



# POSTERIOR CERVICAL FUSION

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# Posterior Cervical Fusion

## Patient Information

This brochure will help you understand more about:

- } **Anatomy of the spine**
- } **Common conditions of the cervical spine**
- } **Posterior cervical fusion surgery**

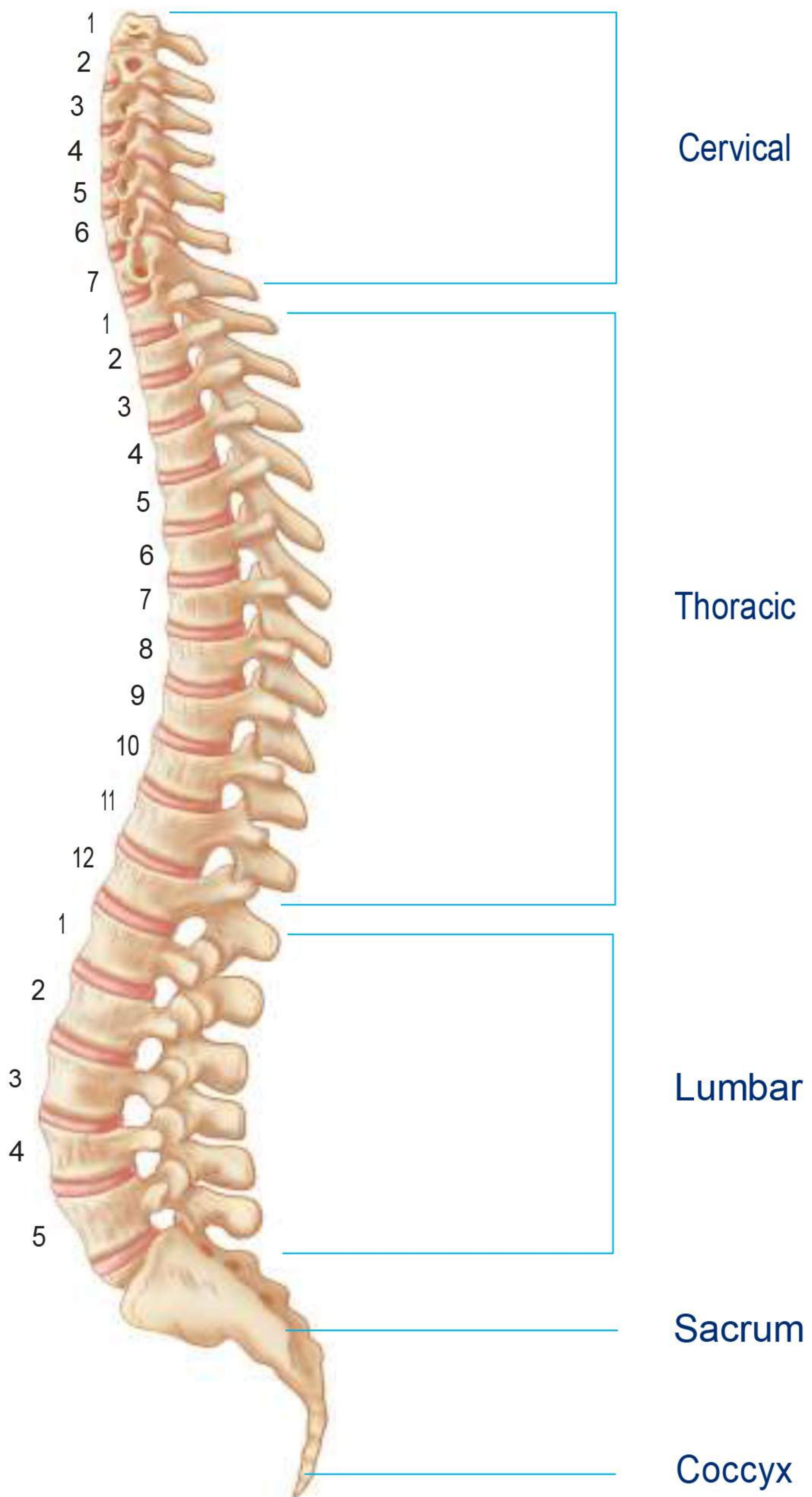
The decision to receive medical treatment is individualized to the patient and the patient's symptoms. The information presented within this brochure may not apply to your condition, treatment, or its outcome, as surgical techniques vary and complications can occur. It is important to discuss the viability of posterior cervical fusion with your physician to decide whether this treatment option is right for you.

