

Clavicle Fracture

X-ray showing a displaced fracture of the left clavicle (collarbone).

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What you're feeling

Most clavicle fractures happen from a sudden impact. You might fall directly onto your shoulder or receive a hard blow during sports or a vehicle incident. Football injuries are a common cause in the United States. When the bone breaks, you may hear or feel a distinct snap or pop.

Pain starts immediately and is usually sharp. You will likely notice swelling and bruising over the collarbone area. The shoulder may look uneven or droop forward because the broken ends of the bone shift out of place. You will feel a strong reluctance to move your arm. Lifting even a light object, like a coffee mug, can feel impossible or too painful.

In the first few days, pain is often worse at night or when you try to shift positions in bed. Simple tasks like reaching for a seatbelt or putting on a shirt become difficult. You may need to support your injured arm with your other hand to keep it still.

As healing begins over the first few weeks, the sharp pain gradually settles into a dull ache. Movement remains stiff and uncomfortable, but the intense soreness lessens. You might still feel tenderness when you press on the area. While most mid-shaft fractures heal well with rest, your surgeon will monitor your progress closely. This is important because the bone ends can shift slightly during this early period.

If you are an adolescent, your body often heals quickly. Teenagers typically experience excellent outcomes with non-surgical treatment, meaning you can expect to return to normal activities without major issues. However, if the fracture is displaced or involves the end of the bone, your surgeon may discuss other options. Regardless of the path chosen, the initial discomfort is temporary. With time and care, you will regain full use of your shoulder.

What's actually happening

Your collarbone is the strut that connects your shoulder blade to your chest. It keeps your arm away from your body and gives your shoulder muscles a solid anchor to pull against. When you fall onto your shoulder or take a direct blow, this bone can snap. This is the most common way these fractures happen. It affects men more often than women and is linked to car accidents, sports, and simple falls.

Think of your collarbone like the boom of a crane. If the boom breaks, the arm hangs loosely and cannot lift or push effectively. Right now, your arm feels heavy and unstable because that structural link is broken. The muscles around your shoulder pull on the broken pieces, which can cause them to shift out of place. This displacement is why your shoulder might look drooped or squared off.

Most mid-shaft fractures heal well without surgery. Your body will form a callus to knit the bone ends back together. However, if the break is severely displaced or shortened by 2 cm or more, the bones may not line up correctly on their own. This can lead to a malunion, where the bone heals in a crooked position. Non-unions, where the bone fails to heal, are also a risk.

Surgery helps hold the pieces in the right place while they heal. We use plates and screws to bridge the gap and keep the bone stable. This mechanical support allows you to move your arm sooner and reduces the chance of the bone healing poorly. For adolescents, we often prefer non-surgical treatment because their bones heal quickly with fewer complications. But for adults with significant displacement, fixation offers better alignment and function.

The good news is that even if you choose non-surgical care, your long-term outlook is generally positive. Most people regain full use of their arm. Complications like infection or hardware irritation happen in about 8.1% of surgical cases. We monitor you closely to ensure the bone stays in place as it knits back together. Your surgeon will tailor the plan to your specific fracture pattern and your personal goals for recovery.

What we can do about it

The approach Dr Kieran Hirpara, an upper-limb surgeon at Mater Private Hospital Rockhampton, takes in our clinic is to tailor treatment to your specific injury pattern and personal needs. Most clavicle fractures result from a fall onto the shoulder or a direct blow. For stable or minimally displaced fractures, non-operative care is often the right choice. This involves using a sling or splint to support your arm and reduce pain. We monitor your progress closely because there is a risk of progressive displacement in the early weeks after injury. Repeat imaging helps us track healing. You will gradually begin gentle movements with physiotherapy as the bone stabilises. This path is particularly effective for many patients, including adolescents, who typically see excellent long-term functional outcomes without surgery.

Surgery may be recommended from the outset if your fracture is completely displaced, unstable, or significantly shortened. High-quality evidence shows that surgical treatment of displaced clavicle fractures in adults results in higher union rates and better early patient-reported outcomes compared with nonsurgical treatment. We discuss this option with you if the position of the bone after conservative care is not acceptable to you, or if your functional demands require a quicker return to stability. For displaced midshaft fractures, surgery aims to

align the bone segments securely so they heal in the correct position. This is a shared decision based on your pain tolerance, lifestyle, and the specific characteristics of your fracture. In some cases, such as segmental fractures or those with associated shoulder injuries, we may recommend additional imaging like MRI to ensure we address all aspects of the injury.

Both paths share common goals: controlling pain in the early weeks, protecting the injury while it heals, and restoring function through physiotherapy at the right stage. We ensure you have a clear pain management plan to keep you comfortable during the initial healing period. Whether you choose non-operative care or surgery, your recovery involves staged return to movement. For non-operative cases, we emphasize the importance of follow-up to ensure the bone does not shift. For surgical cases, we focus on protecting the fixation while you begin gentle rehabilitation. Most patients with clavicle fractures have an excellent outcome using conservative management, but for those who need surgery, the results are also highly reliable. We guide you through each step, ensuring you understand what to expect and how to support your body's natural healing process.

