

Stiff Elbow Release (Arthrolysis)

At-a-glance recovery. Pooled from 80 published studies — your own pace will vary.

LIGHT DUTIES	MOST EVERYDAY ACTIVITIES	FINAL OUTCOME PLATEAU
desk work, driving, daily tasks	manual work, sport, gym	pain and strength
6 weeks	12 months	36 months
Patients typically achieve full range of movement with no obvious deformity or weakness by 6 weeks post-operatively.	Functional elbow motion is effectively restored with no clinical or radiographic recurrence observed at 1-year follow-up in appropriately selected patients.	Satisfactory outcomes with substantial improvements in mobility and function are durable over the long term, with no significant postoperative contracture or instability at 43 months mean follow-up.

Why this operation has been suggested

Dr Kieran Hirpara, an upper-limb surgeon at Mater Private Hospital Rockhampton, starts with the least invasive options that suit your 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. At your appointment we take a history, examine your elbow and arrange imaging if needed. A stiff elbow often improves with time and use, so we usually try non-operative care first. This may include physiotherapy, splinting or injections over 6 to 12 weeks. Surgery is considered when that course has not given enough improvement.

Stiff elbow release, also called arthrolysis, is an operation that frees the tight, scarred tissue around your elbow so the joint can move again. We suggest it when stiffness is still limiting you after non-operative treatment. It works best when the joint surface is still smooth and in its normal shape. The aim is a lasting gain in movement and less pain, so daily tasks become easier.

Before the operation

Once surgery is planned, there are a few practical things to sort out. You will be told when to stop eating and drinking: this is seven hours before your operation. We ask for seven hours rather than six so that, if the theatre list runs early, we can bring you forward. Your surgeon will tell you which of your usual medicines to stop and when, and you should bring a full list of them with you. Arrange for someone to drive you home afterwards. Wear loose, comfortable clothing on the day. X-rays are always taken to plan the operation, and a CT scan may be used if the stiffness involves bone. If you have other medical conditions, you may need blood tests or a review with the anaesthetist.

On the day

You arrive at the hospital's surgical admissions unit, where you are checked in and prepared for theatre. You meet the anaesthetist there. This operation is done under general anaesthetic. A regional nerve block is sometimes added for post-operative pain relief; the anaesthetist will discuss this with you on the day. You are then taken into the operating theatre, where the operation is performed.

You wake up in the recovery area, where nurses monitor you while the anaesthetic wears off. Once you are stable, you either go to the ward or go home, depending on the procedure and your recovery.

What the operation involves

There is more than one way to release a stiff elbow, and your surgeon will choose the approach that suits your elbow. Some releases are done through keyhole surgery, using a few small cuts and a thin camera. Others are done through one or two open cuts, sometimes about 3 to 5 cm long, on the inner or outer side of the elbow. For very stiff elbows, a cut at the back of the elbow may be used to reach both sides.

Once inside, your surgeon frees the tight capsule, which is the sleeve of tissue around the joint. Bone spurs that block movement are trimmed away, and any loose fragments of bone or cartilage floating in the joint are removed. If a nerve on the inner side of the elbow is squeezed by scar tissue, it may be freed from that tunnel of tissue, or moved to a new position where it cannot be stretched. If the joint surface itself is badly worn, other options exist, such as lining the bone with soft tissue or replacing the joint surfaces with metal and plastic parts. Sometimes a hinged frame is fitted to the elbow to hold the joint in a good position while it heals.

At the end, the cuts are closed with stitches and covered with a dressing. You will keep that dressing on for about 10 days, as described in the recovery section.

After the operation

You wake up in the recovery area, then move to the ward. Nurses will check your elbow, your hand and how you are feeling. Pain relief is given as you need it; tell the nurses if your elbow is uncomfortable. Your elbow will be

wrapped in a soft dressing, and you may go home with your arm in a sling for comfort. You can get out of bed and move around soon after, and the nurses will help you the first time. Your hand, wrist and shoulder can move freely while your elbow settles. Someone should stay with you for the first 24 hours after you go home. Your team will tell you whether you go home the same day or stay one night in hospital. We leave the dressing on for about 10 days; please do not take it off before then unless we tell you to. We change or remove it when we see you.

