

Stiff Elbow Release (Arthrolysis)

At-a-glance recovery. Pooled from 15 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
2-6 weeks	6-12 months	12-24 months
Initial wound healing and early range of motion typically occur within the first 6 weeks postoperatively.	Significant functional improvement and range of motion gains are typically observed within 6 to 12 months.	Long-term outcomes and plateau of range of motion are assessed at 1 to 2 years, with some studies showing maintenance at 8 years.

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. A clinic assessment establishes the diagnosis. For long-standing stiffness, we usually try non-operative care first and consider surgery when that has not given enough improvement.

This operation, known as elbow release or arthrolysis, loosens tight tissues to restore movement. We offer it when non-surgical treatments have failed to improve your range of motion or quality of life. The procedure aims to reduce pain and restore a functional arc of motion for daily tasks.

Before the operation

Please fast for seven hours before your surgery. This allows us to bring you forward if the theatre list runs early. Stop taking certain medications as advised by your surgeon, who will give you specific instructions. Arrange a lift home and wear comfortable clothing. Bring a list of your current medicines. We use imaging like X-rays, MRI, or ultrasound to plan your operation. If you have other medical conditions, you may need blood tests or a

review with the anaesthetist. Most patients do not require these. Your surgeon will guide you through any necessary steps to ensure you are ready for the procedure.

On the day

You present to the hospital's surgical admissions unit, where you are checked in and prepared for theatre. You meet the anaesthetist to discuss your care plan. 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

Your surgeon will likely use an arthroscopic approach, which involves making two or three small keyhole cuts about 1 cm each. Through these tiny openings, your surgeon inserts a camera and special instruments to look inside the joint. This minimally invasive method allows for a safe release of stiff tissues through small incisions of 3–5 cm in length if a mini-open technique is chosen instead.

Inside the elbow, your surgeon releases the tight bands of tissue and capsule that are trapping the joint and limiting your movement. This capsular release restores a functional arc of motion by freeing the structures that have become stiff. In some cases, additional steps such as moving the ulnar nerve to prevent irritation may be performed.

After the release is complete, your surgeon closes the small cuts with sutures or glue and applies a dressing. If your surgeon uses a hinged external fixator to help maintain movement, this device is attached to the outside of your arm. This fixator helps improve flexion and extension range in the short term, though it may lead to increased blood loss and a longer time in hospital.

For most patients with extrinsic contractures, this procedure effectively restores motion. Your surgeon will tailor the exact technique to your specific needs, ensuring the best possible outcome for your elbow stiffness.

After the operation

You will wake up in the recovery ward with your arm in a sling and a soft dressing. We manage pain using a nerve block catheter to keep you comfortable and help you move sooner. Your team will tell you whether you go home the same day or stay one night in hospital. Someone should stay with you for the first 24 hours to help you. We do not use rigid braces. You can gently move your fingers and wrist as tolerated. Keep the dressing clean and dry. Follow our advice on wound care. This approach supports sustained improvement in your elbow's range of motion and quality of life.

Recovery

You can expect some swelling and discomfort in the days following your surgery. This is a normal part of healing. We manage this pain with medication and by keeping your arm elevated. Early movement helps reduce stiffness and improves your range of motion. Our hand therapist, Ruby Doolan at Extend Rehabilitation, guides your exercises. She also creates any splints you need to protect your elbow while you heal.

Your daily routine will focus on gentle movement. You will perform specific exercises to restore flexibility. We do not use hinged braces or rigid supports after this procedure. Instead, you will rely on your therapist's guidance and your own comfort levels. Avoid heavy lifting or forceful gripping until your surgeon clears you. Sleep with your arm supported on pillows to keep swelling down.

As your movement returns, you will notice gradual improvements in function. You may drive once your surgeon confirms you are safe to do so. Please review our guide on driving after upper-limb surgery for universal safety rules. Your timeline may differ from others; your surgeon and hand therapist will guide you through each step of your recovery.

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.

Arthritis This is wear-and-tear of the joint lining. You might notice a deep ache inside the elbow that worsens with movement. The joint may feel stiff or grind when you bend or straighten it. If this pain persists or limits your daily tasks, bring it up at your next review. Your surgeon can discuss ways to manage the discomfort.

Heterotopic ossification This is extra bone growing in the soft tissues around the joint. You may feel a hard lump under the skin near the elbow. It can make the joint feel tight or blocked, reducing how far you can move it. If you notice new stiffness or a visible change in shape, contact the clinic. Your surgeon will assess whether this new bone is affecting your recovery.

Increased blood loss If your procedure involves a hinged external fixator, you may lose more blood than with other methods. You might feel unusually tired, dizzy, or short of breath after the operation. Your skin might look paler than usual. If you feel faint or excessively weak, seek medical attention promptly. The team will check your blood levels to ensure you are safe.

Longer operative time Using a hinged external fixator means the surgery takes longer. You will be under anaesthetic for a longer period. This can lead to more soreness and swelling in the immediate days after the procedure. Rest and follow your pain management plan. If swelling becomes severe or painful, contact the clinic for advice on managing it.

Extended hospitalization You may need to stay in hospital longer if a hinged external fixator is used. This is to monitor your recovery closely. You might feel frustrated by the extended stay, but it allows the team to ensure your elbow is stable. Use this time to ask questions and begin gentle movements as guided by our therapists.

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

When to call us

Call us if you have a fever, increasing wound redness or discharge, or sudden severe pain. Go to emergency if you notice calf swelling or shortness of breath. Contact us immediately if you experience loss of sensation or inability to move your limb. These signs need urgent assessment to ensure your recovery stays on track.

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**. 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

CQ HAND + UPPER LIMB

Dr Kieran Hirpara – Specialist Orthopaedic Surgeon
Suite 2, Level 1, Mater Private Hospital Rockhampton, 31 Ward Street, The Range, QLD 4700
Phone 07 4863 6556 · office@cqupperlimb.com.au · cqupperlimb.com.au

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.

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Suite 2, Level 1, Mater Private Hospital Rockhampton, 31 Ward Street, The Range, QLD 4700
Phone 07 4863 6556 · office@cupperlimb.com.au · cupperlimb.com.au

Stiff Elbow Release (Arthrolysis)

Complication rates from published literature

Pooled from 15 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	8.6-25.0%	Ulnar nerve symptoms are the most common nerve complication, occurring in up to 25% of open arthrolysis cases, though often transient.
heterotopic ossification recurrence	5.6-17.0%	Recurrence of HO is a major cause of recurrent stiffness, with rates varying based on prophylaxis and patient factors.
infection	1.0-2.0%	Infection rates are generally low (1-2%) for open and arthroscopic approaches, though pin-site infections may occur with external fixation.
stiffness recurrence	10.0-34.0%	Recurrent elbow stiffness is a significant concern, with reoperation rates for stiffness ranging from 10% to 34%.
hematoma	null	Hematomas and seromas can occur secondary to flap elevation; rates vary by study and use of drains or TXA.
elbow instability	1.0%	Elbow instability is a rare but challenging complication, particularly if collateral ligaments are compromised.
complex regional pain syndrome	null	Reflex sympathetic dystrophy (CRPS) has been reported after open arthrolysis.
wound dehiscence	null	Wound complications including dehiscence and delayed healing are reported, particularly with medial approaches.
iatrogenic fracture	null	Iatrogenic fractures (e.g., humeral shaft) are rare complications reported in pediatric and adult series.
pain	null	Persistent pain or moderate pain is reported in a subset of patients at follow-up.

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