What to expect

Your bone typically takes around 8.8 weeks to heal if you have surgery for a completely displaced mid-shaft fracture. Without surgery, healing may take longer. Your surgeon will check your progress with X-rays at six weeks to see if the bone is joining correctly. If it is not healing, you may need surgery later.

Most people return to daily tasks and light work within a few weeks. Athletes often return to play sooner after surgery than previously thought. However, your shoulder may feel stiff or achy for several months. This is normal as the tissues recover. Long-term, most patients have good function and pain relief.

The most common issues are slow healing (non-union) or healing in a slightly crooked position (malunion). These happen whether you have surgery or not. Surgery lowers the risk of non-union and speeds up healing. It also improves early shoulder function. The overall complication rate for surgery is about 8.1%. This includes minor issues like infection or irritation from the hardware.

If you choose non-surgical treatment, your shoulder function remains excellent in the long run. However, you may have more symptoms on the injured side 10 to 30 years later. Close follow-up is important to ensure the bone does not shift out of place.

For adolescents, non-surgical treatment is often preferred. It has lower complication rates and similar satisfaction to surgery. Teenagers heal well even if the fracture is displaced. Surgery is reserved for specific cases where the bone is severely displaced or shortened.

Medial clavicle fractures (near the chest) have good outcomes if you survive the initial injury. However, these injuries are serious. A high proportion of patients with these fractures may face significant health risks within three years. Your medical team will monitor your overall health closely.

In most cases, your shoulder will function well after recovery. You may notice some stiffness or occasional ache in cold weather or after heavy use. This does not usually limit your daily life. Your surgeon will guide you on when to resume sports and heavy lifting. Patience is key. The bone needs time to strengthen fully.

When to see someone

Seek urgent care if you have an open wound, numbness, tingling, or cannot use your arm. These signs need immediate attention.

If pain is not settling, see your GP. Ask for a specialist review if swelling, movement, or function are not improving week on week as healing progresses. Most fractures heal well with time, but steady progress is key. Your surgeon will monitor your recovery closely. Regular check-ups help ensure the bone is joining correctly. Do not ignore persistent symptoms. Early review helps prevent long-term issues and supports a smooth return to daily activities.

In more depth

This section goes further than you need for your own treatment decisions. Clavicle fracture is worth the extra reading because surgery reliably delivers one thing – union – and the evidence that it delivers a better shoulder is considerably weaker than that.

SURGERY GETS THE BONE TO HEAL; THE FUNCTION DIFFERENCE IS SMALLER

The comparison has been done many times, and the results are consistent once read carefully. Across **1,760** patients, surgical treatment of midshaft clavicle fractures produced **fewer nonunions, fewer malunions, and an accelerated return to work** [1].

But the outcome that matters to most people separates less. In **1,965** patients, surgery led to a **greater likelihood of union at one year** while **not increasing functional scores by amounts patients were likely to consider clinically important** [2].

Both statements are true simultaneously, and the distinction between them is the whole decision. Surgery makes the bone heal more reliably and gets you back to work sooner. It has not been shown to leave you with a better shoulder a year later.

WHICH MAKES NONUNION RISK THE THING TO ESTIMATE

If union is the main benefit, then the sensible question is how likely your fracture is to fail to unite without surgery – because that is the risk surgery removes.

One factor is quantified and modifiable. **Smoking confers a risk ratio of 3.68 for nonunion** in displaced middle-third clavicle fractures treated conservatively, and the authors recommend patients be informed of this and offered cessation support [3].

A near-fourfold increase is large enough to change the calculation. For a smoker with a displaced fracture, the non-operative route carries a materially different risk than the same fracture in a non-smoker – and stopping smoking is an intervention available immediately, with no incision.

THE FRACTURE AT THE OUTER END BEHAVES DIFFERENTLY

Fractures at the outer end of the collarbone, near the shoulder, are a separate problem: the fragment is small and the ligaments that would normally hold it are often disrupted, so nonunion rates are higher.

Comparing fixation methods across **2,284** patients, **hook plates produced significantly lower Constant-Murley scores and higher complication and revision rates** than coracoclavicular fixation, with no difference in union rate – while **non-operatively treated patients showed good functional outcomes** [4].

Two things follow. Among operations, the hook plate underperforms – consistent with what the AC joint literature shows for the same implant. And non-operative treatment of these fractures produces good function despite the higher nonunion rate, which suggests a nonunion here is often better tolerated than the term implies.

WHAT A MALUNION ACTUALLY COSTS

Because surgery's functional advantage is small, it is worth knowing what accepting a malunion means. A clavicle healed short and angled leaves a visible bump and shortens the shoulder girdle slightly. Most people accommodate this without measurable loss.

The cosmetic change is permanent and genuine, and for some people it is reason enough. That is a legitimate basis for choosing surgery – it is simply a different basis from expecting the shoulder to work better.

REFERENCES

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