy and scoring well*. In other words, the operation reliably relieves symptoms, but it does not always put the anatomy back exactly where it was. Second, the gains in grip strength and range of movement are small; the operation is done for pain and for the snapping, not to make the wrist stronger.

Complications are uncommon but real: numbness or a tender spot from irritation of a small skin nerve on the back of the wrist, stiffness, and rarely a persistent pain syndrome.

If your snapping doesn't hurt, it probably doesn't need fixing. People with a painless snapping ECU generally carry on at a high level with taping and monitoring alone.

When to see someone

See your GP if pain on the little-finger side of the wrist has not settled after a few weeks of easing off the activity that brings it on, or if it is limiting your sport or work.

Ask for a hand surgery opinion if the wrist snaps or clunks painfully when you turn your forearm, if the pain followed a specific twisting injury, or if you have already tried rest, a splint and an injection without lasting benefit.

Seek prompt attention if the wrist becomes hot, red and swollen, if you develop numbness or weakness in the hand, or if you felt a sudden give-way with immediate loss of strength – that last one can indicate the tendon itself has torn.

In more depth

This section goes further than you need for your own treatment decisions. Extensor carpi ulnaris problems are worth the extra reading because both of the findings that usually confirm the diagnosis – an abnormal signal on the scan, and a tendon that snaps as the wrist turns – occur commonly in people with no symptoms at all.

AN ABNORMAL MRI HERE MEANS LESS THAN IT APPEARS TO

The ECU tendon runs in a groove on the back of the ulna at the little-finger side of the wrist. When someone has pain there and the scan reports signal change in that tendon, the conclusion looks obvious.

The data undercut it. Reviewing **4,301** wrist MRIs, **ECU signal changes are common and often asymptomatic**, and such changes are **uncommonly associated with symptomatic tendinopathy, resulting in a low positive predictive value [1]**.

Low positive predictive value is the operative phrase. It means that among all the wrists showing this finding, only a minority have it as the cause of their pain. The scan cannot carry the diagnosis on its own – it has to agree with tenderness in exactly that location and pain reproduced by resisted movement in the right direction.

AND THE SNAPPING IS COMMON IN PEOPLE WHO ARE FINE

The second confirmatory sign is a tendon that visibly or audibly snaps out of its groove as the forearm rotates. Examining an asymptomatic population of **755** people, ECU snapping was found at a prevalence that makes it unreliable as a marker of pathology on its own [2].

The practical reading is that snapping the patient has noticed, in a wrist that also hurts in that precise spot, is meaningful. Snapping found incidentally on examination of a wrist that hurts elsewhere is probably a normal variant.

Taken with the MRI finding, the pattern is consistent: this tendon produces abnormal-looking results in ordinary wrists. Diagnosis here depends more on the correlation between findings than on any one of them.

WHICH MATTERS BECAUSE THE ULNAR WRIST HAS MANY POSSIBLE SOURCES

The ECU sits immediately alongside the TFCC, the distal radioulnar joint and the pisotriquetral joint, all of which produce pain in the same small area. Attributing that pain to an abnormal-looking ECU tendon is easy and, given the figures above, frequently wrong – which is the main reason to be careful before treating it as the culprit.

CONSERVATIVE TREATMENT IS THE MAINSTAY, AND IT WORKS

Where the diagnosis is sound, the treatment is unglamorous. A combination of **conservative measures and rehabilitation** can render patients symptom-free and allow return to desired activities [3].

Two features specific to this tendon shape the rehabilitation. Because it is loaded by forearm rotation combined with ulnar deviation – the position of a golf swing, a racquet stroke, or lifting a heavy pan – activity modification here means changing the direction of loading rather than simply resting. And because the tendon sits in a subsheath that can be stretched or torn, allowing it to subluxate, immobilisation is often positioned in pronation with the wrist extended, which holds the tendon in its groove while the sheath heals.

REFERENCES

1. Kuntz MT, Janssen SJ, Ring D. Incidental signal changes in the extensor carpi ulnaris on MRI. *Hand (N Y)*. 2015;10(4):750-5.
2. Erpala F, Ozturk T. "Snapping" of the extensor carpi ulnaris tendon in asymptomatic population and its relationship with chronic wrist pain. *BMC Musculoskelet Disord*. 2021;22(1).
3. Zarro M, Goel R, Bickhart N, May CC, Abzug JM. Extensor carpi ulnaris tendinopathy in athletes: a review of the conservative management. *Hand (N Y)*. 2022;19(3):407-13.