

Patient Guide to Posterior Cervical Decompression and Instrumented Fusion

What Is Posterior Cervical Decompression and Fusion?

Posterior cervical decompression and fusion is a surgical procedure performed through the back of your neck to relieve pressure on your spinal cord and nerve roots, and to stabilize your spine. During this surgery, your surgeon will remove portions of bone (called laminectomy) that are compressing your spinal cord or nerves, and then use metal screws and rods to fuse (permanently join) the affected vertebrae together.[\[1\]\[2\]](#)

Why Is This Surgery Recommended?

Your surgeon has recommended this procedure because you have a condition causing compression of your spinal cord or nerve roots in your neck. This may be due to:

- **Cervical spondylotic myelopathy:** Age-related wear and tear causing spinal cord compression
- **Spinal stenosis:** Narrowing of the spinal canal
- **Degenerative disc disease:** Breakdown of the cushions between your vertebrae
- **Cervical radiculopathy:** Pinched nerves causing arm pain, numbness, or weakness[\[1\]\[2\]](#)

The posterior approach is particularly beneficial when you have compression affecting multiple levels of your spine, when there is instability in your neck, or when you have certain spinal alignment issues such as kyphosis (forward curvature).[\[3\]\[4\]](#) The goals of surgery are to decompress your spinal cord and nerve roots, stabilize your spine, and restore or maintain normal spinal alignment.[\[2\]](#)

What Are the Benefits?

Research shows that posterior cervical decompression and fusion provides significant clinical improvement for most patients:[\[1\]](#)

- **High success rate:** 98% of patients achieve successful fusion of their vertebrae
- **Pain relief:** Significant improvements in both neck pain and arm pain
- **Improved function:** Meaningful improvements in neck disability and overall quality of life
- **Neurological improvement:** Better spinal cord function and reduced symptoms of myelopathy (such as difficulty walking, hand clumsiness, or weakness)

- **Long-term stability:** The fusion prevents further deterioration and instability

Most patients experience improvements that exceed what doctors consider "clinically meaningful" - meaning the changes are significant enough to make a real difference in your daily life.[\[1\]](#) Studies show that both neck pain and arm pain improve substantially, and patients report better ability to perform daily activities.[\[1\]\[5\]](#)

What Should You Expect During Recovery?

Hospital Stay: Most patients stay in the hospital for several days after surgery. The posterior approach may require a slightly longer hospital stay compared to anterior (front of neck) approaches.[\[6\]](#)

Pain Management: You will receive comprehensive pain management including patient-controlled anesthesia initially, followed by oral pain medications. Pain is typically highest in the first 12-24 hours after surgery and should decrease significantly by postoperative day 4, becoming minimal by day 7.[\[1\]](#)

Timeline for Recovery:

- **First 2 weeks:** Focus on rest and gentle activities. Most patients can return to driving within 12-16 days.[\[7\]](#)

- **2-6 weeks:** Gradual increase in activities. Many patients return to sedentary work within 2-3 weeks.[\[7\]](#)

- **3 months:** Continued improvement in pain and function. Most patients show significant improvement by this point.[\[8\]](#)

- **6-12 months:** Maximum improvement typically achieved. The fusion process continues during this time.[\[1\]\[9\]](#)

- **1-2 years:** Some patients, particularly those with milder symptoms before surgery, may continue to see gradual improvements even up to 2 years after surgery.[\[9\]](#)

Activity Restrictions: Your surgeon will provide specific instructions, but generally you should avoid heavy lifting, bending, and twisting motions during the initial healing period. You may need to wear a cervical collar for a period of time.

Return to Work: This depends on the physical demands of your job. Patients with sedentary jobs typically return to work within 2-3 weeks, while those with physically demanding jobs may need 6-12 weeks or longer.[\[7\]](#)

What Are the Risks and Complications?

While posterior cervical decompression and fusion is generally safe, all surgeries carry some risks. Based on large studies, here are the complication rates you should be aware of:[\[1\]\[10\]](#)

Overall Complication Rate: Approximately 9% of patients experience some type of complication.[\[1\]](#)

Common Complications (in order of frequency):

- **Axial neck pain:** New or persistent neck pain after surgery
- **C5 nerve palsy:** Temporary weakness in shoulder or arm muscles (usually resolves over time)
- **Transient neurological worsening:** Temporary increase in symptoms that typically improves
- **Wound infection:** Occurs in a small percentage of patients and is treatable with antibiotics or additional surgery if needed[\[1\]](#)

Less Common but Serious Complications:

- **Spinal cord or nerve injury:** Can cause new neurological deficits (approximately 1% of patients)[\[11\]](#)
- **Vertebral artery injury:** Rare but serious complication during screw placement[\[4\]](#)
- **Pulmonary complications:** Pneumonia or breathing difficulties (approximately 1-2%)[\[10\]](#)[\[12\]](#)
- **Blood clots:** Deep vein thrombosis or pulmonary embolism (rare)[\[12\]](#)
- **Dysphagia (difficulty swallowing):** Can occur even with posterior surgery, though less common than with anterior approaches (6-13% of patients may experience this)[\[13\]](#)

Reoperation and Readmission Rates:

- **Revision surgery:** Only about 1% of patients require another surgery[\[1\]](#)
- **30-day readmission:** Approximately 6-11% of patients are readmitted within 30 days, most commonly for infection or medical complications[\[12\]](#)[\[14\]](#)
- **90-day readmission:** Approximately 12-17% of patients[\[14\]](#)

Mortality: The risk of death from this surgery is very low, approximately 1% or less, and is higher in patients with significant medical problems.[\[11\]](#)[\[15\]](#)

Factors That May Affect Your Outcome

Certain factors can influence your surgical outcome:[\[2\]](#)[\[10\]](#)[\[12\]](#)

Factors associated with better outcomes:

- Younger age
- Non-smoker status
- Healthy body weight
- Absence of diabetes
- Shorter duration of symptoms before surgery
- Less severe neurological deficits before surgery

Factors that may increase risk:

- Advanced age (over 70 years)
- Smoking
- Obesity
- Diabetes
- Heart disease or kidney disease
- Anemia
- Multiple medical problems

If you have modifiable risk factors such as smoking, anemia, or poorly controlled diabetes, your surgeon may recommend optimizing these conditions before surgery to improve your outcomes.[\[12\]](#)

Final Thoughts

Posterior cervical decompression and fusion is an effective treatment for spinal cord and nerve compression in the neck. The vast majority of patients achieve successful fusion and experience meaningful improvements in pain, function, and quality of life. While complications can occur, they are relatively uncommon, and most are manageable. Your surgical team will work with you throughout the process to optimize your outcome and ensure the safest possible recovery.

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