DR VANESSA SAMMONS

NEUROSURGEON

Guide to

CERVICAL SPINE

Spinal Cord Compression

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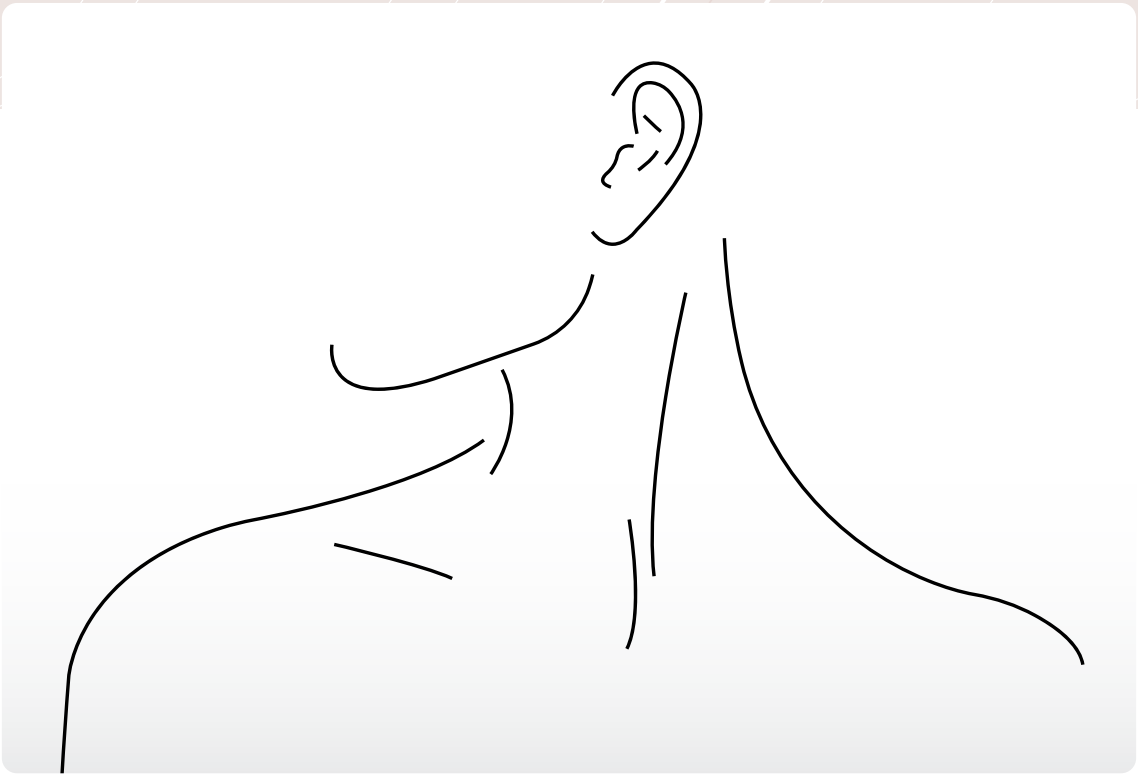

KEY FACTS

- The cervical spine is a portion of the spinal column in the neck region
- Cervical myelopathy is compression of the spinal cord from arthritic changes in the cervical spine
- Symptoms include pain in the neck or arm, numbness in the hands, loss of coordination, and difficulty or incoordination when walking
- Surgery is usually indicated to decompress the spinal cord and prevent progression of symptoms
- Recovery is gradual and it may take up to a year to recover fully

WHAT IS THE CERVICAL SPINE?

The phrase ‘cervical spine’ refers to a well-engineered construction of bones, nerves, muscles, ligaments, and tendons found in the neck. It is comprised of seven specific bones (vertebrae) as well as intervertebral discs that separate them.

The structure protects the spinal cord and its vital function to send messages of movement and sensation from the brain to all points in the body. This portion of the spine also supports the head and facilitates blood flow. Though strong and flexible in many ways, the cervical spine is also delicate and susceptible to damage.

WHAT IS CERVICAL MYELOPATHY?

Like all bones and joints in the body, the cervical spine is susceptible to degenerative changes and arthritis. If the degenerative changes cause narrowing of the canal in the bones where the spinal cord sits, the cord can become compressed and stop functioning properly. This is called cervical myelopathy. Spinal cord compression is very serious and is best diagnosed when symptoms are mild and not catastrophic, disrupting the motor/sensory impulses that control all body functions.

WHAT ARE THE SYMPTOMS OF CERVICAL MYELOPATHY?

Cervical myelopathy can cause partial or complete loss of sensory and/or motor function. Injuries that occur higher on the spine tend to be more severe.