This brochure is intended to be an educational resource only and is not meant to replace a conversation between a patient and their physician or member of their healthcare team. Please consult your physician for a complete list of indications, precautions, clinical results, and other important medical information that relates to this procedure.



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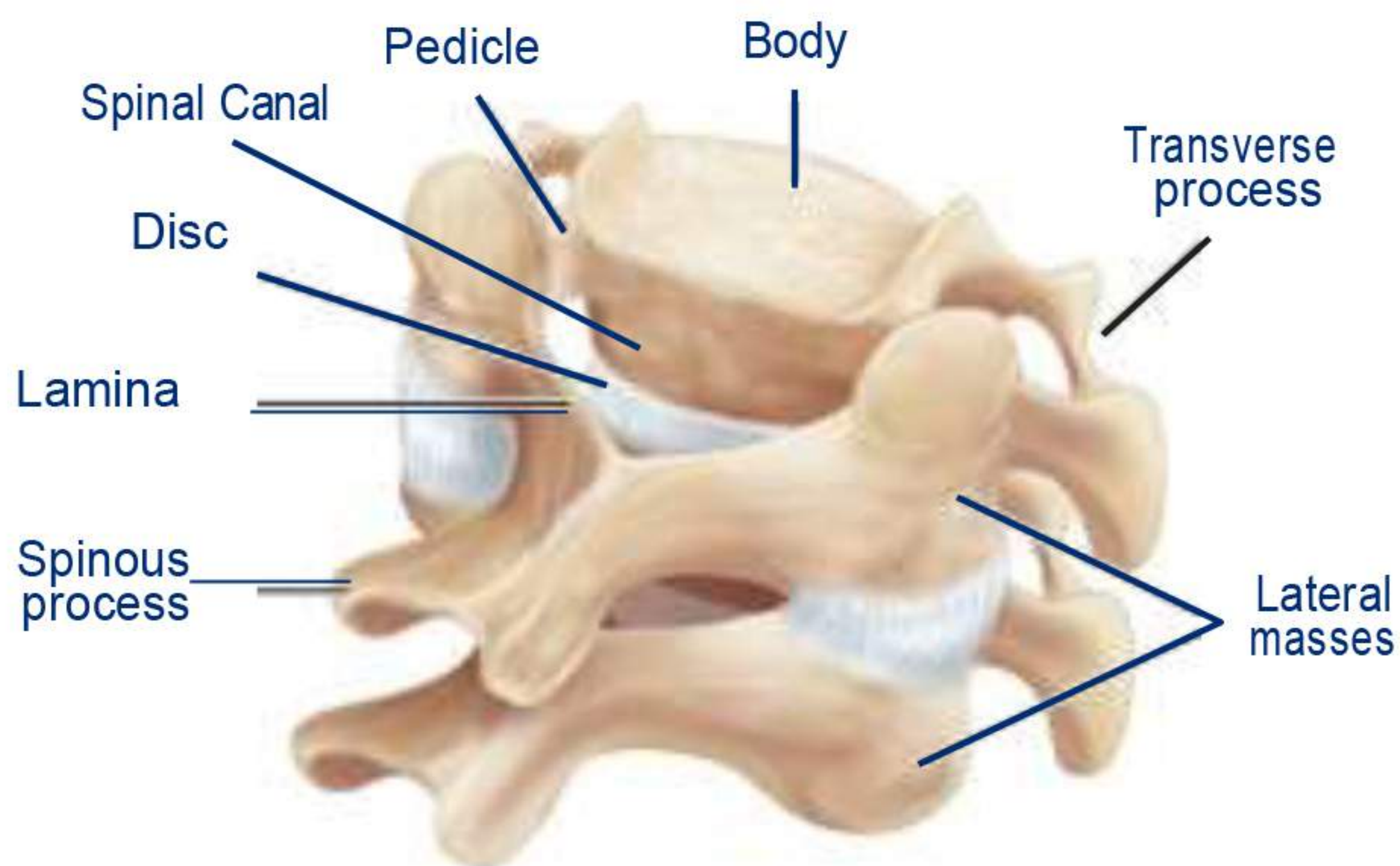
# Spine Anatomy

