

PIP Joint Fracture-Dislocation

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What you're feeling

A PIP joint is the middle knuckle of your finger, the one that bends about halfway along. These injuries usually happen in a moment: a ball hits the fingertip, you fall onto your hand, or your finger is forced backwards or sideways under a sudden load. Many people hear or feel a pop at the moment it happens.

Straight away, the joint is painful and swollen. The swelling is usually mild to moderate, sitting around the middle knuckle. The finger may look crooked or twisted, because a break in the base of the middle finger bone can make the digit deviate or rotate. You may also notice a droop at the fingertip joint, which can happen when the same injury involves the end joint of the finger. Moving the finger hurts, so you probably keep it still.

It is easy to assume this is just a jammed finger that will get better on its own. That assumption is worth setting aside. If the joint surfaces do not line up properly after this kind of injury, the joint can stiffen into a fixed position quickly, and the longer treatment is delayed, the harder it is to restore movement. When two months or more pass between the injury and treatment, the deformity has often become fixed, and releasing the tight tissues around the joint may then be needed to free it up. Motion after late treatment tends to be noticeably less than when the finger is treated early.

In the first days and weeks, pain is worst with movement and is often noticeable at night. It settles gradually as healing begins. Everyday tasks that bend the middle knuckle, like gripping a steering wheel, holding a coffee cup, typing or doing up buttons, will remind you of the injury early on.

Because early diagnosis matters so much with this joint, it is worth having any swollen, painful middle knuckle looked at promptly rather than waiting to see if it settles.

What's actually happening

The middle knuckle is a small hinge where two finger bones meet. In this injury, the end of the nearer bone has been pushed out of line with the base of the further bone, and a piece of that base has broken off. Almost all of

these dislocations happen backwards, meaning the middle bone ends up behind the nearer bone instead of under it.

The force that does this is usually the fingertip being jammed and bent backwards while something pushes down the length of the finger. The break and the dislocation travel together: the bigger the piece of bone that breaks off, the less support is left holding the joint in place. When the broken piece is small, the joint often stays seated. When it involves a large share of the joint surface, the middle bone can slide backwards every time you bend your finger.

Two soft tissues normally keep this hinge steady: a thick strap across the palm side of the joint, and a strap on each side. In a backward dislocation, the palm-side strap tears away from the bone, and one of the side straps pulls loose from its anchor point. Think of a door whose hinges and latch have both been ripped off its frame at once. The door still exists, but it no longer swings in one smooth track.

Healing can happen without surgery when the pieces sit still in a good position: bone knits to bone, and torn straps scar back down. The problem is that this joint will not hold still on its own when a large piece is missing, and the middle bone keeps sliding out of its track. If the joint surfaces do not stay lined up, the hinge grinds instead of glides, and it can stiffen into a bent position that becomes permanent. That is why keeping the joint seated, stable and moving early is the whole aim of treatment.

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. 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. At that first visit we examine your finger and take images to see exactly where the break sits and whether the joint is staying in place. From there, treatment is chosen up front based on how big the broken piece is, whether the joint holds together when you bend, and what your hand needs to do.

Some injuries are stable: the broken piece is small, the joint stays seated, and the finger can be held safely in a good position without an operation. For these we may use buddy taping, where the injured finger is taped to its neighbour for several weeks while you keep the finger moving early. Another option is a splint that holds the middle knuckle straight while leaving the other joints of the finger free to bend. With that approach, the middle knuckle stays still for 3 to 4 weeks, then a splint that lets you start bending is used for another 2 weeks. When the joint is only partly stable, a splint can be set to stop your finger bending into the range where it slips out of place, while still allowing movement in the safe range. These injuries can heal well without surgery when they are treated early and the joint surfaces are only partly damaged.

Surgery is recommended from the outset when the broken piece is large, the joint will not stay in place, or the tendon that straightens the finger has torn away with the bone. The operation puts the pieces back in line and holds them there so the joint can heal in its track. We will talk through the choice together, including what each path means for your recovery and your hand.

Whichever path you take, the early weeks share the same goals: keeping pain manageable, protecting the finger while it heals, and moving it at the right stage. After surgery, your rehabilitation is hand therapy with Ruby

Doolan at Extend Rehabilitation. Ruby directs your exercises and makes any splint you need. Getting the finger moving at the right time matters, because this joint stiffens quickly when it is held still for too long.

What to expect

Healing follows a steady course rather than a single moment of recovery. Stable injuries held in a splint or tape usually need the middle knuckle kept still for 3 to 4 weeks, then a splint that lets you start bending for another 2 weeks. After surgery, the aim is the same: protect the finger while the bone knits, then get it moving at the right stage. Getting the joint moving early matters, because fingers that move soon after treatment regain more bend and pinch strength than fingers held still for long stretches.

Over the first weeks, pain and swelling settle gradually. Bending often comes back before straightening, and the finger may feel stiff or slow for months. Most people can manage light daily tasks with the good hand early on, then return to work as the finger tolerates it. Grip strength and full comfort with heavier tasks take longer to return.

The outlook depends on how badly the joint surface was damaged and how quickly treatment began. Many people are happy with how the finger works in the long run. Stiffness is the most common reason people are not: in long-term follow-up after one common treatment, stiffness was the main complaint in five fingers, poor grip in three, and pain in one. Some fingers develop wear-and-tear arthritis in the joint over the years. A small number of people need further surgery, such as joining the bones of a painful joint together so it no longer hurts, or treating the same injury again if it happens years later.

Pin sites can become infected in the weeks after surgery. These infections are superficial, meaning they affect the skin around the pin, and they respond to pin site care and a short course of antibiotics. Your hand therapy with Ruby Doolan at Extend Rehabilitation will be paced to your healing, and Ruby will make any splint you need along the way.

When to see someone

Seek urgent care if your finger is visibly crooked or out of joint, if there is an open wound, if you feel numbness or tingling, or if you cannot use your hand at all. For everything else, see your GP promptly. Any swollen, painful middle knuckle deserves a look rather than a wait-and-see approach, because this joint can stiffen into a fixed position quickly when the joint surfaces do not line up. Ask for a specialist review if the pain is not settling, or if the swelling, movement or function of your finger are not improving week on week as healing progresses. The sooner the joint is assessed, the more options you have, and the better the chance of keeping your finger moving.