

PATIENT INSTRUCTIONS:

Direct Lateral Lumbar Interbody Fusion (DLIF) Oblique Lateral Lumbar Interbody Fusion (OLIF) and Extreme Lateral Lumbar Interbody Fusion (XLIF)

Surgical Technique

Direct, Oblique, and Extreme Lateral Interbody Fusions (DLIF, OLIF, XLIF) are similar surgical procedures with slightly different names that approach the thoracic and lumbar spine from the flank region with smaller incisions. The surgical goal is to relieve pressure on the nerve roots or the spinal cord, to treat a painful disc, or fix extreme spinal angulation/scoliosis/kyphosis. The disc(s) and portions of the bone are removed, and pressure is taken off of the spinal cord and nerve root(s). After removing the disc and bone, a spacer or graft is inserted into the cavity where the tissue was removed. The spacer may be made out of donor bone (allograft), PEEK (a body-friendly polymer spacer), a metal, or even bone taken from the patient's own body. A bone or mixture of bone fills the disc space and ideally will join or fuse the vertebrae together. The graft is usually held in place with a small metal plate and screws on the front of the vertebrae. Sometimes the surgery is supplemented with additional hardware placed from a posterior lumbar approach done either on the same day or a few days or weeks later. Over time, the vertebrae grow together, and this is called fusion. It usually takes several months for the vertebrae to fuse completely but can take up to a year or two.

Sometimes patients can wake up with new leg pain or weakness on the side that the surgical approach was made due to some disruption of the psoas muscle and nerves that travel through this space. This new pain or weakness should be transient but can take a few months to recover.

Please visit www.bch.org/bnsa for more information.

Before Surgery

- Seven days prior to surgery please do not take any anti-inflammatory NSAID. Seven days prior to surgery please do not take any anti-inflammatory NSAID medications (Celebrex, Ibuprofen, Aleve, Naprosyn, Advil, Aspirin, etc.) as this could have adverse effects on your spinal fusion and increase your risk of bleeding during surgery.
- If you are taking any blood-thinning medications (Plavix, Coumadin, etc.), please talk to the prescribing doctor about when you can safely stop that medication before surgery to reduce your risk of bleeding. Usually, these medications are stopped anywhere from 3 - 7 days before surgery.
- Increase your strength and improve your recovery by walking at least 30 minutes a day before your procedure. Exercising before surgery will help you recover after your surgery.
- At least one week before surgery, eat healthy foods rich in carbohydrates and protein to fuel your body with the nutrients that it will need during and after surgery.
- Be aware that nicotine users have a significantly higher risk of surgical wound complications, such as healing and infection, as well as increased surgical bleeding. Nicotine disrupts many normal body functions, including nutrients and blood supplies. Nicotine use can impede bone formation that can result in higher failure rates due to the bones not fusing and healing. It is advised that any nicotine use be discontinued at least 4 weeks before surgery and at least 3-6 months following surgery. A complete discontinuation of all nicotine products is best and highly recommended.

Day of Surgery

- Be early or on-time to check-in on the day of surgery so that surgery is not delayed or canceled.
- Bring your hospital surgical folder and any related paperwork (consents, etc.) to surgery.
- Bring a copy of all relevant imaging studies (CT, MRI, or x-rays) to surgery, even if your surgeon has already seen them in the clinic or may have a copy. Surgery may be canceled if your surgeon cannot view your radiographic images on the day of surgery.

After Surgery

- You may experience increased pain during the first few weeks following surgery.
- You should expect increased soreness directly at the incision site, which should improve with time.
- Some patients may experience worsening leg pain. These symptoms also should gradually improve with time.
- If your pain is poorly controlled, please reach out to your surgeon to discuss.

Activity Level

- Walking is the best exercise after spine surgery because it strengthens the back and leg muscles, increases endurance, relieves stress, improves blood flow, keeps the bowels moving, and prevents fluid from building up in the lungs.
- Immediately after surgery, patients are encouraged to walk with gradually increased distances. The sooner patients can be active, the sooner he/she may be able to resume their routine.
- Do not lift more than 5 -10 pounds for several weeks after surgery. This restriction may be increased to approximately 20 pounds after 4 - 6 weeks. Your surgical team will help guide you with your specific lifting restrictions after 6 weeks.

- Avoid prolonged upright sitting on hard surfaces or long car rides (more than 2 hours) for 2 - 4 weeks. It is recommended that patients do not sit for more than about 45 minutes without getting up and taking a 10-minute break and walking.
- You may drive as soon as it is comfortable to do so. You should not drive while under the influence of pain medications.
- Limited bending or twisting of the spine is advised. If physical therapy has been prescribed, you are not to do range of motion, flexion, extension, or lateral bending exercises until cleared by your surgeon.
- Avoid activities with a potential for falling or physical contact until cleared by your surgeon.

Bracing

- If a brace is prescribed by your surgeon, it should be worn at all times when out of bed, except while showering and should be replaced immediately thereafter.
- You do not need to sleep in your brace.
- A brace may be prescribed from anywhere from 4 weeks to 3 months.