The spine is composed of vertebrae divided into three main parts:

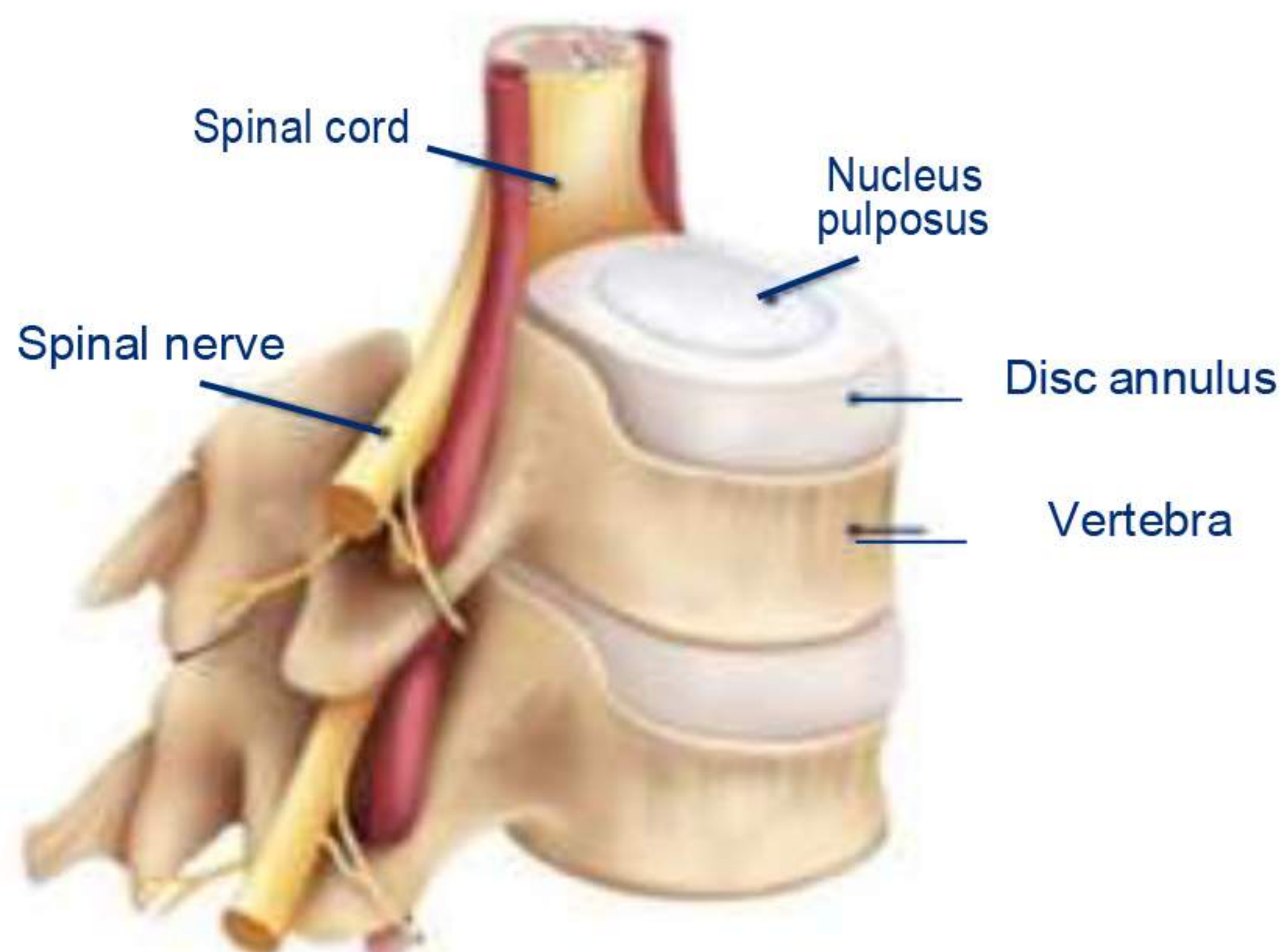
- } Cervical (7 vertebrae)
- } Thoracic (12 vertebrae)
- } Lumbar (5 vertebrae)

The spine supports the weight of the upper body and provide points of attachment for muscles and ligaments. It also protects the spinal canal, the cavity that runs through each vertebra and contains the spinal cord.

