

SPINAL FUSION SURGERY

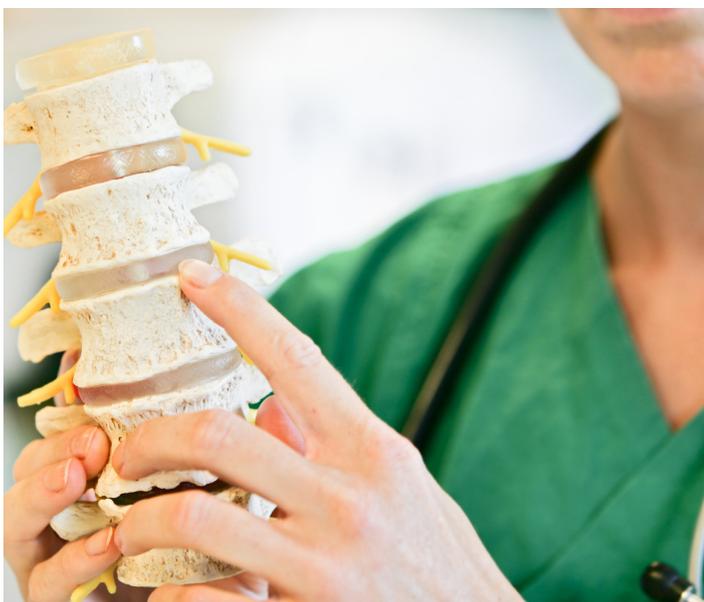
Introduction

Spinal fusion surgery uses techniques that follow the body's own processes for healing broken bone tissue, by placing sections of bone or prosthetic material between two or more spinal vertebrae so that they fuse together and move as one piece.^{1,2} This provides stability and strength to the spine for individuals suffering from spinal weakness or experiencing excess movement between vertebrae.²

The decision to have surgery should be taken under the advice of a doctor or specialist, with careful consideration of the benefits, risks, and complications.

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Procedure for spinal fusion surgery^{1,2}

There are several types of spinal fusion surgery, depending on an individual's medical and physical condition, the location of the vertebrae undergoing fusion, and the severity or complexity of the case.

Spinal fusion may also be performed at the same time as a lumbar decompression procedure, such as a discectomy.

In general, the procedure for spinal fusion surgery is as follows:

- If a bone graft is needed, it is generally taken from the pelvic bone, with an incision being made just above.¹ Otherwise the bone may be donated or synthetic.
- Depending on the approach required, an incision is made directly over the spine, on either side of the spine, or in the abdomen.
- The bone segment or segments are placed between the affected vertebrae.
- Connecting metal plates, rods, or screws may be used to keep the vertebrae in place as they heal together. In the majority of cases, these materials remain permanently in the spine and are not removed unless medically necessary.

Effectiveness of spinal fusion surgery

Despite the fact that spinal fusion itself may be successful, it is important to understand that the effect of this procedure is to fuse two or more vertebrae together, such that the spine will no longer be able to move the way it once could. This results in the shifting of further stress and strain to the rest of the spine, increasing the risk of degeneration in these areas.¹



Moreover, while some studies show that surgery can provide effective short-term relief of pain and other symptoms, lasting benefits over the long-term have not been well established in medical practice and research.³

Alternatives to spinal fusion surgery

For many spinal conditions, surgery is not generally recommended as a first option. With rare exceptions, non-surgical treatments are always preferable, at least for the first three months after the onset of symptoms. Only if there is no relief or improvement should surgery be considered.



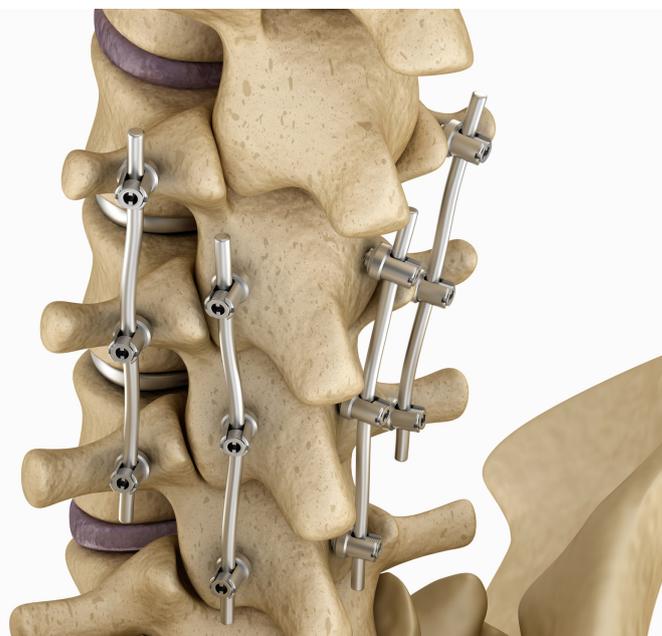
Spinal fusion surgery

A surgical alternative to spinal fusion surgery is artificial lumbar disc replacement, which replaces a diseased or damaged spinal disc with a prosthetic disc.

Artificial lumbar disc replacement generally has a shorter recovery time and greater chance of spinal mobility after the operation.

In addition, disc replacement is considered to result in less stress on the other discs in the spine, as well as the fact that this procedure eliminates the need for bone grafting from another area of the body or using donated bone.²

On the other hand, if revision surgery is required (due to complications, failure of surgical goals, or gradual wear and tear), those who have undergone artificial lumbar disc replacement tend to have greater complications than those who have had spinal fusion surgery.²



Risks, complications and preparations for spinal fusion surgery

- Damage or injury to spinal blood vessels or nerves, or those around the spine. This might include neurological damage.
- In the case of bone graft, pain at bone extraction.

Questions about your diagnosis?

Unsure which treatment is right for you?

Did you know you have access to a free, independent and confidential decision support service?

Discuss your concerns and have your case reviewed by a specialist in your condition.

The decision is yours. And we're with you all the way.



1. Spinal Fusion. Mayo Clinic website. <http://www.mayoclinic.org/tests-procedures/spinal-fusion/home/ovc-20155554>. August 15 2017. Accessed September 28, 2017.

2. Artificial Lumbar Disc Surgery. American Association of Neurological Surgeons. <http://www.aans.org/en/Patients/Neurosurgical-Conditions-and-Treatments/Artificial-Lumbar-Disc>. Accessed September 27, 2017.

3. Brox JI, Nygaard ØP, Holm I, Keller A, Ingebrigsten T, Reikerås. Four-year follow-up of surgical versus non-surgical therapy for chronic low back pain. *Ann Rheum Dis* 2010;69:1643-1648. doi:10.1136/ard.2009.108902.

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