

An introduction to

PCF

Posterior Cervical Fusion

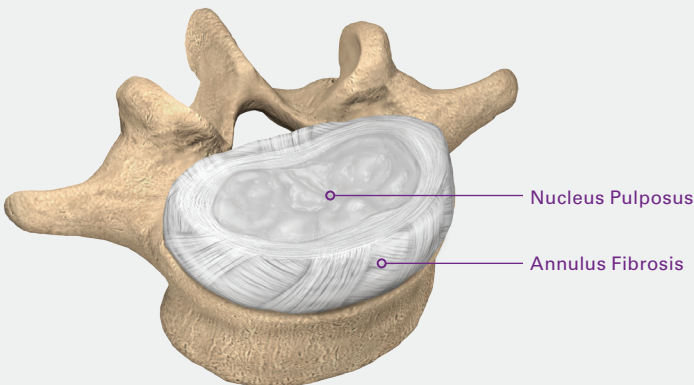
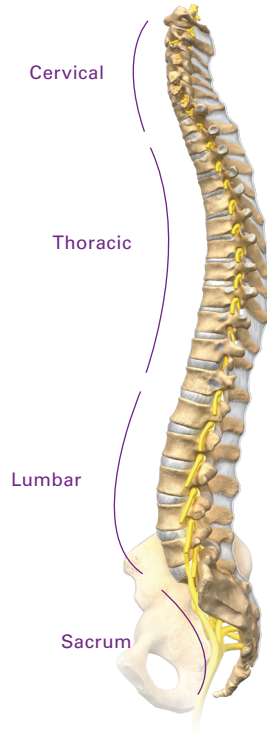
This booklet provides general information on posterior cervical fusion (PCF). It is not meant to replace any personal conversations that you might wish to have with your physician or other member of your healthcare team. Not all the information here will apply to your individual treatment or its outcome.



About the spine

The human spine is made up of 24 bones or vertebrae in the cervical (neck) spine, the thoracic (chest) spine, and the lumbar (lower back) spine, plus the sacral bones.

Vertebrae are connected by several joints, which allow you to bend, twist, and carry loads. The main joint between two vertebrae is called an intervertebral disc. The disc is made of two parts, a tough and fibrous outer layer (annulus fibrosis) and a soft, gelatinous center (nucleus pulposus). These two parts work in conjunction to allow the spine to move, and also provide shock absorption.

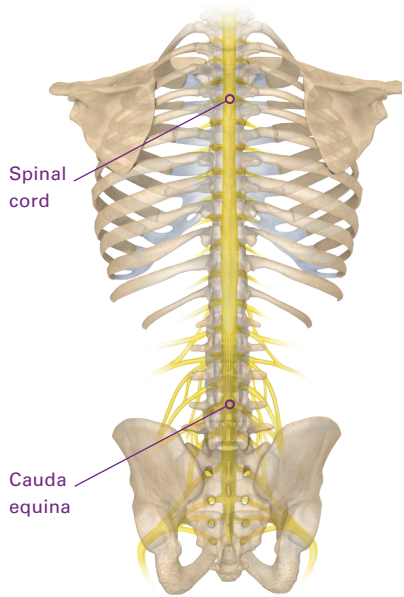


About the spinal cord

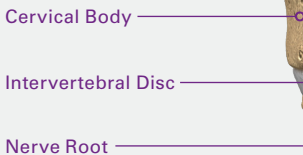
Each vertebra has an opening (vertebral foramen) through which a tubular nervous structure travels. Beginning at the base of the brain to the upper-lumbar spine, this structure is called the spinal cord.

Below the spinal cord, in the lumbar spine, the nerve roots that exit the spinal cord continue to travel through the vertebral foramen as a bundle known as the cauda equina.

At each level of the spine, spinal nerves exit the bony spine then extend throughout the body.



Side view of the cervical spine



What can cause pain?

There are several primary causes of cervical spine problems. The majority of the symptoms are caused by disc, bone, or ligaments pressing onto the nerve roots and/or spinal cord.

Degenerative disc disease (DDD)

During the natural aging process, the discs between each vertebral body can lose their flexibility, height, and elasticity. This can lead to a tear in the tough outer layer of the disc, causing the gelatinous core to bulge or herniate. As DDD advances, osteophytes (or bone spurs) may develop around the discs and joints of the spine.

Nerve compression

Cervical disc bulging or herniation can cause pressure on the nerve roots and/or spinal cord that may lead to symptoms of radiating arm, neck, and shoulder pain, loss of dexterity or motor function, and/or numbness and tingling in the hand or arm.

Spinal cord compression

In some patients, the spinal cord can be compressed by bony osteophytes (spurs), herniated discs, or by other soft tissues such as ligaments. This is often referred to as spinal stenosis, which can lead to symptoms including: radiating arm pain, arm and hand weakness and numbness, loss of dexterity and motor function, gait instability, and neck pain.

Degenerative spondylolisthesis

Degenerative spondylolisthesis is a condition where one vertebra has slipped forward over another one below it. This instability typically occurs as a result of degenerative changes but may also be caused by stress fractures, congenital abnormalities (birth defects), or in rare cases, from a tumor or trauma.

What are treatment options?

Many symptoms can be treated without surgery including rest, heat, ice, medication, injections, and physical therapy. It is important to speak with a physician about the best option.

If symptoms do not improve with conservative treatment, physicians may recommend spinal surgery. Surgery is reserved for those who do not gain relief from nonoperative forms of treatment, patients whose symptoms are increasing or worsening, and/or patients that present with a spinal condition which indicates the need for surgery.

What is a Posterior Cervical Fusion (PCF)?