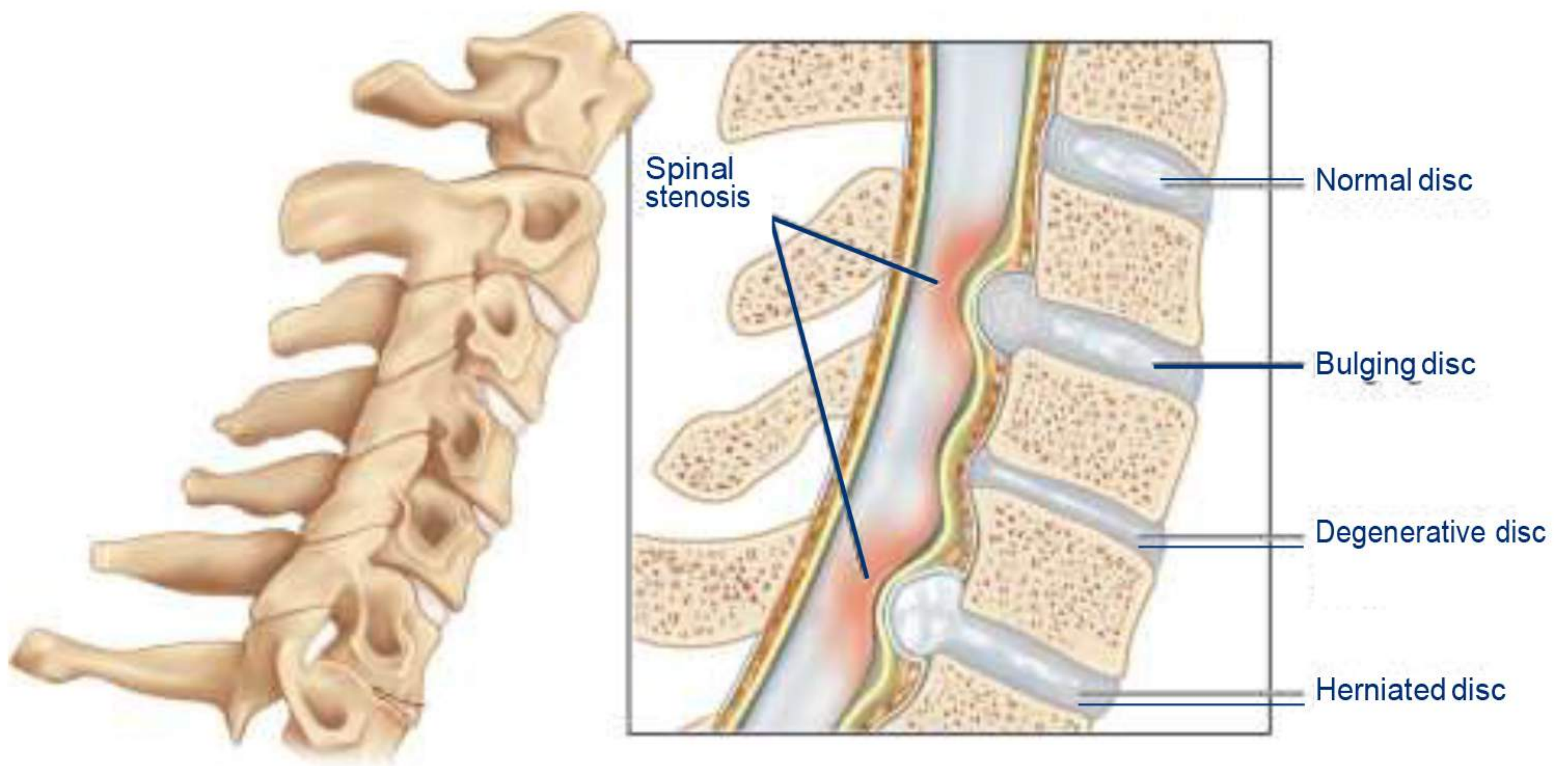
The individual vertebra are separated by intervertebral discs that act as cushions or shock absorbers between the vertebral bodies.



