



American
Association of
Neurological
Surgeons

ARTIFICIAL LUMBAR DISC

PATIENT INFORMATION

This resource, developed by neurosurgeons, provides patients and their families trustworthy information on neurosurgical conditions and treatments.

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Artificial lumbar disc surgery is an alternative to spinal fusion surgery, a common operation performed on about 200,000 people a year with degenerative disc disease in the lumbar spine (lower back). Spinal fusion surgery creates a solid union between two or more vertebrae to help strengthen the spine and alleviate chronic back pain. There are many types of spinal fusion surgery, as well as varied instrumentation used to secure the fusion. The spine is accessed either through the back or abdomen, depending on the type of spinal fusion procedure.

The goals of artificial lumbar disc surgery are to: 1) remove the diseased disc; 2) restore normal disc height; 3) decrease discogenic back pain; 4) preserve motion in the affected vertebral segment; and 5) improve patient function. In comparison to spinal fusion surgery, potential benefits of artificial disc technology may include quicker recovery time, more spine mobility after surgery, less stress on adjacent discs and no need to harvest and use a bone graft.

If you have degeneration affecting more than one disc or significant leg pain, you are not a candidate for this surgery. However, you may still be considered a candidate if you have had prior back surgeries.

During surgery, the patient is under general anesthesia and an incision is made in the abdomen. Through this opening, the affected disc is removed and replaced. The average hospital stay, postoperatively, is about four days.

Potential Complications

- Need for additional surgery
- Allergic reaction to the implant materials
- Bladder problems
- Bleeding; may require a blood transfusion
- Blood vessel problems other than bleeding
- Death
- Implants that bend, break, loosen or move
- Incision problems
- Infection
- Male sexual dysfunction
- Pain or discomfort
- Paralysis
- Phlebitis
- Pneumonia
- Side effects from anesthesia
- Slow intestinal movement
- Spinal cord or nerve damage
- Spinal fluid leakage
- Tears of the dura (a layer of tissue covering the spinal cord)
- Vertebrae fracture

Outcome

Some of the potential risks of artificial disc surgery are common to many other types of surgery, in particular back surgeries. Although some patients who have undergone spinal fusion surgeries need revision surgeries, they are generally less problematic than those after artificial disc surgery. There is still much debate among the medical community about the efficacy of artificial lumbar disc surgery.

In several documented cases, the artificial disc slipped out of place for undetermined reasons, which is a significant cause for concern. When this occurs, the patient may need emergency surgery to remove the disc and the surgery can be life-threatening due to the potential for blood loss and other complications.

Load-bearing implants that allow motion have been shown to potentially generate wear debris over time. The long-term effects of wear debris on the spine are currently unknown. Long-term patient monitoring is essential to properly assess how effective and safe artificial disc surgery is in comparison to spinal fusion surgery.

The AANS does not endorse any treatments, procedures, products or physicians referenced in these patient fact sheets. This information is provided as an educational service and is not intended to serve as medical advice. Anyone seeking specific neurosurgical advice or assistance should consult his or her neurosurgeon, or locate one in your area through the AANS' "Find a Board-certified Neurosurgeon" online tool.