



DR VANESSA SAMMONS

NEUROSURGEON



Guide to
RADIAL NERVE PALSY

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KEY FACTS

- Radial Nerve Palsy is a treatable condition caused by pressure on a nerve that travels from your armpit down the back of the arm to the hand
- It can be caused by trauma to the arm, underlying medical causes, ongoing constriction of the wrist, and long-term pressure on the nerve
- Symptoms include pain, numbness, difficulty straightening the arm at the elbow, problems bending the hand back at the wrist as well as straightening the fingers

WHAT IS THE RADIAL NERVE?

The radial nerve travels down your arm. It controls movement of the triceps muscle and allows the wrist and fingers to extend. The radial nerve also controls sensation in part of the hand. Because of its location close to the bone in the upper arm, it's vulnerable to injury, especially following trauma.

WHAT IS RADIAL NERVE PALSY?

Radial nerve palsy is a condition that affects the radial nerve in the arm. If damage occurs, weakness, numbness and an inability to control the muscles served by the radial nerve may result.

WHAT ARE THE SYMPTOMS OF RADIAL NERVE PALSY?

Radial nerve palsy (RNP) is a type of mononeuropathy, the medical term for damage to a single nerve. When the nerve covering (myelin sheath) or the nerve itself is damaged, signals to the arm and hand may be slowed or blocked completely. This can lead to:

- Weakness straightening fingers
- Difficulty bending the hand back at the wrist
- Difficulty straightening the arm at the elbow
- Loss of hand coordination
- Pain, decreased sensation, tingling, burning, or numbness in areas of the arm and hand controlled by the nerve

WHAT CAUSES RADIAL NERVE PALSY?

Radial nerve palsy and its associated symptoms are caused by:

- Broken arm bone or other trauma that injures the nerve
- Underlying medical issues such as diabetes
- Repeated pressure on the nerve
- Poor sleep habits that place pressure on the upper arm
- Misuse of crutches

WHEN SHOULD I CONSULT A DOCTOR?

If you suspect that you are experiencing symptoms of radial nerve palsy, get in touch with your doctor immediately. Early diagnosis of any nerve condition is helpful to achieving an optimal outcome. With radial nerve palsy, early diagnosis may help you avoid surgery or at least achieve as much functional recovery as possible.

HOW IS RADIAL NERVE PALSY DIAGNOSED?

A discussion of your medical history and symptoms and a physical examination are the first steps in diagnosing the problem. Additional diagnostics may be needed which may include:

- **Imaging tests** provide a view of the radial nerve and nearby arm structures
- **Electromyography (EMG)** enables assessment of the health of the radial nerve and the muscles under its control
- **Nerve conduction tests** identify whether nerve signals are traveling at normal speed

HOW IS RADIAL NERVE PALSY TREATED?

The goal of treatment is to restore full, pain-free use of the hand and arm. For some individuals, an injury may be short-lived and resolve itself without treatment. Many patients require some degree of intervention from treatments including:

- **Elbow pad** – Protective, padded elbow pads protect the arm from further injury
- **Medical injections** – Corticosteroid injections can reduce swelling and pressure on the nerve
- **Pain medication** – Over-the-counter and prescription medications can help alleviate discomfort as the nerve heals
- **Physical therapy** – Exercises for the arm, wrist, and hand can help restore and maintain muscle strength
- **Splinting** – Splinting at the elbow or wrist serves two purposes: It relieves painful symptoms and helps prevent further injury

Your doctor will monitor your progress using these therapies. If conservative treatment options fail to resolve the symptoms within a certain time, radial nerve decompression surgery may be needed. “Surgery has been reported to have completely diminished the symptoms in 67% to 93% of patients,” write authors of the study *Radial Tunnel Syndrome, Diagnostic and Treatment Dilemma*.

Nerve decompression surgery is performed under general anaesthesia. Special techniques allow the surgeon to check nerve responses during the procedure. An incision is made near the site of the problem to expose the radial nerve and allow the identification of areas of compression. The surgeon creates more room for the nerve to pass through the region where there is compression.

WHAT CAN I EXPECT AFTER RADIAL NERVE DECOMPRESSION SURGERY?

When your surgery is complete, you will be taken to a recovery room and monitored for one to two hours. Your forearm will be wrapped in a soft, bulky dressing. Pain, swelling, and stiffness are to be expected, but are treatable. You do not need to experience a lot of discomfort after surgery.

Most patients are able to return home the same day, accompanied by a family member or friend. Your doctor will give you a set of guidelines to follow when you're at home.

ARE THERE RISKS TO RADIAL NERVE DECOMPRESSION SURGERY?

All surgical procedures carry some risk, as does general anaesthesia. Most procedures go very well and without complication, but very rarely, during surgery for radial nerve palsy, the nerve can be injured. This can lead to:

- Hand weakness
- Loss of feeling in part of the hand
- Partial loss of wrist or hand movement

The risks of having surgery must be weighed against the risk of radial nerve injury itself leading to irreversible damage.

WHAT SHOULD I DO AFTER SURGERY?

Self-care is a key factor after any successful surgery. When you return home, you should rest, refrain from normal activities, and allow your arm to heal. After 1 week, your home therapy can include:

- Gentle exercises (approved by your doctor)
- Massage
- Stretching

After 6 weeks, you may do exercises that:

- Strengthen the elbow
- Strengthen the wrist
- Improve fine motor skills

Full recovery after radial nerve decompression surgery usually takes between 6 and 12 months.

SHOULD I FOLLOW UP WITH DR SAMMONS AFTER SURGERY?

Yes. Dr Sammons will want to see you for at least one follow-up visit a week after your surgery. A practice nurse will contact you during the week following your surgery to schedule your next visit. If any questions arise prior to your follow-up, Dr Sammons is happy to talk and meet with you earlier to address them.

DOES RADIAL NERVE PALSY COME BACK?

The outlook is positive for people suffering from radial nerve palsy. “All patients presenting with or developing radial nerve palsy in our study recovered. No patient required further surgery for radial nerve palsy,” report researchers in a 2019 article for the Journal of Orthopaedics and Traumatology.

Please call our rooms if you have any additional concerns or questions.



Hello!

I'm a Neurosurgeon at North Shore Private Hospital, Gosford Private Hospital, Brisbane Waters Private Hospital and the Sydney Adventist Hospital. I treat all neurosurgical conditions, but with a particular interest in Peripheral Nerve Surgery. I pride myself on providing personalised and thoughtful patient care and utilising my skills to achieve the best outcome possible.

I believe that a great neurosurgeon will ensure you feel listened to, will ensure that you understand what your surgery involves, and should also work together with your GP to achieve the best outcome for you.

Dr Vanessa

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