

Pronator and AIN Release

At-a-glance recovery. Pooled from 74 published studies — your own pace will vary.

LIGHT DUTIES desk work, driving, daily tasks	MOST EVERYDAY ACTIVITIES manual work, sport, gym	FINAL OUTCOME PLATEAU pain and strength
1-2 weeks A soft dressing only; desk work within days, light use within a week or two. Early elbow and forearm motion is encouraged. After an isolated lacertus release done awake under local anaesthetic, non-manual workers commonly return to desk work within 1-2 days.	2-3 months Gripping and manual work by about 2-3 months as the forearm incision settles. Measured grip strength improves early after release in reported series.	6-12 months Nerve recovery sets the true endpoint: aching and forearm fatigue often settle early, but in about half of reported cases recovery takes more than 3 months, and numbness or weakness that was present before surgery can take 6-12 months to improve. Recovery of a dense AIN palsy is slower still.

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. This operation is a nerve release in your forearm. It eases pressure on one of the main nerves that runs from your elbow to your hand. We usually suggest it when other treatments have not given you enough relief.

Most people try non-operative care first. That means resting the arm, avoiding the activities that stir up your symptoms, and taking anti-inflammatory medicine. Surgery is considered when symptoms continue despite this care. For pronator syndrome, surgery is an option if your symptoms have lasted more than 6 months. For anterior interosseous nerve syndrome, it is an option after at least 12 months with no signs of muscle strength returning. We may also suggest surgery sooner if your daily activities need strong, repeated forearm turning and testing confirms the nerve is compressed.

The aim of this operation is to relieve your pain and restore the strength and use of your hand. Complete relief happens in about 64 to 71% of people. About 20% get incomplete relief, and about 8% need a further

operation. We will talk through these figures with you so you can decide together with us whether surgery is right for you.

Before the operation

Your surgeon will give you clear instructions to prepare. You will need to stop eating and drinking seven hours before your operation. We ask for seven rather than six so your surgery can be brought forward if the theatre list runs early. You may need to stop some medicines before surgery, and your surgeon will tell you which ones and when. Arrange for someone to drive you home afterwards. Bring a list of your current medicines. Wear loose, comfortable clothing on the day. Imaging such as an X-ray, MRI or ultrasound scan may be used to plan the operation. If you have other medical conditions, you may need blood tests or a review with the anaesthetist, but most people do not.

On the day

You will arrive at the hospital's surgical admissions unit. Staff will check you in and prepare you for theatre. You will then meet the anaesthetist, the doctor who gives the medicine that keeps you asleep and comfortable during the operation. 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 will then be taken into the operating theatre, where the operation is performed. When it is finished, you will wake up in the recovery area. Nurses will monitor you there while the anaesthetic wears off. Once you are stable, you will either go to a ward or go home, depending on the procedure and your recovery.

What the operation involves

This is a nerve release in your forearm. Your surgeon makes a cut on the front of your forearm, near your elbow, to reach the nerve. The cut is kept as small as possible. Through it, your surgeon finds the spots where tight tissue is squeezing the nerve and releases that tissue, freeing the nerve along its whole course. If a band of tissue or an unusual vessel is pressing on the nerve, that is removed as well.

The cut is closed with stitches and covered with a dressing. You will go home with the dressing intact.

The operation itself is focused and careful work in a small space. Releasing the nerve where it passes through the muscle of the forearm calls for deeper dissection than some other nerve releases, so your surgeon takes time to protect the nerve and the structures around it.

After the operation

You will wake up in the recovery area with nurses watching over you while the anaesthetic wears off. Your arm may feel heavy or numb for a while. This is expected, and it settles as the medicine wears off. You will have pain

relief to keep you comfortable, and your hand and forearm will be wrapped in a soft dressing. You can move around soon after waking, and someone should stay with you for the first 24 hours. 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

For the first few days your hand and forearm may feel sore and swollen. The area around the cut can ache, and your fingers may feel stiff. Rest, keeping your hand raised on a pillow, and your pain relief all help to ease this. The discomfort usually settles as each day passes.

You will go home with a soft dressing on your arm. We leave it on for about 10 days and change or remove it when we see you. Once it is off, hand therapy begins. Your hand therapist, Ruby Doolan at Extend Rehabilitation, will guide your exercises and make any splint you need. These exercises keep your fingers moving and stop stiffness while the nerve settles.

At home you can do most light daily tasks within the first couple of weeks, using your hand as your comfort allows. Avoid heavy lifting, gripping hard, or anything that strains the forearm until your therapist clears it. Sleep however feels comfortable; some people prefer to rest the arm on pillows beside them.