- Neck pain
- Numbness in hands
- Loss of dexterity
- Unsteadiness when walking
- Loss of coordination and muscle tone in the upper body
- Arm pain
- Muscle spasms in the legs

WHAT CAUSES CERVICAL MYELOPATHY?

Cervical myelopathy can be a result of flexion, extension, rotation, and compression of the spinal cord, or it can be caused by slow arthritic changes in the cervical vertebrae. In a paper on cervical injury, authors identified these common reasons for spine injury:

Trauma-Related

- Motor vehicle accidents
- Falls
- Blunt trauma
- Sports-related injuries
- Spinal stenosis

Non-Trauma Related

- Compression fractures from arthritis, osteoporosis, or cancer
- A congenitally narrow spinal canal
- Various bone conditions (ankylosing spondylitis, for example)

Neck injuries are more common in men than women. The majority of injuries occur between the ages of 15 and 30, and after the age of 65.

WHEN SHOULD I CONSULT A DOCTOR?

Your doctor is your first line of defence against long-term problems due to cervical myelopathy. Consult a neurosurgeon if you are experiencing:

- Neck pain after an injury
- You can't touch your chin to your chest due to neck stiffness
- You have progressive numbness or weakness in your arms and or legs
- Your walking is becoming more difficult, slower and less steady
- Pain you experience is persistent

If you experience sudden onset of weakness, please seek medical attention at an emergency room.

HOW IS CERVICAL MYELOPATHY DIAGNOSED?

The diagnosis of cervical myelopathy is made by a neurosurgeon. The diagnosis is based upon symptoms, medical history, and a physical examination and as-needed tests such as:

- **MRI** – provides an enhanced view of body structures, including the spinal cord
- **CT Scan** – provides information about bone abnormalities
- **X-rays** – to analyse spinal alignment, disc degeneration, arthritis
- **Nerve Conduction Studies** – to assess nerve damage

An accurate and comprehensive view of the injury is provided by these easy-to-tolerate diagnostics. The results form the basis for determining which treatments will provide optimal healing.

HOW IS CERVICAL MYELOPATHY TREATED?

Neck pain unrelated to trauma (i.e., disc herniation) may resolve symptoms with medication, rest, and physical therapy. In some instances, an injection of corticosteroids may be used to temporarily relieve pain. If the spinal cord is compressed and there are symptoms, surgery is usually indicated.

WHAT IS CERVICAL SPINE SURGERY?

Several different surgical procedures are utilised in the treatment of a spinal cord injury. Despite their differences, they all:

- Decompress the spinal cord and/or nerves
- Stabilise or improve spinal stability
- Stabilise or correct spinal alignment

In addition to determining the appropriate surgical procedure, your neurosurgeon will also determine whether spinal fusion is also indicated. In spinal fusion, two or more vertebrae are connected via various devices such as screws, cages and/or plates. This works to provide stability in the cervical spine and strengthen it to alleviate further pain.

Some of the surgeries commonly recommended addressing cervical myelopathy (severe compression of the spinal cord) are:

- **Cervical Laminectomy** – a section of the bony roof of the spine (the lamina) is accessed through an incision at the back of the neck and is then removed to create more space for the spinal cord and nerves.
- **Cervical Laminectomy and Lateral Mass Fusion** – A small incision in the middle of the back of the neck is used to remove bone as above, however, to maintain alignment and stability, screws and rods are inserted into the bones.
- **Anterior Cervical Discectomy and Fusion** – the cervical spine is accessed through a small incision on the front of the neck, allowing removal of the disc and/or bone spurs that are causing nerve and spinal cord compression.

WHAT CAN I EXPECT AFTER SURGERY FOR CERVICAL MYELOPATHY?

When your surgery is complete, you will be taken to an observation room so that you may be monitored. When appropriate, you will be taken to your hospital room to continue your recovery. Most patients spend one night in Intensive Care as a precaution and then one or two more nights on the surgical ward. When appropriate, you will be released with instructions for home care and follow-up.

DO I FOLLOW-UP WITH DR SAMMONS?

Yes. Dr Sammons will follow up with you while you are in hospital. At that time, Dr Sammons will examine you and talk about your pain levels, make a determination on when you should return to work, whether you need rehab, and answer your questions. She may recommend x-rays or a CT scan to assess spinal alignment and monitor spine function. After you are released, you will be contacted by a practice nurse to set up your next visit.

WHAT IS THE PROGNOSIS AFTER CERVICAL SPINE SURGERY?

The prognosis following spinal surgery is variable, depending in large part on the severity of the injury to the spinal cord. Some procedures have been shown to provide relief in more than 80% of patients. On the opposite end, some cervical spine injuries are permanent, even with surgical intervention. The vast majority of patients make a good recovery and are functionally better than before surgery.

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

MBBS (Hons) MPhil FRACS (Neurosurgery)

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