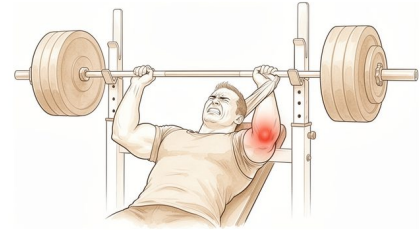


Distal Triceps Tendon Rupture

Distal triceps rupture: the triceps tendon tears from the back of the elbow, often during a heavy push or a fall.

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What you're feeling

The triceps is the big muscle at the back of your upper arm. Its tendon anchors onto the point of the elbow (the olecranon) and is what lets you straighten your arm. When that tendon tears away from the bone, the injury usually happens in a single moment: often a fall onto an outstretched hand, or a heavy lift or push that suddenly gives way.

At the time you may feel a sharp pain or a “pop” at the back of the elbow. Afterwards the area becomes swollen and bruised, and the back of the elbow is tender. The most telling sign is weakness when you try to straighten the arm against gravity or resistance: pushing a door open, pressing up out of a chair, or lifting overhead may feel weak or impossible. Sometimes you (or your doctor) can feel a soft gap or dip in the tendon just above the point of the elbow. If only part of the tendon has torn, you may keep some straightening power but still have pain and weakness.

This is an uncommon injury (the triceps is the least often ruptured of all the body's tendons), which is partly why it can be missed at a first assessment.

What's actually happening

The triceps tendon has pulled, partly or completely, off its attachment on the olecranon. A complete tear means the muscle is no longer firmly connected to the bone, so the force it generates can no longer be passed on to straighten the elbow. A partial tear leaves some fibres attached, so some strength remains.

These tears almost always happen when the tendon is loaded while the muscle is contracting hard: the arm is forced to bend at the very moment you are trying to straighten or brace it, for example. Some things make the tendon more likely to give way: it is far more common in men, especially those who lift weights; anabolic steroid use weakens tendons and is a recognised risk; and steroid injections around the elbow, repeated elbow (olecranon) bursitis, and some medical conditions such as long-standing kidney disease can all leave the tendon

more fragile. Occasionally a small flake of bone is pulled off with the tendon, which actually helps doctors confirm the diagnosis on an X-ray.

What we can do about it

Dr Kieran Hirpara is an upper-limb surgeon at Mater Private Hospital Rockhampton who leads our approach to managing this 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. We begin with a clinic assessment, including a history, examination, and imaging where needed, to establish the diagnosis.

The first step is making the diagnosis. Alongside the examination, an X-ray is taken to look for that tell-tale flake of bone, and an ultrasound or MRI scan is usually used to confirm whether the tear is partial or complete and how far the tendon has pulled back.

Treatment then depends on how much tendon is torn and how much you need to use the arm:

- **Small partial tears** (less than about half the tendon) in people with lower physical demands can often be managed without surgery: a period in a splint with the elbow slightly bent, followed by a gradual return to movement and strengthening.
- **Complete tears**, partial tears that leave you weak, and tears in active or physically demanding people are usually best treated with surgery to reattach the tendon to the bone. This is done by passing strong stitches through small bone tunnels or by anchoring the tendon back onto its footprint with special implants. Repairing it early, before the tendon scars and shortens, gives the best result.

What to expect

When a torn triceps tendon is repaired in good time, the results are generally very good: most people regain strong, reliable elbow extension and get back to work and sport. After surgery the elbow is protected for a few weeks and then gradually mobilised, with strengthening introduced later, so a full return to heavy lifting takes a few months rather than weeks. Your team will guide the pace.

As with any operation there are some risks to be aware of. The main ones are the tendon pulling loose again (re-rupture), which is why the early protection and a staged return to load matter, and problems with healing of the skin over the point of the elbow, where the tissue is thin. Stiffness and temporary weakness while the muscle rebuilds are normal parts of recovery.

When to see someone

- A **sudden pain or pop at the back of the elbow** after a fall or a heavy lift, followed by swelling and bruising. Get it assessed promptly.

- **Difficulty or weakness straightening the elbow** against gravity or resistance, or being unable to push up out of a chair with that arm.
- A **soft gap or dip** you can feel just above the point of the elbow.
- Ongoing pain and weakness at the back of the elbow that is not settling, even if you can still straighten the arm; a partial tear can behave this way. Earlier assessment gives more treatment options and better results.

In more depth

This section goes further than you need for your own treatment decisions. Distal triceps rupture is worth the extra reading for a reason that is unusual on this site: it is rare enough that the evidence base is small, and knowing how small is itself useful when weighing what you are told.

THE EVIDENCE IS THIN, AND HONESTLY REPORTED AS SUCH

The largest systematic review of surgical management covers **560** patients. It found that patients undergoing repair experience improvement in outcomes, but with a **moderate reported risk of re-rupture or complication** – and, importantly, that heterogeneity in rupture patterns, surgical procedures and outcome measures made it **difficult to establish which technique is superior** [1].

For comparison, the shoulder and knee conditions on this site draw on pooled populations in the tens of thousands. Here the entire literature amounts to a few hundred patients across a mixture of injury patterns. That does not mean the treatments do not work. It means confident statements about small differences between them are not supported, and should be treated with scepticism wherever you encounter them.

WHAT REPAIR DOES ACHIEVE IS WELL DOCUMENTED

Where the evidence is more consistent is on the headline question. Across **318** patients, **more than 90%** of an active-duty military population, athletes and the general workforce returned to sport or to their respective occupations after distal triceps repair [2].

That population matters to the interpretation. These are people with physically demanding roles whose return is objectively verifiable rather than self-reported, which makes the figure more informative than a similar number drawn from a general population.

ONE TECHNICAL COMPARISON DOES SEPARATE

Against the general finding that techniques cannot be distinguished, one comparison did show a difference. Across **56** patients, patient-reported outcomes were favourable for both suture-anchor and transosseous-tunnel repair, but **suture anchor repair showed significantly better results for isokinetic strength testing, complication rates and retear rates** [3].

The sample is small, and it should be read as a signal rather than a settled conclusion – which is precisely the point the larger review makes about this literature as a whole.

WHY PROMPT DIAGNOSIS MATTERS HERE

The triceps is the only muscle that straightens the elbow against resistance, so a complete rupture is functionally significant in a way partial tears are not. Complete tears are optimally treated with surgical repair, **particularly when performed acutely** [4].

Two features make this injury easy to miss. Some extension is often preserved through the remaining attachments, so the arm does not appear obviously useless; and the swelling and bruising at the back of the elbow can be attributed to the fall itself. The practical test is resisted extension against gravity – being unable to hold the arm straight against a downward push, rather than simply being sore, is the finding that matters.

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