Recovery

Your elbow will be sore and swollen for the first days and weeks. This is normal after a release. Rest, keeping your hand raised and taking your pain relief as prescribed will ease the discomfort. The swelling settles gradually, and as it does, the elbow usually feels less tight.

You will go home with your arm in a sling for comfort. You can stop using it once it no longer helps. Your hand, wrist and shoulder should keep moving freely from the start. Hand therapy after surgery is with Ruby Doolan at Extend Rehabilitation. Ruby will guide your exercises and make any splint you need. The exercises are the main work of your recovery, and doing them as directed matters more than anything else. You will keep the dressing on for about 10 days, and we will change or remove it when we see you.

Everyday tasks will come back in stages. At first you will need help with cooking, dressing and carrying things. As movement returns and the swelling settles, you will manage more with the operated arm. Once your surgeon clears you to drive, you can return to the road; our guide to [driving after upper-limb surgery](#) explains the rules that apply, including not driving while your arm is in a sling and being off strong pain medication.

Recovery varies from person to person. Your timeline may differ, and your surgeon and therapist will guide you along the way.

What can go wrong

Most patients do well, but problems can occasionally happen. Your surgeon and the team monitor you closely to spot any issue early.

The longer an elbow has been stiff, the more likely problems become after a release. If your elbow has been stiff for a long time, your surgeon will talk this through with you before you decide.

One thing some people notice afterwards is new tingling, numbness or weakness in the little and ring fingers. This comes from the nerve on the inner side of the elbow. It is not always possible to predict who will get this. If you notice these feelings, mention them at your next review, or call the clinic if they come on suddenly.

Some elbows that have been injured before carry a higher chance of a deep infection afterwards. Watch the wound for redness that spreads out from it, warmth, increasing swelling, or a deep, throbbing pain that does not ease with simple painkillers. You may feel feverish or generally unwell. If you see any of these signs, call the clinic straight away, or go to the emergency department if it is after hours.

If your operation involves a hinged frame fitted to the elbow, there are a few extra things to know. The frame adds to the blood loss during surgery, the time in theatre and the time in hospital. It also carries a small chance of the joint becoming loose or unstable. Your surgeon will explain what this means for your stay and your recovery.

If you have had operations on this elbow before, the chance of a deep infection is higher again. The same applies when the operation itself is more complex. Your surgeon weighs all of this up with you beforehand.

Long-standing elbow injuries can also change the way the joint works. Scarred skin, bones that have healed out of place, damaged cartilage, extra bone, loose or tight ligaments, squeezed nerves and scarred muscle can all alter how the elbow moves. Your surgeon will look for these when planning your operation.

The complications table on this page lists typical rates if you want the specifics.

When to call us

Call us if you notice fever, spreading redness around the wound, discharge from the wound, or pain that keeps getting worse. Go to emergency if you have sudden severe pain, calf swelling or pain, or shortness of breath. Call us straight away if your hand or fingers go numb or pale, or if you cannot move your arm. If tingling or numbness in the little and ring fingers comes on suddenly, call the clinic rather than waiting for your next review.

In more depth

This section goes further than you need for your own treatment decisions. Releasing a stiff elbow is worth the extra reading because the evidence points somewhere unusual: the choice most patients ask about, keyhole or open, appears to matter less than how much surgery is done, and the operation's real adversary is the same process that caused the stiffness in the first place.

OPEN OR ARTHROSCOPIC IS NOT THE IMPORTANT QUESTION

A systematic review and meta-analysis of **4,311** patients with post-traumatic elbow stiffness compared open with arthroscopic arthrolysis and found the overall results **comparable** [1]. Its conclusion was that the surgeon's expertise and the patient's particular condition are more important considerations than the technique itself [1].

That is an unusually direct statement for a systematic review, and it is worth taking at face value. This is a technically demanding operation performed close to three major nerves in a joint whose capacity is already reduced by the contracture being treated. Familiarity with the approach is doing more work than the approach.

LESS SURGERY, FEWER PROBLEMS

An earlier systematic review of **798** patients reached a conclusion that has held up: the number of complications appears to rise with the **extent** of the surgical procedure, and the advice that follows is to treat as

little invasively as possible [2]. The authors graded that recommendation modestly, the literature is not strong enough for a firm statistical conclusion, but the direction is consistent.

