

Forearm Shaft Fractures (including Monteggia and Galeazzi)

What you're feeling

A forearm shaft fracture happens in a moment. You might fall onto an outstretched arm, take a direct blow during sport, or land hard from a height. Some people hear or feel a snap at the moment of injury. The force needed is often considerable, especially when both forearm bones break together.

Straight away, you will feel pain along the forearm. It usually worsens quickly with any attempt to move your wrist, elbow or hand. Swelling and bruising develop over the injured area. If the bones have shifted out of place, the arm may look bent or twisted. Most people cannot turn their palm up or down without sharp pain, which makes everyday tasks like turning a door handle, pouring a kettle or holding a phone difficult.

Some injuries in this part of the arm involve more than a broken bone. A Monteggia injury is a break in one forearm bone near the elbow, together with the elbow joint being pushed out of place. A Galeazzi injury is a break in the other forearm bone near the wrist, with the wrist-side joint unstable. These injuries can be missed at first, because the break looks like a simple fracture on early X-rays. That is why your surgeon will look closely at both the elbow and the wrist, not just the obvious break.

In the first days and weeks, pain is often strongest at night and when you try to move. It settles gradually as the bone begins to heal. You may notice stiffness in the wrist and elbow from keeping the arm still. How much turning motion you regain depends partly on which bones were injured. When both forearm bones are broken, or the skin is broken over the fracture, some loss of turning motion is more likely.

If broken skin over the fracture, bone showing, an obvious deformity, fingers that turn pale, cold or blue, or sudden loss of feeling or movement in the hand occur after your injury, go to the emergency department the same day.

What's actually happening

Your forearm has two bones side by side: the radius on the thumb side and the ulna on the little-finger side. They work as a pair. When you turn your palm up or down, one bone pivots around the other at two joints, one near the elbow and one near the wrist. That turning motion is what lets you use a screwdriver, shake hands or tip food off a plate.

A shaft fracture is a break in the middle part of one or both of these bones. Think of the two bones as the two poles of a ladder. If one pole snaps and shifts, the ladder can no longer hold its shape, and the other joint at the top or bottom gets pulled out of line. That is what happens in a Monteggia injury, where the broken bone near the elbow lets the elbow joint slip out of place, and in a Galeazzi injury, where the break near the wrist leaves the wrist-side joint unstable. These injuries involve a broken bone plus an out-of-place joint, so they behave differently from a simple break.

Bone heals by knitting back together, the same way a cracked branch can mend if the pieces are held still and lined up. But the two forearm bones must line up closely for the turning motion to work again. If a bone heals even slightly twisted or shortened, the pair no longer pivot smoothly, and turning stays stiff or painful. When a joint is pushed out of place as well, the soft tissues holding it need to settle too, and the joint must be put back in line for the arm to work.

This is why these injuries are taken seriously. The goal of treatment is to restore the normal alignment of the bones and joints early, because that is what gives the forearm its best chance of turning freely again. A Monteggia injury found late is more complex to treat, and may need the ulna corrected as well.

What we can do about it

Dr Kieran Hirpara, an upper-limb surgeon at Mater Private Hospital Rockhampton, matches the treatment to your specific injury. Some forearm fractures heal without an operation, and others need surgery soon after the injury, so prompt assessment matters. At the clinic we take a history, examine your arm and arrange imaging where it is needed. X-rays of the elbow and wrist show the break and whether a joint has been pushed out of place. 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.

When a break is stable or barely shifted, and the injury pattern suits it, we may treat it without surgery. That means holding the arm still with a splint or cast while the bone knits, with check X-rays to make sure the position holds. Movement returns in stages, guided by your hand therapist. An isolated break in the ulna, the little-finger bone, can be treated with simple support and early movement rather than a full cast. We will also talk about what you need from your arm for work and daily life, and how much discomfort you are willing to put up with, because that shapes the choice.

When the bones are shifted out of place, when a joint is unstable, or when the injury pattern involves a break plus a dislocated joint, we recommend surgery from the outset. The aim is to line the bones up precisely and hold them there with a plate and screws while they heal, because the two bones must line up closely for the turning motion to work again. This is a shared decision. If non-operative care is possible but the pain or the final position of the arm may not be acceptable to you, we will weigh that together.

Either path shares the same early priorities. Pain control in the first weeks matters, and keeping the injury protected while it heals. Rehabilitation is with Ruby Doolan, a hand therapist at Extend Rehabilitation, who directs your exercises and makes any splint you need. She stages your return to turning, gripping and lifting as the bone heals.

What to expect

Healing follows a steady course. In the first weeks the bone begins to knit while it is held still, and pain settles gradually. Stiffness in the wrist and elbow is common from keeping the arm still, and it eases as you start moving again. Turning the palm up and down usually comes back in stages, guided by your hand therapist.

If your injury is treated without surgery, the bone heals while the arm rests in a splint or cast, with check X-rays to confirm the position holds. Most isolated breaks in the little-finger bone heal this way, though some do not, and if the bone is weak from osteoporosis a longer cast may be chosen to protect the other forearm bone. If surgery is needed, the bones are lined up precisely and held with a plate and screws while they knit. Galeazzi injuries are unstable, so surgery is needed to hold the joint near the wrist in place. After surgery for a Galeazzi injury, keeping the forearm still for a shorter time in a neutral position works as well as holding it turned up for 4 weeks when the joint is stable.

Most people regain good use of the arm. When both forearm bones were broken, or the skin was broken over the fracture, some loss of turning motion is more likely, as noted earlier. Strength and turning motion after surgery for both-bone fractures are usually close to normal, with only modest losses. After a Galeazzi injury, the wrist-side joint often moves as freely as the uninjured side in the long term. After a Monteggia injury treated by putting the ligament around the elbow back in place, people have no pain and full elbow movement at their latest check.

Some things can go wrong. The bone may heal slowly, fail to heal, or heal in a poor position. The arm may stay stiff. Plates can sometimes lead to thinning of the bone beneath them over the years. A Monteggia injury with a broken radial head can be unpredictable, and some of these injuries need further surgery.

When to see someone

Seek urgent care if your arm looks bent or twisted, if broken skin over the fracture or bone showing, if your fingers turn pale, cold or blue, or if you suddenly lose feeling or movement in your hand after an injury. These signs need the emergency department the same day. If you cannot reach the clinic, go to your nearest emergency department.

Some injuries hide more than a simple break. A Monteggia injury can be missed if the elbow is not X-rayed, and a Galeazzi injury can look like a simple fracture of the radius on early X-rays. If your pain is not settling, or swelling, movement or function are not improving week on week as healing progresses, see your GP or ask for a specialist review. Symptoms that wake you at night or stop you using your arm also warrant review.