PCF is the technique of joining the bones of the cervical spine together. Following the procedure, the bones heal into one solid bone through a process called fusion. This creates an internal brace to stabilize the cervical spine. This type of procedure attempts to reduce painful motion and/or spinal cord/nerve compression.

Can a PCF be right for me?

Your physician may determine that the PCF procedure is a good option for you if you require an interbody fusion, are skeletally mature, and have received at least six weeks of nonsurgical treatment.

Conversely, your physician may determine that a PCF procedure is not a good option for you if you are not a good candidate for fusion surgery in general due to other medical conditions. These conditions can be but are not limited to: sensitivity to general anesthesia, inability to tolerate a prone position, inadequate bone quality, as well as other indications.

What to expect

Before surgery

Your physician will review your condition and explain treatment options, including medications, physical therapy, and other surgeries. Should you have any questions regarding the procedure, do not hesitate to ask your surgeon. Your physician will provide thorough preoperative instructions.

During surgery

After you are sedated, positioned face down, and surrounded by the appropriate surgical draping, an X-ray image is taken of your spine to identify the location of the operative levels of your cervical spine.

Step 1: Approach

Your surgeon will make an incision over the treatment area down the midline of the back of the neck.

Step 2: Decompression

Some removal of impinging bone may be performed (laminectomy or facetectomy) if direct spinal cord or nerve root decompression is necessary.

Step 3: Implant

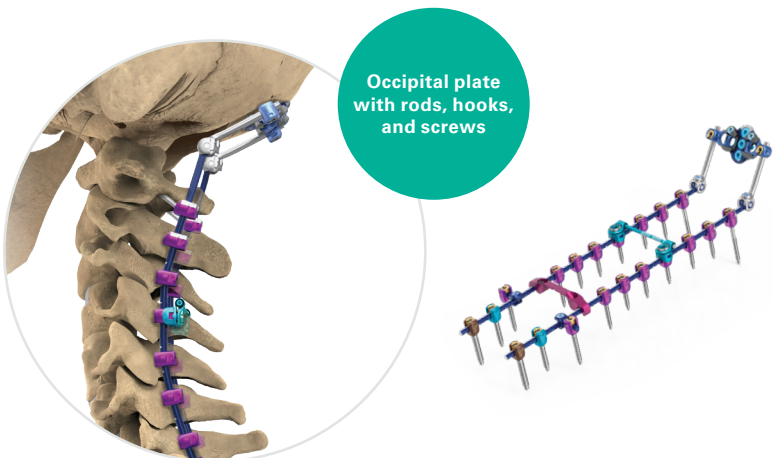
Instrumentation is inserted to provide stabilization at the treated levels. Rod systems with hooks and screws are the most common instrumentation used in this surgery. Rods will be contoured and inserted to fit the space. The rods will be secured in place with locking screws.

Step 4: Fusion

Once the instrumentation has been secured in place, bone graft material is implanted to help promote fusion.

What implants are used?

Below are some examples of the implants that may be used during your PCF procedure:



After surgery

After surgery you will wake up in the recovery room, where your vital signs will be monitored and your immediate postoperative condition will be carefully observed. Once the medical staff feels that you are doing well, you will be returned to your room in the hospital.

Your physician will determine the best postoperative course for you. This will include use of a neck brace, any medications to take home, as well as a prescribed program of activities. Your physician will provide instructions on wound care, exercises, and limitations to postoperative activity.

What are the potential risks of a PCF procedure?

Keep in mind that all surgery presents risks and complications that are important to discuss with your surgeon prior to your surgery. Listening to your physician's guidance, both before and after surgery, will help your recovery.

Potential risks following a PCF procedure include:

- Axial neck pain
- Morbidity (incidence of disease)
- Stiffness
- Loss of range of motion
- Paralysis
- Bleeding requiring a blood transfusion
- Failure of the fusion
- Failure of the instrumentation
- Nerve root injury
- Dural tears

This is not intended to be a complete list of the possible complications. Please contact your physician to discuss all potential risks.

Frequently asked questions

Can I shower after surgery?

Depending on your surgical incision, you may have showering restrictions. Ask your physician for appropriate instructions.

Will I have a scar?

Your physician will discuss the incisions that will be made during a PCF surgery.

When can I drive?

For a period of time after your surgery, you may be cautioned about activities such as driving. Your physician will tell you when you may drive again.

Can I travel?

The implants used in a PCF procedure may activate a metal detector. Because of increased airport security measures, please call your local airport authority before traveling to get information that might help you pass through security more quickly and easily. Ask your physician to provide a patient identification card.

Notes

Resources

For more information about PCF, please visit:

[nuvasive.com](https://www.nuvasive.com)

If you would like to learn more about patient support and education for chronic back, leg, and neck pain sufferers and their loved ones, please visit:

[thebetterwayback.org](https://www.thebetterwayback.org)

If you have any questions about PCF or spine surgery, please call or visit your physician, who is the only one qualified to diagnose and treat your spinal condition. This patient information brochure is not a replacement for professional medical advice.

About **The Better Way Back**[®]

The Better Way Back is a nationwide patient support program created by NuVasive[®], a leader in developing minimally invasive, procedurally-integrated spine solutions. The Better Way Back is a free community built on the power of empathy, and is dedicated to providing hope, support, and information to individuals suffering from chronic back, leg, or neck pain.

Through its Patient Ambassador Program, The Better Way Back pairs patients considering spine surgery with patients who have previously undergone a spine procedure. Ambassadors volunteer their time to discuss their experiences in order to provide additional, first-hand perspectives.

To learn more about The Better Way Back, please



call **1-800-745-7099**



visit **thebetterwayback.org**



text "TBWB" to **858-360-8292**

PCF

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