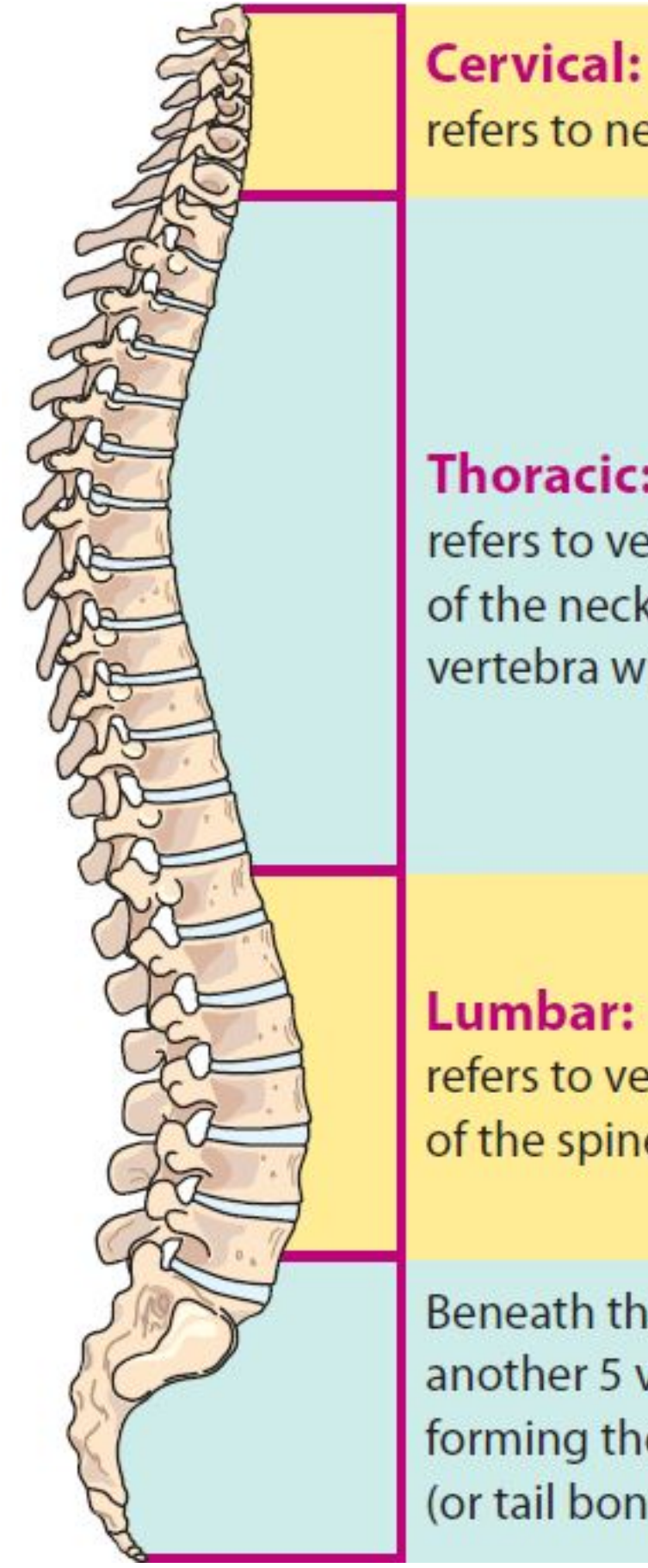
Single Level Spinal Instrumentation Surgery factsheet

Introduction

The spine is made up of 33 small bones called vertebra, they are stacked on top of each other in an ‘S’ shape. Not all spines are the same ‘S’ shape but they are usually curved at the neck and lowest part of the back. This shape should be kept in mind when you move to maintain the natural curves in your back. Each of the vertebra has a disc in between them which acts like a shock absorber. Spinal nerves pass between each vertebra next to the disc and travel to the arms and legs. These nerves allow us to move our muscles and feel things in different parts of our body. The muscles in the back support the vertebrae and the discs.

The lumbar region of the spine bears the most weight of the body. It is capable of bending and twisting more than any other part. This can lead to



excess wear and tear and is therefore more prone to degeneration.

What is a disc?

