

# Lumbar Spinal Fusion (posterior)

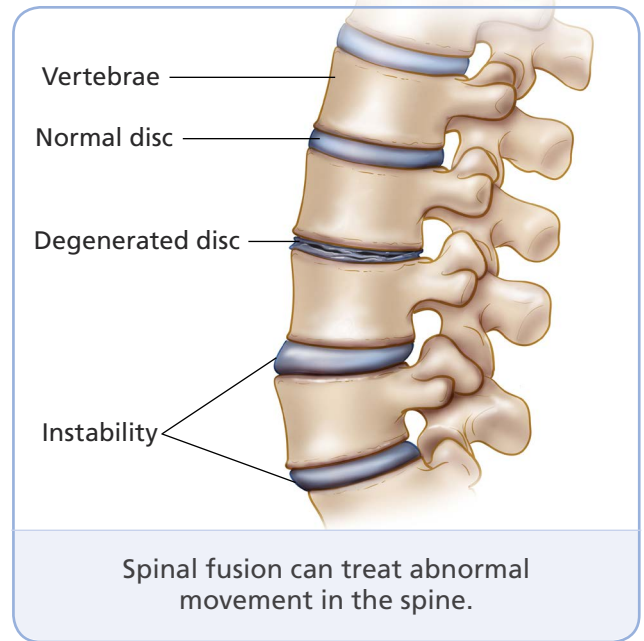
## What is lumbar spinal fusion?

Lumbar spinal fusion is a surgery to join two or more spinal bones—called **vertebrae** [VUR-tuh-brey]—so that they eventually grow into one solid bone.

## Why do I need spinal fusion?

The surgery is usually done to correct instability of the spine. Arthritis, injuries, or simple wear and tear can cause some of the bones in your spine to slip or shift out of place. This abnormal bone movement can cause back pain. It can also pinch nerves, causing pain, numbness, or weakness in your legs. The leg pain is called **sciatica** [si-AT-i-kuh] or **radiculopathy** [ruh-dik-yoo-LAH-puh-thee].


The goal of spinal fusion is to stop abnormal movement and thus eliminate pain in your back and legs.



Possible benefits	Risks and possible complications	Alternatives
<p>Spinal fusion may eliminate pain by stopping abnormal and painful movement between diseased vertebrae.</p>	<p>There are risks of complication with any surgery. These may include complications of the anesthesia, blood loss, infection, and death. Common complications of spinal fusion are listed below:</p> <ul style="list-style-type: none"> <li>• <b>Blood loss.</b> With any surgery, there is the potential for life-threatening blood loss, but with current techniques, this is rare.</li> <li>• <b>Infection</b> (1 or 2 in 100 patients). Even with antibiotics and careful sterile techniques, there is still a small risk of developing a wound infection.</li> <li>• <b>Damage to the nerve sac causing a leak of spinal fluid</b> (2 to 5 in 100 patients). If the nerve sac is unintentionally opened during surgery, it will be repaired. This should not have any effect on your long-term outcome, but you may have to spend a day or two flat in bed to allow the repair to strengthen. Rarely, further treatment may be necessary.</li> <li>• <b>Damage to spinal nerves.</b> This could cause ongoing pain, numbness, or weakness in your legs.</li> <li>• <b>Failure of fusion.</b> If the fusion fails, you may need to have more surgery.</li> <li>• <b>Failure to relieve symptoms.</b> Your surgeon will do everything possible to give you the best results. Even so, surgery may not relieve all of your symptoms or may make them worse.</li> </ul>	<p>Spinal fusion surgery is usually done after non-surgical treatment options have failed. These can include:</p> <ul style="list-style-type: none"> <li>• Medicines</li> <li>• Physical therapy</li> <li>• Traction</li> <li>• Spinal injections</li> <li>• Watching and waiting</li> </ul> <p>If your symptoms are caused by an unstable spine, lumbar spinal fusion is probably your only effective treatment option.</p> <p>If you feel your symptoms are not severe enough to have surgery, tell your doctor. They will respect your decision.</p>

## How do I prepare for surgery?

Take these steps to help your surgery and recovery go better:

