Spinal fusion is surgery to permanently join together two or more bones in the spine so there is no movement between them. These bones are called vertebrae.

Description

You will be asleep and feel no pain (general anesthesia).

The doctor will make a surgical cut (incision) to view the spine. Other surgery, such as a diskectomy, laminectomy, or a foraminotomy, is almost always done first. Spinal fusion may be done:

- On your back or neck over the spine. You will be lying face down. Muscles and tissue will be separated to expose the spine.
- On your side, if you are having surgery on your lower back. The surgeon will use tools called retractors to gently separate, hold the soft tissues and blood vessels apart, and have room to work.
- With a cut on the front of the neck, toward the side.

The surgeon will use a graft (such as bone) to hold (or fuse) the bones together permanently. There are several ways of fusing vertebrae together:

- Strips of bone graft material may be placed over the back part of the spine.
- Bone graft material may be placed between the vertebrae.
- Special cages may be placed between the vertebrae. These cages are packed with bone graft material.

The surgeon may get the bone graft from different places:

- From another part of your body (usually around your pelvic bone). This is called an autograft. Your surgeon will make a small cut over your hip and remove some bone from the back of the rim of the pelvis.
- From a bone bank. This is called an allograft.
- A synthetic bone substitute can also be used.
The vertebrae may also be fixed together with rods, screws, plates, or cages. They are used to keep the vertebrae from moving until the bone grafts are fully healed.

Surgery can take 3 to 4 hours.

**Why the Procedure is Performed**

Spinal fusion is most often done along with other surgical procedures of the spine. It may be done:

- With other surgical procedures for spinal stenosis, such as foraminotomy or laminectomy
- After diskecctomy in the neck

Spinal fusion may be done if you have:

- Injury or fractures to the bones in the spine
- Weak or unstable spine caused by infections or tumors
- Spondylolisthesis, a condition in which one vertebra slips forward on top of another
- Abnormal curvatures, such as those from scoliosis or kyphosis
- Arthritis in the spine, such as spinal stenosis.

You and your doctor can decide when you need to have surgery.

**Risks**

Risks of this surgery include:

- Blood clots in the legs that may travel to the lungs
- Breathing problems
- Infection, including in the lungs (pneumonia), bladder, or kidney
- Blood loss
- Heart attack or stroke during surgery
- Reactions to medications
- Infection in the wound or vertebral bones
- Damage to a spinal nerve, causing weakness, pain, loss of sensation, problems with your bowels or bladder
- The vertebrae above and below the fusion are more likely to wear away, leading to more problems later

**Before the Procedure**
Tell your doctor or nurse what medicines you are taking. These include medicines, herbs, and supplements you bought without a prescription.

During the days before the surgery:

- If you are a smoker, you need to stop. Patients who have spinal fusion and continue to smoke may not heal as well. Ask your doctor or nurse for help.
- Two weeks before surgery, your doctor or nurse may ask you to stop taking medicines that make it harder for your blood to clot. These include aspirin, ibuprofen (Advil, Motrin), naproxen (Aleve, Naprosyn), and other drugs like these.
- If you have diabetes, heart disease, or other medical problems, your surgeon will ask you to see your regular doctor.
- Talk with your doctor if you have been drinking a lot of alcohol.
- Ask your doctor which medicines you should still take on the day of the surgery.
- Let your surgeon know about any cold, flu, fever, herpes breakout, or other illnesses you may have.

On the day of the surgery:

- You will likely be asked not to drink or eat anything for 6 to 12 hours before the procedure.
- Take the medicines your doctor told you to take with a small sip of water.
- Arrive at the hospital on time.

After the Procedure

You will stay in the hospital for 3 to 4 days after surgery.

You will receive pain medicines in the hospital. You may take pain medicine by mouth or have a shot or an intravenous line (IV). You may have a pump that allows you to control how much pain medicine you get.

You will be taught how to move properly and how to sit, stand, and walk. You will be told to use a "log-rolling" technique when getting out of bed. This means that you move your entire body at once, without twisting your spine.

You may not be able to eat for 2 to 3 days. You will be given nutrients through an IV. When you leave the hospital, you may need to wear a back brace or cast.

Your healthcare team will tell you how to take care of yourself at home after spine surgery. Follow instructions on how to take care of your back at home.

Outlook (Prognosis)
If you had chronic back pain before surgery, you will likely still have some pain afterward. Spinal fusion is unlikely to take away all your pain and other symptoms.

It is hard for a surgeon to predict which patients will improve and how much relief surgery will provide, even when using MRI scans or other tests.

Losing weight and getting exercise increases your chances of feeling better.

Future spine problems are possible after spine surgery. After spinal fusion, the area that was fused together can no longer move. Therefore, the spinal column above and below the fusion are more likely to be stressed when the spine moves, and may have problems later on.

**Alternative Names**

Vertebral interbody fusion; Posterior spinal fusion; Arthrodesis; Anterior spinal fusion; Spine surgery - spinal fusion; Low back pain - fusion; Herniated disk - fusion

**References**


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