Recovery follows a pattern rather than a fixed schedule. First the pain and swelling settle. Then movement and grip return. Strength and feeling in your hand keep improving over many months, and the final result comes once your pain and strength stop changing. Everyone heals at their own pace, so your timeline may differ; your surgeon and your 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.

Because this release works deep in the forearm muscle, the operation is more involved than some other nerve releases. Your surgeon takes extra care to protect the nerve and the tissue around it.

The nerve being released sits close to other nerves that give feeling and movement to your hand. Rarely, one of these can be irritated during surgery. You might notice new numbness, pins and needles, or weakness in part of your hand or forearm once the nerve block has worn off, which takes about 24 hours. Some numbness and weakness in the first 24 hours is expected from the block itself. If it lasts beyond that, call the clinic.

The wound can cause trouble too. Call the clinic the same day if you have a fever, redness spreading out from the cut, or fluid or pus leaking from it. Pain that keeps getting worse despite your pain medicines also needs a same-day call.

Sometimes a firm, tender lump forms near the wound in the days after surgery. This is a collection of blood under the skin. If it grows, feels increasingly painful, or the skin over it looks tense and shiny, call the clinic.

If a release is done through a small keyhole cut rather than an open one, it occasionally does not hold, and a further operation may be needed. Your surgeon will discuss this with you when planning your care.

Recovery from nerve surgery is often slow, and the nerve can keep improving over many months. How well it recovers depends partly on how long it was compressed before surgery. If the pressure has been present for a long time, some changes in the hand may not fully reverse. Your surgeon will talk with you about what to expect in your case.

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

When to call us

Most problems show up in the first few days. Some need a quick call, and some need urgent care.

Go to the emergency department if your calf swells or hurts, or if you become short of breath or get chest pain. These can be signs of a blood clot. Go also if your fingers, hand or thumb turn pale, cold, white, blue or dark, as this suggests a problem with blood flow.

Call the clinic the same day if you have a fever, redness spreading out from the cut, or fluid or pus leaking from it. Pain that keeps getting worse despite your pain medicines also needs a same-day call.

Call the clinic if you cannot feel your arm, hand or fingers, or cannot move them, once the nerve block has worn off. The block takes about 24 hours to wear off, and numbness and weakness during that time are expected. If it lasts beyond that, call us.

If you cannot reach the clinic after hours or on a weekend, go to your nearest emergency department.

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Complication rates from published literature

Pooled from 74 published studies. These are population-level rates, not your individual risk — your surgeon will discuss what applies to you.

COMPLICATION	REPORTED RATE	NOTES
incomplete relief of symptoms	20%	The most important risk, and it depends heavily on how long the nerve has been trapped. In well-selected cohorts, complete relief is reported in 64-71% and a good result in about 80% (complete-relief 64% of 61, Mujadzic; 71% of 21, Hsiao; good 80% of 55, Sos) - so roughly 1 in 5 have some residual symptoms. In long-standing disease the picture is worse: at nearly 4 years, one 205-patient series found only 11% completely recovered and 47% improved, with 30% unchanged (Svernlöv). Reported failures are usually attributed to inadequate decompression, a missed second entrapment site, or the wrong diagnosis.
symptoms worse after surgery	12%	In the same long-duration mixed proximal-forearm cohort, 12% rated their arm worse at follow-up, in a study of long-standing nerve entrapments followed for about four years. Pre-operative symptom duration was the strongest predictor of a poor result.
recurrence needing revision	8%	One isolated pronator-teres-syndrome cohort recorded recurrence in 1 of 12 patients (8%) at 12 months, settled by revision decompression. Later recurrence beyond the first year is acknowledged but poorly captured by the short follow-up of most series.
slow nerve recovery	49%	Not a surgical error but a feature of the condition: in one 55-case series 49% took more than 3 months to recover after release. Transient residual numbness or aching in the weeks after lacertus release is common and had resolved by 6 months in the largest lacertus series (n=93). Dense AIN palsy recovers slowest and least predictably.
minor wound problems and scar tenderness	20%	Minor and self-limiting in reported series: 3 of 14 endoscopic-decompression patients had minor complications that resolved without treatment (Lee), and activity-related forearm discomfort or a tender volar scar for some weeks is common with any approach.

COMPLICATION	REPORTED RATE	NOTES
nerve or blood-vessel injury	—	Rare (case-report level); the median nerve and its branches are the structures being freed and are directly in the field. A persistent median artery, when present, runs through the lacertus tunnel and is the specific vascular hazard of lacertus release.

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