- **Stop smoking.** If you smoke, try to stop prior to surgery. Non-smokers have fewer complications related to surgery. More importantly, smoking slows bone healing, and could cause your fusion surgery to fail. Ask your provider for Intermountain's booklet, **Quitting Tobacco: Your Journey to Freedom.**
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- **Stop taking certain medicines.** Talk to your doctor if you are on aspirin, anti-inflammatory medicines such as ibuprofen (Advil, Motrin), or naproxen (Aleve). If you take blood thinners, ask your doctor when to stop taking them. You can continue to take most of your other regular medicines. **Tell your doctor everything you're taking so your doctor can help you know what to stop.**
  - **Ask for time off work.** Ask your doctor how long you may need to be off work, and make arrangements with your employer.
  - **Ask for someone to drive you home.** Arrange for someone to drive you home from the hospital and to help you at home for the first week or two.
  - **Consider staying in a skilled nursing facility or rehabilitation clinic.** It may be necessary to stay for 3 to 10 days after you leave the hospital if you need extra therapy. Ask your doctor if this would be helpful to you.

## What happens before surgery?

Here is what to expect before surgery:

- Do not eat or drink anything after midnight the night before the surgery.
- Take your regular medicines (as directed by your surgeon) as normal, with a few sips of water.
- You will be admitted to the hospital on the day of the surgery.
- Bring a list of all your current medicines with you to the hospital. This includes over-the-counter medicines, vitamin supplements, and herbal remedies.
- You will need to fill out some paperwork, including a consent form for the surgery.

## What happens during surgery?

Here are the steps to expect during your surgery:

- 1 An **anesthesiologist** [ann-es-teez-ee-ohl-oh-jist] (a doctor who practices anesthesia) will put you to sleep so you will not feel or remember the surgery.
- 2 After making an incision (cut) in your skin and spine, the surgeon will implant fixation devices to hold the vertebrae in the correct position. These devices (called "hardware") include spacers in the disc space between the bones, and a system of metal (titanium) screws and rods on the back of the bones.
- 3 If spinal nerves are pinched by disc material, overgrown joints, or bone spurs, the surgeon will remove that material to ensure that the nerves have plenty of space.
- 4 The surgeon will then pack bone chips between and around the abnormal vertebrae so that over time they will fuse (grow together) into one solid piece of bone (see illustration on [page 3](#)).
- 5 The incision will be closed with stitches or staples.

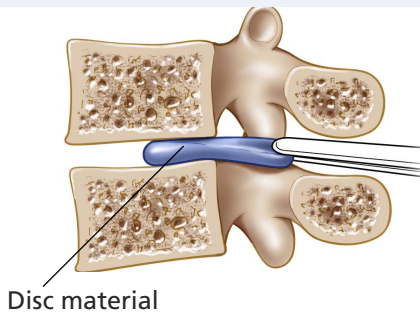
## What happens after surgery?

Here is what to expect after surgery

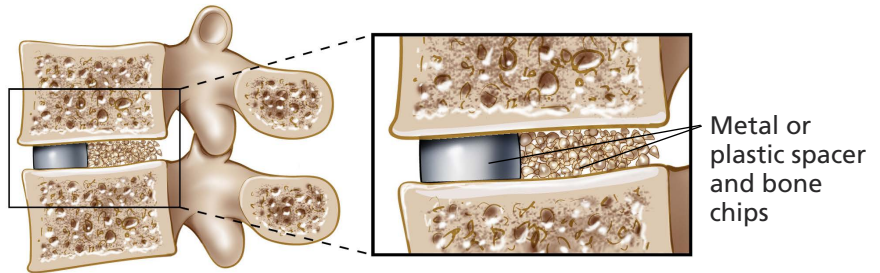
- You will wake up from surgery in a recovery area of the hospital. Within about 30 to 60 minutes, you will be taken to your hospital room.
- You will feel new pain in the area where the surgery was done. The first several days after surgery can be quite painful. You'll be given medicine for it, and the pain will gradually decrease or improve.
- You may be up and walking the day of the surgery. Nurses and physical therapists will be there to assist you. By the time you are released from the hospital, you should be able to get around on your own, go up and down stairs, and take care of your own personal needs.
- Expect to stay in the hospital between 2 and 4 days. Some patients need to stay longer. You will be allowed to go home as soon as you're doing well medically and your surgeon approves.

