



QUESTION | More of my patients with clavicle fractures have had surgery lately. When I first began practice, I don't remember anyone having surgery on this injury. Is there a new trend favouring surgery on clavicle fractures?

ANSWER | Collar bone or clavicle fractures happen commonly in athletes. The most common site for the bone to break is at the midshaft. Many of these fractures do not shift very far and are treated with a sling with excellent results. When they shift or displace a long way the results of sling treatment are less reliable. These are typically quite high energy injuries such as when a cyclist falls and impacts their shoulder on the ground or from direct trauma such as a rugby tackle. Fractures away from the midshaft generally require surgical treatment and are not the topic of this article.

When a fractured clavicle is not very displaced it generally heals if the patient protects their shoulder with a sling for up to 4 weeks. Shoulder range of motion exercises are commenced as the pain settles, for some patients this is as little as 1-2 weeks post injury.

During my time as an Orthopaedic registrar, even displaced midshaft fractures were treated with a sling and the patient was told that they would be fine. Unfortunately, there were significant numbers of patients that did not achieve a satisfactory outcome in terms of pain, function or cosmesis. One of the better studies on the subject came out of Canada in 2007. This showed better outcomes for patients treated with surgery. There was a lower non-union rate, less shortening of the bone and less shoulder fatigue.

We know that certain groups of patients do not do as well with non-surgical treatment and these patients are generally offered early surgery. This includes when they have a scapula fracture (often referred to as a floating shoulder), if the bone fragments are tenting or putting pressure on the skin and if blood vessels or nerves are injured.

The studies that have followed the Canadian study are somewhat varied in their results. The Canadian study showed up to 15% non-unions 1 year after non-surgical treatment but a Finnish study in 2012 did not show much difference in functional outcomes despite a relatively high non-union rate. What has not been well studied is whether a clavicle that heals in a shortened position affects the shoulder in the long run. There is concern that patients with a shorter shoulder girdle will suffer fatigue related pain of their periscapular muscles with overhead activities.

Across all of the studies the results were good if the fracture healed but the patients returned to work faster if they had surgery. Re-operation rates were relatively high in both groups. In the surgical group many patients wanted the plate removed and in the non-surgical group many patients required surgery for ongoing symptoms. This outcome has been reproduced in several subsequent studies with most showing a small but real benefit with surgical treatment.

As with all things in medicine treatment must be chosen on an individual patient basis. Careful consideration of the potential harms and benefits are important, as well as the functional desires and needs of the individual patient. If it was my shoulder and I had a displaced midshaft clavicle fracture, I would have the operation.