POSTERIOR CERVICAL LAMINECTOMY AND FUSION

PROCEDURE
A Posterior Cervical Laminectomy and Fusion surgical procedure is usually performed to treat spinal cord compression resulting from cervical canal narrowing. At times, it is also recommended for instability of the cervical spine.

Arthritis causes bone spurs to compress the spinal cord or nerves. For some people, this is a painful problem that causes no loss of neurologic function. Unfortunately, for others the arthritis is severe and includes significant spinal cord compression. This causes neck and arm pain, weak and numb hands or difficulty walking. If this applies to you, surgery is usually recommended to prevent further loss of function.

During this procedure, your surgeon will remove the pressure on the nerves and spinal cord typically by removing the lamina, which is the bone covering the back side of the spinal canal. Then, a bone graft will be placed on each side of the vertebra to fuse the spine. Bone morphogenetic protein (BMP) may also be used to promote bone fusion. Your surgeon may or may not recommend BMP. Using BMP for bone-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 this use with you if you feel you need more information. To stabilize the cervical spine while the bone fuses, or mends into a solid unit, medical rods and screws will be attached to the vertebra. Depending on your diagnosis, your surgeon may recommend different fusion techniques.

Most often, this surgery lasts 3–4 hours, but the time can vary considerably depending on the anatomy and the number of spine levels involved. The fusion may take several months to fully mend.

NON-SURGICAL OPTIONS
Surgery is not always necessary, because while most arthritis of the cervical spine is painful, it is not a dangerous condition. 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, bracing, activity restriction, pain medication, and time.

However, for some with severe spinal cord compression, conservative treatment is rarely helpful and surgery is recommended. Unfortunately, the spinal cord is delicate and once damaged may not completely recover, even with surgery.
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RISKS OF SURGERY
One of the most often experienced problems after this surgical procedure is an inability to regain normal neurological function. If you have spinal cord damage resulting in weakness, numbness or tingling in your arms or legs, the primary purpose of surgery is to prevent further loss of function and damage to the spinal cord. There is no guarantee that your arm or neck pain will be relieved following surgery. You may experience some improvement of your symptoms, but you may have permanent damage that surgery cannot correct.

As you and your surgeon discuss this procedure in the office, your condition and any risks for surgery complications will be assessed and fully explained to you.

While complications from surgery are uncommon, some can be serious and may include:

- Heart or lung problems from general anesthesia, which could be fatal;
- Bleeding, which could require a transfusion;
- Infection of the cervical incision, which could require IV antibiotics and another operation;
- Damage to the covering of the nerve (the dura), which causes spinal fluid leakage, and which could require a drainage procedure or another operation; although rare, this damage could result in paralysis, pain, and bowel and bladder dysfunction; and
- Deep vein thrombosis (DVT), or postoperative complications.

Long-term complications include nonunion (the vertebrae don’t mend or fuse together like they should), as well as failure of the medical hardware, which may require another operation. Additionally, the medical devices inserted during surgery may become painful and require removal. The surgery could also accelerate normal aging changes in the vertebrae adjacent to the fusion.

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.

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.
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 if you have any questions.

- If you take any blood thinners, for example Coumadin, Aspirin, Plavix, Xeralto, Eliquis, 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 on the morning of surgery will be discussed with you by the hospital staff or your surgeon’s nurse.

DAY OF SURGERY
Please review all of the information in your patient folder, including the map with directions regarding parking locations, and outpatient registration in the hospital, if it applies to you. 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 preoperative 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, and you will have a catheter to drain your bladder.

After time in the recovery room, you will be transferred to your hospital room. Your family can return to spend time with you.
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(After Surgery, continued)

You may stay in the hospital for 1–3 days until you are ready to return home and after you have met specific goals. If you have a more complicated medical history, you may require a longer hospitalization. If you have additional neurological difficulties, you may also need rehabilitation therapy or extended care in a specialized facility. When you leave the hospital, you may have a rolling walker to help with your balance.

After you return home and are fully mobile, you may remove the support hose worn on your legs.

CERVICAL COLLAR
Before you leave the hospital, you will be fitted for a cervical collar to restrict your movement in the graft area while the fusion mends. You may need to wear a collar 24 hours a day for 3 months, depending on your bone quality, anatomy, and surgeon’s preferences. You will be given a second collar that can be worn while showering. Your surgeon will discuss this with you and answer your questions.

MANAGING YOUR PAIN
You may have significant pain behind your neck, between your shoulder blades, and around the surgical incision for the first few days and weeks after your surgery. You may experience some persistent arm pain, numbness, and tingling after surgery, because your nerve root requires time to recover. You may also experience neck discomfort and stiffness after surgery. To help you manage your pain, when you leave the hospital you will be given a prescription for pain medication.

Because it will take 6–12 months for the fusion to be completed, your neck pain will resolve slowly as the healing process occurs and your fusion becomes more solid. Pain from surgery will change as you heal, and this fluctuation is normal and is to be expected. As your healing progresses, consider these pain management techniques to help you gain control of your pain level.

- After 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.

- 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 is 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 dressing on your incision site. This dressing should remain in place for 2 days after you return home. Under the dressing will be steri-strips, which are small adhesive strips across the surgical incision. Leave these steri-strips on the incision and allow them to fall off naturally; this usually occurs within 2 weeks. If after 2 weeks the steri-strips have not fallen off, you should remove them.

After removing the dressing, your incision can 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.

If staples or sutures were used to close your incision, they will need to be removed 10–14 days after your surgery. Please call your surgeon’s office at (317) 396-1300 to schedule an appointment for this removal.

After you return home and are fully mobile, you may remove the support hose worn on your legs.

BATHING
You may shower any time after surgery, but pay attention to your body and do not 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 for the first 3 weeks after your surgery.

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 not necessary for most patients. Your best therapy 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 as your pain begins to lessen.

If your recovery is slower, you may need additional therapy after surgery. If needed, physical therapy will be discussed with you at your follow-up appointment.
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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:

- **No driving.** Driving will be discussed at your next appointment.
- **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 put strain on your neck.** Such activities include laundry, sweeping, vacuuming, shoveling, or yard work. When you are moving, remember to use good body mechanics through practices such as lifting objects close to your body rather than out in front of you.
- **Do not smoke:** it is not healthy for your back or the healing abilities of your body.
- **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 you do not have a postoperative office appointment 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. At this appointment, X-rays will be taken.

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 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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