**1**

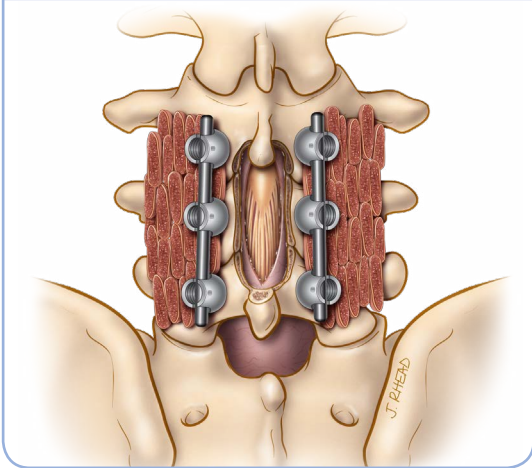
The surgeon will remove the disc material.

**2**

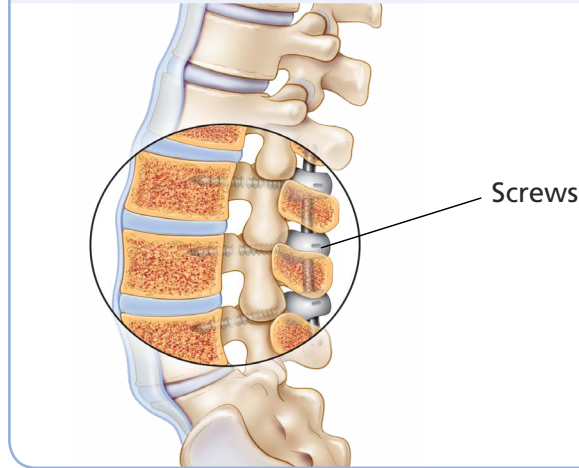
The disc material may be replaced by a metal or plastic spacer and bone chips. This procedure is called interbody fusion.

**3**

Bone chips may be packed between and around the vertebrae.

**4**

The screws will help hold the vertebrae in the correct position.



## Other frequently asked questions about lumbar spinal fusion

- Where do the bone chips for fusion come from?** Most of the bone comes from your own spine. Portions of the vertebrae being fused are removed and used for the fusion. If more bone is needed, your doctor may use a small amount of donor bone from the bone bank or from your pelvic bone.
- How long does this surgery take?** Spinal fusion can take as little as 2 hours, and as long as 6 or 7 hours, occasionally even longer. How long it takes depends on the number of vertebrae being fused, how badly the vertebrae are diseased, whether spinal nerves are pinched and need to be decompressed, and whether there is scarring from prior surgeries. Your doctor will give you a rough idea of how long it will take, but may not know until the surgery is in progress.
- Will I need a blood transfusion?** Most spinal fusion patients do not need blood transfusions. Your doctor will work hard to minimize blood loss. Your doctor may also use auto-transfusion technology (cell-saver), which can return most of the blood lost back to you. This makes it even less likely that you might need a standard blood transfusion. Despite these efforts, patients do occasionally lose enough blood to need a transfusion.
- What about the metal screws and rods?** Once the bone has fused solid, the fixation hardware is no longer needed. Still, it is usually left in place unless it's painful.

- **Will I lose movement or flexibility?** You will lose the movement between the vertebrae that are fused. Whether you notice the change in your day-to-day life will depend on how many vertebrae were fused and the types of activities you are used to doing. Most people do notice a minor loss of flexibility, but it does not affect them significantly. In fact, many patients are able to do much more than they could before surgery since the bone movement before surgery was abnormal and painful.
- **How effective is lumbar spinal fusion?** Lumbar spinal fusion is a very effective operation when it is done with the right surgical technique on the right patient for the right reasons. By eliminating abnormal and painful movement between diseased vertebrae, the procedure can decrease or eliminate pain. National statistics have shown that 80 to 85 out of 100 lumbar spinal fusion patients are helped by the surgery and feel that it was successful. But like any medical treatment, it is not 100 percent effective. Therefore, there will always be a small number of patients who do not improve as much as they hoped. Your spine team will go to great lengths to ensure that this is the right operation for you and that the surgery is done with the utmost care. This approach gives you the best chance of a successful outcome.
- **How will this affect the spinal discs above and below the fused vertebrae?** When vertebrae are fused together, all motion between them is lost. This may place additional stresses on neighboring discs, causing them to degenerate and become painful.

### Questions for my doctor

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### Notes

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