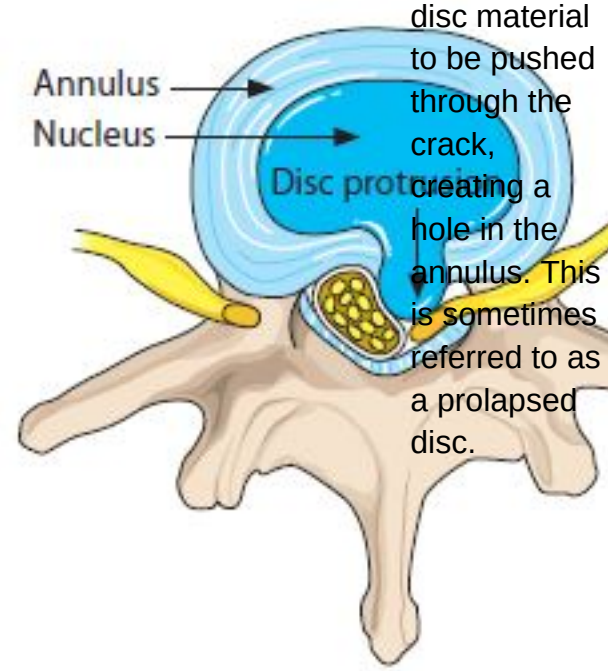
What has happened to my disc and spine?

Disc degeneration

Stenosis

Spondylolisthesis

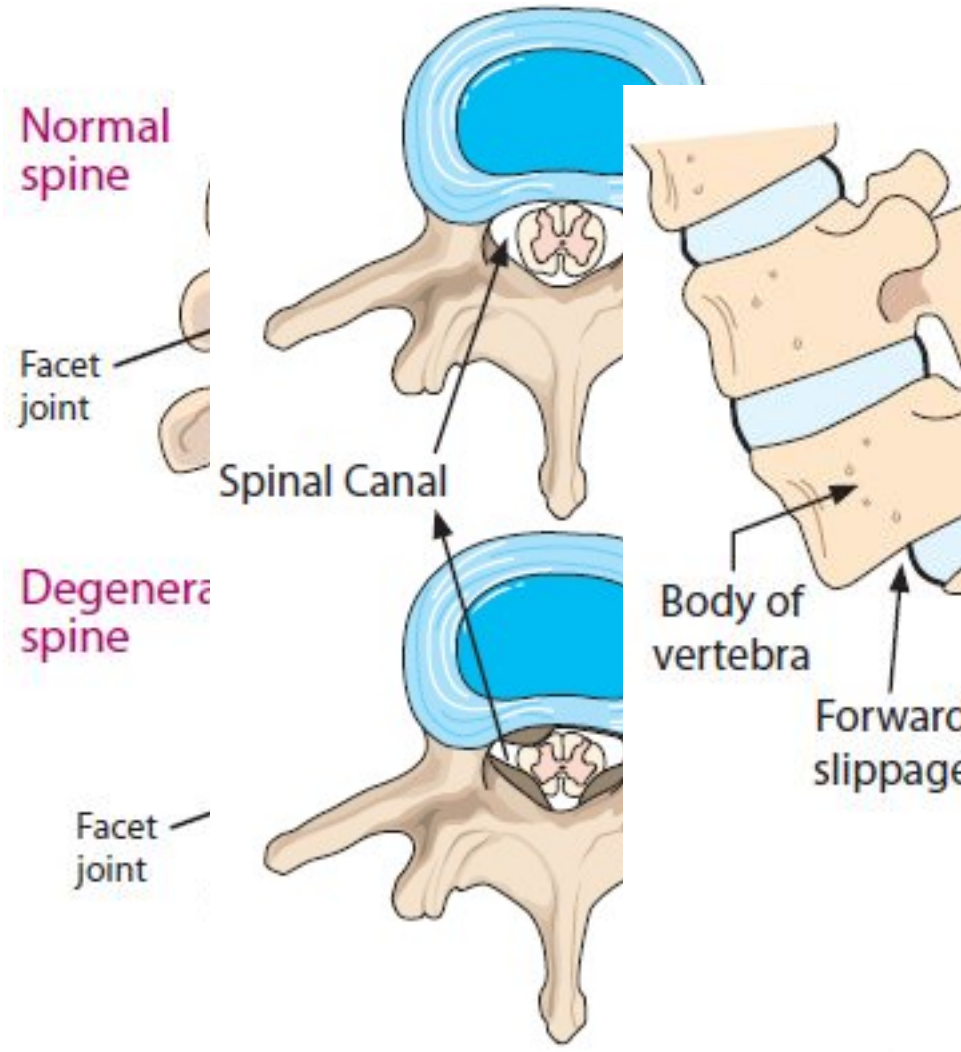
Discs are tough yet flexible and allow the spine to bend and twist. Discs have a central part filled with a rubbery substance called the nucleus. The outside wall is called the annulus which is made from tough and flexible fibres.