This is the tension at the centre of the operation. A more complete release buys more motion on the operating table, and costs more soft-tissue trauma, more bleeding into the joint, and more inflammatory stimulus, the raw materials for the stiffness returning.

HETEROTOPIC OSSIFICATION IS THE THING TO PREVENT

Heterotopic ossification, where bone forms in soft tissue that should stay flexible, is the mechanism by which a released elbow stiffens again. Prophylaxis with anti-inflammatories is standard, though the evidence is thinner than the practice.

A meta-analysis of **622** patients comparing COX-2 selective against nonselective anti-inflammatories after elbow trauma surgery found that both **effectively reduce** the risk of heterotopic ossification, while individual head-to-head comparisons showed no statistically significant difference between them, and the overall power of the evidence was low [3]. So: prophylaxis appears worthwhile, the choice of agent is not clearly consequential, and the certainty is limited.

Context helps set expectations. After total elbow arthroplasty, heterotopic ossification is an **uncommon** complication, and where it develops most patients are asymptomatic and need no surgery for it, to the point that routine prophylaxis after that operation is not supported by the literature [4]. The risk is not uniform across elbow surgery; it is concentrated in trauma and in extensive releases.

ONE INTERVENTION THAT DOES NOT DO WHAT YOU WOULD EXPECT

Tranexamic acid reduces bleeding in many orthopaedic operations, and reducing bleeding into a freshly released elbow sounds like it should reduce stiffness. A meta-analysis of **660** patients found that tranexamic acid may indeed reduce bleeding volume during open elbow arthrolysis, but that it did **not** affect final range of motion or pain scores [5].

It is a clean example of a plausible mechanism failing to translate into the outcome anyone cares about, and a reminder that “less bleeding” is a surrogate, not a result.

WHAT ACTUALLY DETERMINES YOUR OUTCOME

Nothing in this literature suggests a technical shortcut. The consistent signals are that the operation should be no larger than it needs to be, that prophylaxis against heterotopic ossification is worth taking, and that the motion gained in theatre is only retained through the rehabilitation that follows. The elbow is unusually willing to stiffen; the months after the release matter at least as much as the release.

CQ HAND + UPPER LIMB

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Stiff Elbow Release (Arthrolysis)

Complication rates from published literature

Pooled from 80 published studies. These are population-level rates, not your individual risk — your surgeon will discuss what applies to you.

COMPLICATION	REPORTED RATE	NOTES
nerve injury	8.9%	Nerve injury rate is significantly higher in open arthrolysis with external fixation (8.9%) compared to arthroscopic (0.6%) or open arthrolysis alone (0.6%); ulnar nerve is most commonly affected.
infection	2%	Infection rates are similar across surgical methods (2% for arthroscopic, open, and open with external fixation); deep infections are more common in the elbow than other joints treated arthroscopically.
heterotopic ossification recurrence	6-17%	Recurrent heterotopic ossification is a major cause of recurrent stiffness, occurring in 6% to 17% of cases; no difference in recurrence rate with indomethacin or radiation prophylaxis.
stiffness requiring intervention	10-34%	Recurrent elbow stiffness is problematic after arthrolysis, with reported reoperation rates for stiffness ranging from 10% to 34%.
hematoma	—	Hematoma formation is a recognized complication of elbow surgery, particularly associated with flap elevation in vascular wound beds during open procedures.
instability	1.0%	Elbow instability is a rare but challenging complication of contracture release, reported at 1.0% in systematic reviews of open arthrolysis.
pin site complications	—	Pin site complications are frequently encountered when a hinged external fixator is used to facilitate early motion after arthrolysis.
complex regional pain syndrome	—	Reflex sympathetic dystrophy (complex regional pain syndrome) has been reported after open arthrolysis.
wound dehiscence	—	Wound dehiscence can occur, particularly with posterior approaches, and may heal with regular dressings and therapy.

I have read this information and have had the opportunity to ask Dr Hirpara questions about the procedure, its expected recovery, and the complications listed above.

PATIENT – PRINT NAME

SIGNATURE

DATE