

Understanding the Risks of Spine Surgery

There are many potential complications that can occur with spine surgery, and listing them one-by-one can be a bit overwhelming. It is easier to break the risks into categories to help making understanding them easier.

There are three general categories of risk with any surgery, including spine surgery:

- Risks of Anesthesia
- Risks of Complications that can occur During the Surgery
- Risks of Complications that can occur After the Surgery

RISKS OF ANESTHESIA

Most spinal operations require general anesthesia. Although all types of [anesthesia](#) involve some [risk](#), **major side effects and complications from anesthesia are uncommon**. Your specific risks depend on your health, the type of anesthesia used, and your response to anesthesia.

These risks can include:

- Allergic reaction to medications
- Changes in blood pressure
- Changes in heart rate or rhythm
- Seizures
- Heart attack
- Stroke
- Death – risk is 1 out of 200,000
- Nausea and vomiting after the surgery
- Complications from the breathing tube
- Swelling of the throat
- Sore throat
- Hoarseness of the voice
- Damage to the teeth or lips

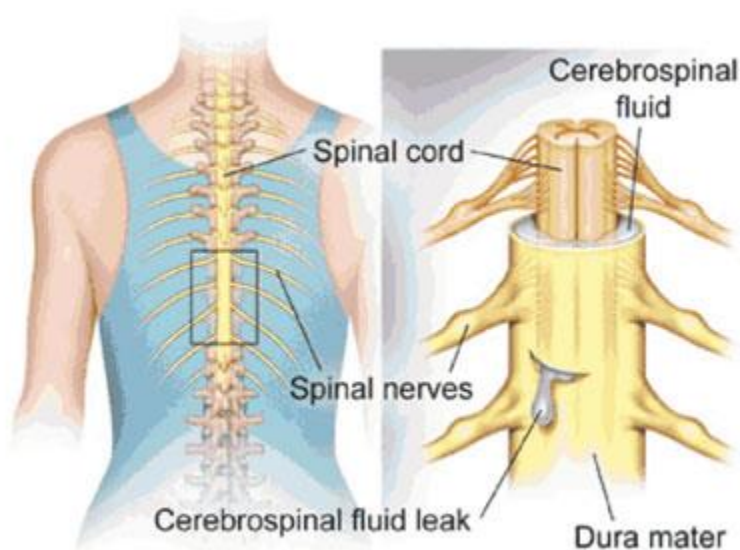
RISKS OF COMPLICATIONS DURING THE SURGERY

- Nerve or spinal cord injury – 1 out of 5,000

- Injury to nearby anatomical structures - rare
- Abnormal bleeding
- Dural tear and spinal fluid leak - 1%

Nerve or Spinal Cord Injury

Any time surgery is done on the spine, there is some risk of injuring the spinal cord or the individual nerves. This can occur from instruments used during surgery, from swelling, or from scar formation after surgery. Damage to the spinal cord can cause paralysis in certain areas and not others. Injured nerves can cause pain, numbness, or weakness in the area supplied by the nerve. If a nerve is damaged that connects to the pelvic region, it may cause sexual dysfunction.



Dural Tear

Dural Tear A water-tight sac of tissue (dura mater) covers the spinal cord and the spinal nerves. A tear in this covering can occur during surgery. It is not uncommon to have a dural tear during any type of spine surgery. If noticed during the surgery, the tear is simply repaired and usually heals uneventfully. If it is not recognized, the tear may not heal and may continue to leak spinal fluid, which can cause problems later. The leaking spinal fluid may cause a spinal headache. It can also increase the risk of infection of the spinal fluid (spinal meningitis). If the dural leak does not seal itself off fairly quickly on its own, a second operation may be necessary to repair the tear in the dura.

RISKS OF COMPLICATIONS AFTER THE SURGERY

- Continued pain, numbness or weakness
- Blood clots in the legs (DVT)
- Dural tear and spinal fluid leak (see above - rarely, this can develop after surgery)

- Medical complications (heart attack, stroke, pneumonia, urinary infection)
- Wound Infection – 1%
- Implant & Fusion Complications

Infection

There is a risk of infection any time surgery is performed. Infections occur in less than 1% of spinal surgeries.

An infection can be in the skin incision only, or it can spread deeper to involve the areas around the spinal cord and the vertebrae. A superficial wound infection can usually be treated with antibiotics, and perhaps removing the skin stitches. The deeper wound infections can be very serious and will probably require additional operations to drain the infection. In the worst cases, any bone graft, metal screws, or plates that were used may need to be removed.

Persistent Pain, Numbness or Weakness

Immediately after surgery, it is not unusual for some of the same symptoms you experienced before surgery (numbness, weakness, pain) to continue. It sometimes takes a while for your nerves to recover, and in most cases these continuing symptoms will gradually resolve as you recover from your surgery. However, some spinal operations are simply unsuccessful and do not get rid of all of your pain, numbness or weakness. In some cases the procedure may actually increase your pain. Be aware of this risk before surgery and discuss it at length with the Doctor. He will be able to give you some idea of your chances of not getting the relief that you expect.

Implant & Fusion Complications

Nonunion (Failed Fusion)

A certain number of fusions simply do not heal as planned. This failure of the fusion to heal is called a "nonunion". A nonunion usually means that there is motion between the two bones that should be fused together. This unwanted motion can result in pain that may increase over time. The spinal motion can also stress the metal implants used to hold the fusion together, possibly causing the implants to break. You may need additional surgery for a nonunion to try to get the bones to fuse together. Your surgeon might want to add more bone graft, replace the metal hardware, or add an electrical stimulator to try to get the fusion to heal.

Hardware Loosening or Fracture

Metal screws, plates, and rods are used in many different types of spinal operations as part of the procedure to hold the vertebrae in alignment while the surgery heals. These metal devices are called "hardware". Once the bone fusion heals, the fusion becomes more resistant to stress than the hardware. Sometimes the hardware can either loosen or break before the fusion is completely healed. If this occurs it may require a second operation to either remove or replace the hardware.

Cage or Bone Graft Migration

In some spine surgeries, a disc between the vertebrae may be removed and replaced with a fusion cage (metal or plastic) or structural piece of bone graft. Migration is a term used to describe a fusion cage or bone graft that has moved out of place. When this happens, it usually occurs soon after surgery, before the cage or graft is firmly attached by bone growth. If the cage or graft moves too far, it may not be doing its job of stabilizing the two vertebrae. If it moves backwards towards the spinal cord, or forward towards the structures in front of the spine, it may damage those structures. A problem with migration may require a second operation to replace the cage or graft that has moved.