Bandage

- If a bandage is present, it should be changed the second day following surgery. A clean, dry gauze is recommended to be changed over the wound daily to protect the incision from clothing and collar (if used) to prevent breakdown. The use of a bandage is usually discontinued once your incision is fully healed. This may be different according to your surgeon.
- Depending on your surgeon's preference, you may have either Steri-Strips, a liquid skin adhesive (Dermabond), or external sutures/staples over your incision. |
- Steri-Strips: should be left intact until returning to the clinic for your postoperative follow-up visit 2 - 3 weeks following surgery.
- Liquid skin adhesive (Dermabond): should be left in place and will eventually fall off naturally over the next 10-14 days. Do not peel the glue off prematurely.
- External sutures/staples: need to be removed 2 - 3 weeks after surgery.
- Do not use topical ointments on your incision unless approved or directed to do so explicitly by your surgeon.

Drain

- If you are discharged with a drain, you will need to record the daily drain output. You will be instructed prior to hospital discharge on drain care, including how to clean and empty it. Almost all drains are removed within 7 days after surgery, but individual cases vary. **If you have a drain, please NOTIFY your surgeon's team (303-938-5700) of the drain output EVERY OTHER business day, unless instructed otherwise.**

Bathing

- We recommend waiting to shower until the third day after surgery.
- Try to limit showers to no more than 5 - 7 minutes.
- Do not scrub the incision directly. Instead, let the clean water run over the incision and then pat the incision dry.
- Do not soak in a bathtub, hot tub, or pool until you are cleared to do so by your surgeon.

Diet

- Narcotic pain medications can be very constipating. Be proactive with stool softeners and laxatives
- A high fiber diet is recommended.
- Avoid straining on the toilet. Keep stools soft with a high fiber diet and/or use of prune juice, Metamucil, Fiber One cereal, etc.
- Drink plenty of fluids, including Gatorade, or any kind of juice to stay adequately hydrated, prevent blood clots, and other problems.

Pain Medications

- Do not take NSAID medications (Ibuprofen, Naprosyn, etc.) or Cox-2 inhibitors (i.e., Celebrex) for 3 - 6 months following surgery. These medications may delay or prevent proper fusion of the spine.
- Tylenol can be taken as needed.
- Stronger pain medications will be prescribed if Tylenol is inadequate. Avoid letting the pain get out of control before taking medication, or it will be less effective.
- Muscle relaxants are sometimes prescribed in combination with pain medications. Take as directed by your provider.
- BNA providers will NOT refill pain medications after hours: 5 pm on weekdays or anytime on the weekend.
- It is crucial to anticipate the need for medication refills so that they can be refilled with an adequate notification, which may take anywhere from 24 - 48 hours.

Follow-up

- Call Boulder Neurosurgical and Spine Associates (303-938-5700) to schedule your routine post-surgical visit for 14 - 21 days after surgery (if it is not already scheduled).
- Additional follow-ups will be scheduled as needed. The duration of total follow-up with your surgeon depends on the type of surgery being performed.
- **Please call your surgeon's office immediately with any problems or go to the emergency room if you notice:**
 - Drainage and/or increased pain at the incision site
 - Fever greater than 100.4° F
 - Difficulty breathing
 - Significant wound swelling
 - Swelling and/or tenderness in your arms or legs
 - New pain and/or weakness in the arms or legs
 - Problem with controlling your bladder or bowels

Other FAQs

How long will I be in the hospital? This can vary depending on the levels of surgery being performed and whether you are part of a “staged” surgery. Typically, patients will spend at least one up to a few days in the hospital and will be discharged home when the proper criteria are met. If you are part of a “staged” surgery, then you may stay in the hospital a few extra days between the first and second “stages” of your surgery. We have found that patients generally prefer the comforts and support that home offers. The sooner you go home, the lower your risk of complications such as hospital-acquired wound infections, blood clots, and urinary tract infections.

How much time off from work? The amount of time needed for recovery prior to returning to work varies depending on the surgery, your job, and you as an individual. Typically, 1- 2 weeks for jobs that are at a desk or sedentary is sufficient, but patients should ask their surgeon for an individual recommendation. The return to physically demanding jobs will be at the discretion of your surgeon.

When can I resume driving? Driving is acceptable, depending on the use of pain medication. We strongly advise against driving while taking narcotic pain medications following the surgery.

Will I need pain medications? We will prescribe pain medications and other peri-operative medications on the day of surgery or prior to your discharge from the surgery center or hospital.

Will I need Physical Therapy? We usually recommend physical therapy and will refer you to a therapist at your first postoperative visit. We recommend starting physical therapy 6 weeks following surgery. Limited bending or twisting of the spine is advised. If physical therapy is prescribed, you are not to do range of motion, flexion, extension, or lateral bending exercises unless directed by your surgeon. Refrain from high impact activities such as running, horseback riding, or any radical side-to-side motions. A good rule is ‘If it hurts, don’t do it.’

What kind of follow-up is required? Patients return to our office for routine follow-up appointments at intervals that are determined on a case-by-case basis. We typically see patients back in the office within 2 - 3 weeks following surgery and then increase this interval with subsequent visits. The follow-up schedule will be determined by your surgeon at each follow-up visit.

Do I need antibiotic prophylaxis for dental procedures? We recommend avoiding routine dental procedures for 3 months following surgeries in which hardware is placed. This includes any dental work. You should brush your teeth as you normally do. If you must have a dental procedure within 3 months, then it would be advisable to use antibiotic prophylaxis. We generally do not make recommendations about the choice of antibiotic when using it for prophylaxis, and we usually defer this to your primary care physician or your dentist. After 3 months, prophylactic antibiotics are not recommended except for specific individuals with extenuating circumstances, such as patients who are at risk for infective endocarditis.