

ADULT SPINAL DEFORMITY SURGERY

PROCEDURE

Spinal deformity correction surgery involves many techniques to correct the scoliosis, kyphosis, or other deformities of your spine to a more normal alignment.

During the procedure, your surgeon will relieve the pressure off your spinal cord and any nerves that may be compressed. Bone screws will be placed in multiple vertebrae and then will be connected with rods. The number of screws and spinal levels depends on the location and severity of the spinal deformity.

The correction may require an osteotomy, which is a strategic resection of part of a vertebra used to loosen your spine and aid realignment of your spine. If an osteotomy is needed, it is sometimes followed by placement of a cage, implant, or graft to help with the correction of the deformity. Additionally, your surgeon may remove abnormal discs and replace them with a cage, implant, or graft in order to aid in the correction of the spinal deformity.

The repair of your spinal deformity depends greatly on the fusion of your vertebrae following the surgery. Your surgeon may use a combination of your own bone, cadaver bone, bone matrix, stem cells, and bone morphogenetic protein (BMP) to help your spine fuse. Using BMP for spinal fusion surgery is an off-label use, which means it was not the purpose originally approved by the FDA, but was later found to be an effective treatment. Your surgeon will discuss the use of all bone fusion products with you if you feel you need more information.

With spinal fusion, the bone graft should grow together in a solid unit within 9-12 months. This correlates with the amount of time for a recovery from a deformity correction surgery, although all patients heal differently.

NON-SURGICAL OPTIONS

Surgery is not always necessary. Although most lumbar problems are painful, they are usually not dangerous. Even though your physician has offered you the option of surgery, the decision is yours. Some alternatives to surgery include the use of anti-inflammatory medications, physical therapy, weight loss, smoking cessation, activity restriction, pain medication, injections, and time.

RISKS OF SURGERY

A spinal deformity correction procedure is a major operation. The risk of complications is directly related to length of the operation, complexity of the procedure, and the lengthy recovery period. During an office visit, your surgeon will fully explain the procedure and your condition, and will assess and discuss any risks for surgery complications with you.



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(Risks of Surgery, continued)

With a major spinal deformity operation, the risk for complications is elevated. The following conditions may occur:

- Heart or lung stress from general anesthesia, which could be fatal;
- Bleeding, which could require a transfusion;
- Infection, which could require IV antibiotics and another operation;
- Damage to the covering of the nerve, which causes spinal fluid leakage, and which could require a drainage procedure or another operation;
- Damage to the nerves, causing paralysis or permanent nerve damage, although this is rare; and long-term risks include a change from leg pain to a disabling low back pain; and
- Deep vein thrombosis (DVT), or postoperative complications;
- Persistent pain may result, as there is no guarantee this procedure will provide the kind of pain relief you expected.

Long-term complications may include,

- Nonunion, in which the vertebrae don't mend or fuse together as they should;
- Failure of the medical hardware (screws, rods, cages, and grafts), which may require another operation;
- Development of pain associated with the medical hardware inserted during surgery. If bones have fused, the devices may need to be removed.
- Acceleration of normal aging changes in the vertebrae adjacent to the fusion
- Kyphosis or angulation above fusion, requiring extension of fusion and instrumentation.

SURGERY DATE AND TIME

When you decide to have this surgery, you will receive a surgery date and tentative surgery time. Then, on the working day before your scheduled operation date (on Friday for a Monday surgery, for example), you will receive the exact time of your surgery. Your surgeon's office will call you by 3-5 p.m. to give you this time and make you aware of the time you need to arrive at the hospital. **Because confirmed surgery times are unavailable to us until the day before your scheduled surgery, we appreciate your patience and understanding with this timing.**



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(Surgery Date and Time, continued)

Before your surgery, preoperative testing will need to be completed. To ensure medical clearance and testing such as blood work and EKG are completed, the surgical facility will contact you and will schedule an appointment. Additional clearance may be needed from a cardiologist, pulmonologist, or another specialized physician.

BEFORE SURGERY INSTRUCTIONS

This important checklist will help to ensure that you are prepared and ready for your surgery. Please read it and ask your surgeon to answer any questions you have.

- If you take any blood thinners, for example Coumadin (warfarin), Aspirin, Plavix, Xeralto, Eliquis, Brilinta, or Ticlid, **make sure your surgeon is aware of this medication, as soon as possible.** You will be given specific instructions regarding any need to discontinue or modify your current use of any blood-thinning medication. If necessary, your surgeon will get clearance from your cardiologist or other physician to ensure that this medication change is safe and appropriate for you, based on your heart history, including prior heart attack, stent placement, or open-heart surgery.
- Stop taking aspirin-based products 1 week before surgery. Also, stop taking non-steroidal anti-inflammatory drugs, such as ibuprofen, Naprosyn, Naproxen, Advil, and Motrin, at least 1 week before surgery.
- **Please do not eat or drink anything after midnight the day of your surgery.** This includes water, coffee, chewing gum, and hard candies. You may brush your teeth with toothpaste the morning of surgery.
- Some daily medications may be taken the day of surgery with a sip of water. Medications that are appropriate to take (the morning of surgery) will be discussed with you by the hospital staff or your surgeon's nurse.

DAY OF SURGERY

Please review all the information in your patient folder, including the map with directions for parking locations and outpatient registration in the hospital. This will help you arrive at the hospital for check-in at the designated time provided by your surgeon's office.

Your family may stay with you in the preoperation room until your scheduled surgery time.

AFTER SURGERY

After your surgery, you will be in the recovery room for at least 1-2 hours. When you first wake up from the anesthesia, your throat will feel sore, and you will feel cold, thirsty, and groggy. Intravenous (IV) lines will be connected to supply your body with fluids. Often, on the night of surgery, your surgeon may require a stay in the intensive care unit to closely monitor you.