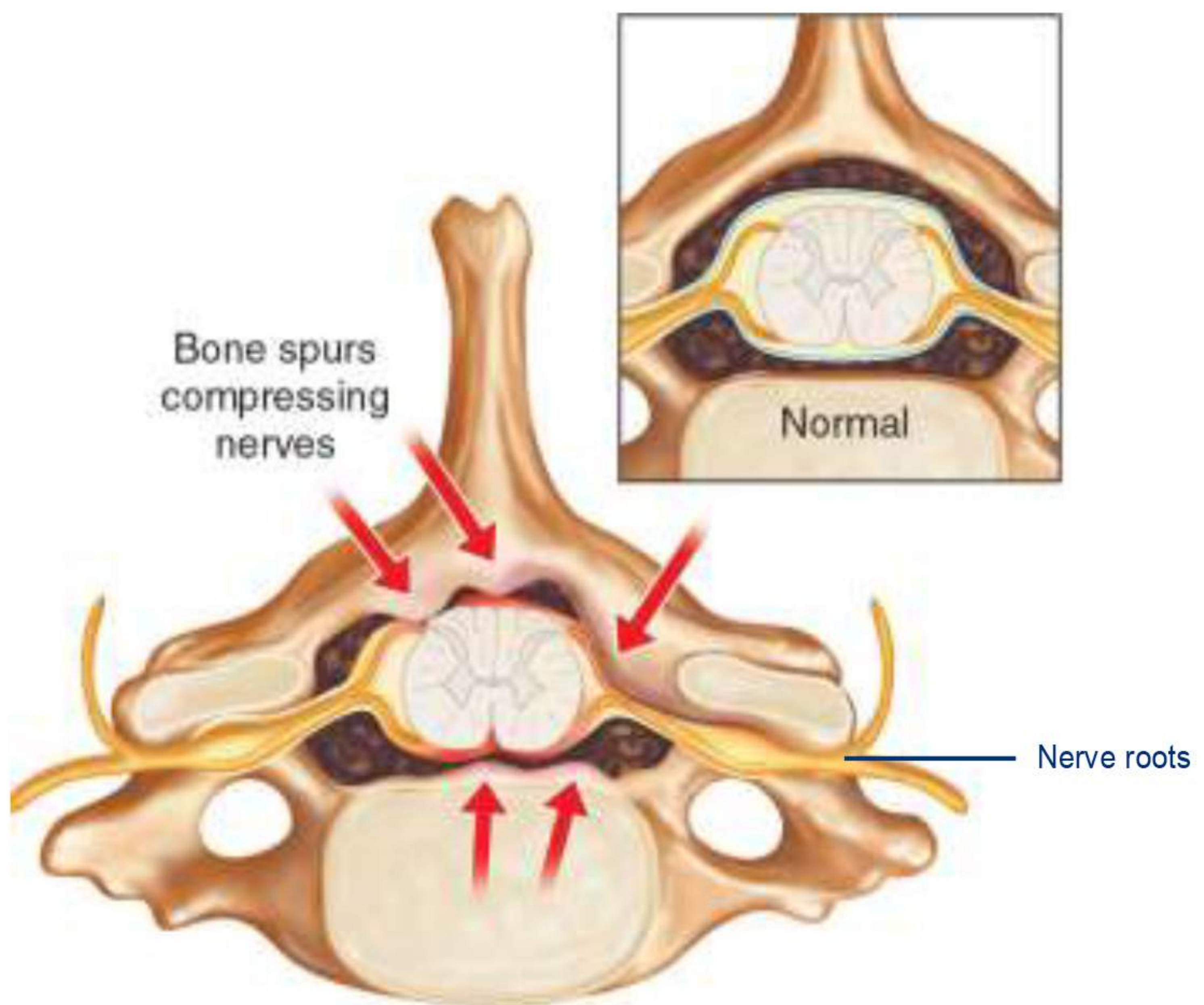
**Posterior (back) view of cervical spine**



**Anterior (front) view of cervical spine**



**Narrowing of cervical spine canal due to disc herniation (spinal stenosis)**



**Narrowing of cervical spine canal due to osteophyte (bone spur)**

# Common Conditions of the Cervical Spine

In the normal spine, discs act as a cushion between vertebrae. Age, genetics, injury, and daily wear and tear can contribute to damage and deterioration in your spine.

