

Pronator and AIN Release

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 problems we usually try non-operative care first and consider surgery when that has not given enough improvement.

This operation releases tight structures in your forearm that may be pressing on a nerve. We typically recommend it if you have had symptoms for more than six months, or if you have had no improvement after twelve months of rest and therapy. The goal is to relieve pain and restore hand function. Ninety-three percent of patients see their symptoms disappear after this mini-invasive decompression.

Before the operation

Please fast for seven hours before your procedure. This allows us to bring you forward if the list runs early. Bring a list of all current medications and wear comfortable clothing. Arrange a lift home for after the surgery. Your surgeon will provide specific guidance on stopping certain medicines. Imaging such as X-rays, MRI, or ultrasound helps plan the operation. Blood tests and an anaesthetic review are not routine. If you have other medical conditions, you may need blood tests or a review with the anaesthetist.

On the day

You will present to the hospital's surgical admissions unit. Here, you are checked in and prepared for theatre. You will meet the anaesthetist to discuss your care. 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 makes a small cut, often shaped like a lazy 'S', starting just above the elbow crease and running down the front of your forearm. This approach allows access to the median nerve and its branches. In some cases, we may use a minimally invasive technique with smaller keyhole incisions or an endoscopic camera to view the area. This helps us reach all points where the nerve might be compressed.

Inside, your surgeon carefully frees the nerve from surrounding tissues that may be squeezing it. We check for any tight bands of tissue, such as the lacertus or the pronator teres muscle, and release them to give the nerve more space. If a persistent median artery is present and causing pressure, we may remove a small segment of it. For specific conditions like anterior interosseous nerve syndrome, we ensure the nerve is fully visualised as it travels into the forearm. In complex cases involving cerebral palsy or nerve transfers, we may reposition tendons or connect nerves to restore function, but this is tailored to your specific anatomy.

Once the nerve is decompressed and any necessary adjustments are made, your surgeon closes the cut with stitches. You will have a dressing over the area. Following the procedure, we typically encourage you to move your arm actively to aid recovery, avoiding any forceful movements initially. This careful release aims to relieve the pressure on your nerve and improve hand function.

After the operation

You will wake up in the recovery ward with a clean dressing and a soft bandage or sling to protect your arm. We manage pain with standard medication to keep you comfortable. Your team will tell you whether you go home the same day or stay one night in hospital. We advise that someone stays with you for the first 24 hours to help. You can move your fingers gently, but avoid forcing the arm. Do not drive while wearing a sling or taking strong pain medication. See our guide on driving after upper-limb surgery for full details. Rest and keep the dressing dry as we advise.

Recovery

Your arm will feel sore and swollen at first. This is normal. We keep discomfort manageable with simple pain relief and by keeping your hand elevated above your heart when resting. You will wear a soft dressing to protect the incision. We do not use rigid braces or casts for this procedure. Your hand therapist, Ruby Doolan at Extend Rehabilitation, will guide your early movements. She also makes any splint you need to support your hand while it heals.

As the swelling settles, you will begin gentle exercises. These keep your joints flexible and reduce stiffness. You will move your fingers and wrist within comfort limits. We encourage you to use your hand for light daily tasks as soon as your surgeon clears you. This includes eating, writing, and dressing. Avoid heavy lifting or forceful gripping until your therapist says it is safe. Sleep with your arm supported on a pillow to keep swelling down.

Recovery varies between individuals. Your timeline may differ; your surgeon and hand therapist will guide you based on how your healing progresses. If you have questions about driving, please refer to our guide on driving after upper-limb surgery. We are here to support you through every step of your return to normal activities.

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.

Surgery for pronator syndrome involves releasing a muscle called the pronator teres. This approach requires deeper access and more complex skill than some alternatives. Because the procedure is more invasive, you may notice increased swelling or discomfort in the upper arm or forearm during your recovery. If pain becomes severe or does not ease with prescribed medication, contact our clinic for advice.

A potential outcome of this specific surgery is a loss of pronation function. Pronation is the movement that turns your palm downwards or inwards. You might find it difficult to turn a doorknob, use a screwdriver, or pour from a jug. If you notice a significant change in your ability to rotate your forearm, discuss this with your surgeon at your follow-up appointment.

Sometimes, the surgery does not fully relieve symptoms. This can happen if the nerve was not fully freed or if the original diagnosis was incorrect. You might continue to feel tingling, numbness, or weakness in your hand and fingers after the operation. If your symptoms persist or return, bring this up at your next review so we can assess whether further treatment is needed.

In rare cases, nerve issues can arise from other injuries or procedures. For example, a broken bone near the elbow in children can sometimes stretch or bruise the nerve that controls finger movement. You might notice an inability to make a firm 'OK' sign with your thumb and index finger. Similarly, using a sling for a shoulder joint injury or undergoing shoulder surgery can occasionally lead to nerve symptoms in the forearm. If you experience sudden weakness or numbness in your hand after any recent injury or procedure, seek medical attention promptly.

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

When to call us

Call us if you have 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 for loss of sensation or inability to move your limb. These signs need urgent assessment to ensure your recovery stays on track.