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(After Surgery, continued)

After time in the recovery room or intensive care unit, you will be transferred to your hospital room. Your family can return to spend time with you. After a spinal deformity correction surgery, you may need to stay in the hospital for up to 1 week. The length of your hospital stay depends on your mobility, your progress with physical therapy, your pain control, and the need to monitor your medical issues.

Some patients will require an inpatient stay in an acute rehabilitation or nursing facility after leaving the hospital. While you are in the hospital, your surgeons, other physicians involved in your care, therapists, nurses, and a case manager will monitor your progress and help to decide whether you will need an additional inpatient stay.

DISCHARGE

You will be discharged after specific healing and physical therapy goals have been met. A follow-up appointment will be scheduled as determined by your surgeon.

BRACE

Your surgeon may or may not provide a brace after surgery, depending on your surgeon's and your preference. Our best experience and data show that bracing does not affect patient outcomes or fusion rates. However, sometimes patients report improved comfort and satisfaction with a brace. If you are prescribed a brace, it should be worn when you are out of bed, standing, or walking, unless your surgeon gives different instructions.

MANAGING YOUR PAIN

You may have pain at the site of your incision or along your after surgery. While you are in the hospital, your surgeon and medical team will work with you to find an appropriate medication regimen to help control your pain. Pain from surgery will change in intensity as you heal. This is normal and expected. Your back pain should slowly improve as the healing process occurs and your fusion becomes more solid. This healing may take a few months. During this time your surgeon will work with your primary care physician or other pain management specialist on pain management techniques and regimens.

- After any acute surgical pain has improved, you should gradually discontinue use of the prescribed pain medication, which is often a narcotic. Prolonged use of such prescription narcotics will reduce your body's production of natural pain-fighting chemicals. When this medication is used for an extended period of time, you may develop a tolerance to it, resulting in the need for higher levels of pain medication.



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(Managing Your Pain, continued)

- Once the pain begins to subside and you no longer need the prescription pain medication, Tylenol and Tylenol-based products are safe to use. However, you should avoid non-steroidal anti-inflammatory drugs, such as Celebrex, Motrin, Ibuprofen, Advil, and Aleve. While each of these are important medications for a variety of pain control needs, they can prevent bone fusion. These medications can be safely resumed 3–6 months after your surgery.
- Ice may be used for discomfort as needed.

INCISION CARE

You will leave the hospital with a waterproof dressing on your incision site. This dressing should remain in place for 1–2 days after you return home. After removing the dressing, your incision will be open to the air. It is important for a family member to examine your incision each day for 2 weeks after surgery to monitor it for any changes as the healing process continues.

Typically, staples are used to close your incision. The staples will be removed approximately 14 days after your surgery. Please call your surgeon's office at (317) 396-1300 to schedule an appointment for this removal.

BATHING

You may shower once you are home, but pay attention to your body and don't shower if you are feeling lightheaded or tired. Simply pat your incision dry after your shower and leave the incision open to the air under your clothing.

Do not take tub baths or Jacuzzi baths, and do not go swimming until you have been seen by your surgeon at your 1-month follow-up visit.

CONSTIPATION

General anesthesia, inactivity after surgery, and pain-relieving prescription narcotics may cause constipation after surgery. It may be helpful to take a stool softener and/or laxative after surgery. These medications, which include Colace, Miralax, and Senokot, may be purchased over the counter at your local pharmacy.

EXERCISE

After leaving the hospital, physical therapy is recommended for some patients, even those who do not need a rehabilitation stay. Your surgeon may recommend physical therapy at one of your early postoperative appointments, depending on your progress. The most important part of your recovery is walking, which increases blood flow to the spine and assists in the healing process. Try walking on a structured basis, beginning slowly at first and progressing on a regular basis.



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RESTRICTIONS

To protect your health and help you feel better as soon as possible after surgery, your surgeon suggests these important restrictions:

- **Do not drive for at least the first 4 weeks after surgery.** We recommend you drive only when you are no longer taking pain medications and when you can comfortably turn your body far enough to drive safely using the car's mirrors.
- **Do not lift anything heavier than 10 pounds** until you see your surgeon at the follow-up appointment 4–6 weeks after your surgery.
- **Do not do things that require repetitive bending, twisting, or lifting.** Such activities include laundry, sweeping, vacuuming, shoveling, or yard work. When you are moving, remember to use good body mechanics, which includes using your legs instead of your back when lifting.
- **Do not smoke:** it is not healthy for your back or your body's healing abilities.
- **Please avoid nonsteroidal anti-inflammatory drugs,** such as Celebrex, Motrin, ibuprofen, Advil, and Aleve. These medications may hinder the bone growth needed for the fusion occurring after your surgery.

FOLLOW-UP APPOINTMENT

If your postoperative office appointment has not been scheduled when you leave the hospital, call your surgeon's office to schedule one. The appointment should be made for approximately 4–6 weeks after your surgery.

If you have questions before your postoperative appointment, please do not hesitate to call your surgeon's nurse or secretary.

CALL THE SURGEON IF YOU EXPERIENCE ANY OF THESE SYMPTOMS:

- Signs or symptoms of infection, including redness, wound drainage, worsening pain, or a fever of more than 101 degrees;
- New or worsening leg weakness, pain, numbness, or tingling as compared to before surgery;
- Difficulty with bowel or bladder function; and
- Calf or leg swelling, tenderness, or redness.

If you have any questions or problems, please do not hesitate to call our office at (317) 396-1300 (or Toll Free (888) 225-5464).

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