## ***Degenerative Disc Disease (DDD)***

Overtime discs can lose flexibility, elasticity, shock absorbancy, and height resulting in degenerative disc disease. This can lead to abnormal motion or alignment and instability of the spine.

## ***Herniated Disc***

Degeneration can cause cracks and tears in the outer layer of the disc where material inside the disc can be forced out, causing the disc to bulge or herniate (protrusion), break open (extrusion), or break into pieces (sequestration), putting pressure on a nerve root or the spinal cord.

## ***Spinal Stenosis***

Spinal stenosis results from the narrowing of areas in the spine where nerve roots and spinal cord travel.

Symptoms can include:

- } Loss of motion or dexterity
- } Tingling or numbness in the arm or hand
- } Radiating pain
- } Weakness and/or numbness in your shoulders, arms and neck

## ***Treatments***

These symptoms may be treated with non-surgical methods for as long as possible. Treatments include rest, ice or heat, weight control, exercise, physical therapy, epidural injections for pain management, and medication.

If non-surgical treatments do not bring relief after a period of time, surgical treatment may be recommended to relieve pressure on the nerves by opening the space between the vertebrae.

# What is Posterior Cervical Fusion?

The goal of posterior cervical fusion is to relieve pressure on the spinal cord and the nerve roots, often by removing some or all of the bone causing compression. The spine is stabilized by fusing the vertebrae together to prevent motion.



## How is Posterior Cervical Fusion Performed?

During surgery, the patient lies face down. A vertical incision is made in the posterior (back) of the neck, usually along the midline (middle of the neck). The incision size depends on the number of vertebrae being fused.

The soft tissues and muscles of the neck are gently separated and lifted off the spine to access to the surgical site.



Surgical instruments are used to remove all or part of the bone surrounding the spinal canal and decompress (relieve pressure on) the nerve structures. This may include the removal of the lamina (a thin part of the bone that encloses the back of the spinal canal) as well as the removal of bone spurs where nerve roots exit the spinal canal, depending on the site of the compression.



# Screw and Rod Fixation

Screws and rods are used to hold the spinal column in place while fusion occurs. The surgeon uses medical imaging to determine the screw location. The screws are inserted into the left and right sides of the vertebrae to be fused. A rod connects the screws to stabilize the spine on each side. Caps secure each rod to the screws. Bone graft may be added along the side of the vertebrae to help with fusion. Bone graft may be harvested from the patient's own bone or may come from a donor. Once the surgery is complete, the surgeon closes the incision and moves the patient into recovery.



Over time, the vertebrae can grow together through fusion. Complete fusion varies among patients and can take a few months to a couple of years.

# Frequently Asked Questions



## Q. What Can I Expect from Surgery?

**A.** Treatment with posterior cervical fusion may help you return to normal activities. Between two to four weeks after surgery, patients may notice improvement of some or all symptoms and reduced post-operative pain. Recovery time varies between patients.

It is the surgeon's goal for the patient to eventually return to his/her preoperative activities. A positive attitude, reasonable expectations, and compliance with your doctor's post-surgical instructions may all contribute to a satisfactory outcome.

## Q. When Will I Be Able to Return to Work?

**A.** The amount of recovery time needed prior to returning to work varies depending on the surgery, your job, and you as an individual. Please consult your surgeon for an individual recommendation.

## Q. How Long Will I Have Restricted Activities?

**A.** As with any surgery, return to normal activities is different for every patient. Your surgeon may provide a list of activities you should avoid during the first six weeks after surgery.

# Important Information

Please discuss with your doctor to determine if posterior cervical fusion is right for you. If you are currently under a doctor's care for certain conditions, this procedure may not be suitable.

Following any surgical procedure, complications may occur. Complications may include but are not limited to early or late implant bending, failure, loosening, movement/migration, bone fracture, and allergic reaction to implant material.

Other general complications associated with any spinal procedure include pseudarthrosis (failed spinal fusion), pain, second surgery, bleeding, early or late infection, spinal cord and/or nerve damage, incisional complication, scar formation, blood vessel damage, cardiovascular system compromise, respiratory problems, complications due to bone grafting, reactions to anesthesia, impotence, sexual dysfunction, paralysis, and death.

*This list does not include all possible contraindications, complications, warnings, or precautions. Please consult with your surgeon for additional information on this topic and how it applies to your particular medical condition.*



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