Disc degeneration is due to the aging process. Cracks can occur in the annulus and the nucleus dehydrates. Continuous mechanical strain on the disc causes fragments of degenerate disc material to be pushed through the crack, creating a hole in the annulus. This is sometimes referred to as a prolapsed disc.

Spinal stenosis is when the spinal canal, through which with spinal cord runs, is too narrow and the spinal cord / nerves become compressed in the narrowed space. This can be due to congenital narrowing or degenerative changes. This causes the spinal nerves in the back to be irritated or trapped. This can be due to extra bony growths (osteophytes) pressing on nerves.

This is a forward slip of one of the bones of the spinal column on another. This can occur due to a developmental condition, degeneration changes or trauma. It can cause narrowing of the spinal canal in which the spinal cord runs and as a result can put pressure on the nerves.



What happens during surgery?

Spinal fusion is a surgical technique to stabilise the vertebra and the disc between the vertebrae.

Spinal fusion surgery is designed to create solid bone between the adjoining vertebrae thus eliminating any movement between the bones.

Metal implants are attached to the spine and then connected to rods. The metalwork is used to hold the spine in the correct position until the spinal segments fuse together.

Bone grafts are placed along the length of the corrected

Drains will be inserted during surgery to drain any excess blood that may collect following the operation.

Drains will be removed 24-48 hours post operatively.

At the time of the fusion surgery and for the first six months after surgery, the instrumentation provides the stability for that section of the spine.

Over the long term, a solid fusion of bone that has healed together provides the stability.

spine. The bone graft does not form a fusion at the time of the surgery. Instead, the bone graft provides the foundation and environment to allow the body to grow new bone and fuse a section of the spine together.

Possible complications:

What to expect after the surgery

•No improvement in your back and leg pain (or worse pain).
• Infection - Signs of infection may be discharge from the wound or any swelling, redness or heat from the wound.
• Nerve damage – this is damage to the nerves in your back which can result in altered sensations to your legs, pins and needles, weakness including foot drop, loss of control to your bowel or bladder. These

• Non-union – this is when the bone does not fuse as planned. This is only determined when reviewed in clinic as the development of the bony bridge between vertebrae occurs over weeks and months. The risk is higher for patients who smoke, are obese or have been treated with radiation for cancer. It is important that you stop smoking prior to your surgery. Smoking, and the use of nicotine containing products, has been

You may experience discomfort in your back and hips as a consequence of spending time in one position during your operation. This should resolve over time, usually within 3-6 months. It is normal to be in some discomfort but let the nurse know if your pain stops you from doing normal activities such as eating, sleeping, walking and going to the toilet. Following your surgery a nurse and physiothera

If you experience any of the following symptoms you should see a Doctor immediately :
• Numbness around your back passage and genital region.
• New onset of bladder or bowel incontinence.
• New numbness, pins and needles or weakness in both legs. Following your surgery, you should avoid excessive bending, twisting and lifting and use a common sense

changes can be temporary or permanent.
• Bleeding or haematoma - collection of blood.
• Dural tears or leaks – this is when the membrane covering the spinal cord (the dura) is damaged during surgery. This may lead to nausea and headaches after surgery. It is usually treated with bedrest but occasionally may require more surgery.

shown to be detrimental to the healing of the bone and therefore can affect the fusion of the spine.
After spinal fixation surgery it takes about three months for the vertebrae to begin to fuse, although 1-2 years are required before fusion is complete.
We recommend that you have a BMI of less than 30 prior to your surgery.

pist will assist you to get out of bed and walk to the bathroom. The nursing staff will monitor your wound; you are advised not to shower for the first 10 days until the wound dressing is removed. You will be assessed by a physiotherapist and in some instances may be referred to an occupational therapist. You will receive your post op clinic appointments through the post following your

approach.
Advice for the following 3 months:
• Avoid excessive bending
• Avoid heavy lifting and twisting and use a common sense approach.
• You should not lift anything heavy for a period of 3 months.
• It is advised that you should not lift anything heavier than a full kettle of water.

discharge.

Post-operative advice and exercises

Please see post-op advice booklet (in PDF format bellow) for specific post-operative advice on posture, getting in and out of bed, personal care, domestic activities, travelling / driving, returning to work and returning to exercise / leisure activities.

Click image to view or download Post-op booklet