

ACDF (Anterior Cervical Discectomy and Fusion) Pre-Operative Guide

What is Anterior Cervical Discectomy and Fusion (ACDF)?

ACDF is a surgery performed through the front of your neck to relieve pressure on nerves in your cervical spine (neck). During the procedure, your surgeon will remove a damaged disc that is pressing on your spinal cord or nerve roots, and then fuse (join together) the bones above and below where the disc was removed.[\[1\]](#)

Why Do You Need This Surgery?

You may need ACDF if you have:

- Cervical radiculopathy - pain, numbness, or weakness that travels down your arm because a nerve root is being pinched
- Cervical myelopathy - problems with balance, coordination, or hand function because your spinal cord is being compressed
- Degenerative disc disease - wear and tear of the discs in your neck causing chronic pain[\[2\]](#)[\[3\]](#)

These conditions occur when discs in your neck break down over time, bone spurs develop, or discs bulge out and press on nerves or the spinal cord. When non-surgical treatments like physical therapy, medications, and injections don't provide enough relief, surgery may be recommended.

What Happens During the Surgery?

Your surgeon will make a small incision on the front or side of your neck. Through this approach, they will:

1. Carefully move aside your windpipe, esophagus (swallowing tube), and blood vessels to reach your spine
2. Remove the damaged disc that is pressing on your nerves
3. Place a bone graft or cage in the empty disc space to maintain the height between your vertebrae

4. Sometimes, you surgeon will add a small metal plate and screws to hold everything stable while fusion occurs[\[4\]](#)

- This is not always necessary. Sometimes, a “standalone” implant with built-in screws can be used to keep the implant stable while fusion occurs and decrease the risk of dysphagia (i.e. difficulty swallowing)

The bone graft can come from your own body, a donor (allograft), or be made of synthetic materials. Over time, the bones above and below will grow together (fuse) into one solid bone.[\[5\]](#)

What Are the Benefits of ACDF?

Most patients experience significant improvement after ACDF:

- Pain relief: Neck pain improves by about 63-69% and arm pain improves by 73-75%[\[5\]\[6\]](#)

- Improved function: Most patients report notable improvement in their ability to perform daily activities[\[6\]](#)

- High success rates: 85-95% of patients report that their surgery was successful[\[7\]](#)

- Long-lasting results: Improvements are maintained for 10 years or longer in most patients[\[7\]](#)

- Return to normal activities: Most patients return to driving within 12-16 days and to work within 14-16 days[\[6\]](#)

What Are the Risks and Complications?

Like all surgeries, ACDF carries some risks. The overall complication rate ranges from 8-19%, with most complications being minor and manageable.[\[2\]\[3\]](#)

Common complications (occur in more than 1% of patients):

- **Difficulty swallowing (dysphagia)**: The most common complication, occurring in 3-10% of patients. This usually improves within a few weeks but can occasionally last longer.[\[2\]\[3\]\[8\]](#)

- **Hoarseness or voice changes**: Occurs in 1-3% of patients due to temporary irritation of the nerve that controls your vocal cords. This typically resolves on its own.[\[2\]\[3\]](#)

- **Postoperative hematoma (blood collection)**: Occurs in 1-6% of patients. Most resolve on their own, but about 2% require a return to surgery to drain the blood.[\[2\]](#)

Less common complications (occur in less than 1% of patients):

- Worsening of nerve symptoms (0.2-0.9%)[\[2\]](#)[\[3\]](#)
- Spinal fluid leak (0.5-1.3%)[\[2\]](#)[\[3\]](#)
- Infection (0.1-0.2%)[\[2\]](#)[\[3\]](#)
- Esophageal injury (0.1-0.3%)[\[2\]](#)[\[3\]](#)
- Horner's syndrome (drooping eyelid, 0.1%)[\[2\]](#)

Very rare complications:

- Death (0.1% or 1 in 1,000 patients)[\[2\]](#)

Long-term considerations:

- Pseudoarthrosis (failure to fuse): Occurs in about 2.6% of patients. Most do not require additional surgery.[\[1\]](#)[\[9\]](#)
- Adjacent segment disease: Over time, the discs above or below your fusion may develop problems. This occurs in about 3% of patients per year, with about 21-22% requiring another surgery within 10 years.[\[1\]](#)[\[7\]](#)
- Need for revision surgery: Overall, about 2-9% of patients require another surgery at some point.[\[6\]](#)[\[9\]](#)

Important factors that may increase your risk:

- Older age
- Smoking (significantly increases complications and reduces fusion rates)
- Chronic lung disease (COPD or asthma)
- Multiple medical problems
- Surgery involving 3 or more levels
- Revision (repeat) surgery[\[8\]](#)[\[10\]](#)

What to Expect for Recovery

Hospital stay: Most patients go home the same day or stay one night in the hospital.[\[6\]](#)[\[11\]](#)

Recovery timeline:[\[12\]](#)

- **First 4-6 weeks:** You'll experience the most rapid improvement in pain and function
- **6 weeks to 3-4 months:** Continued gradual improvement
- **After 4 months:** Symptoms typically reach a stable level

Pain improvement: Arm pain often improves faster than neck pain. Neck pain typically improves within the first 3-4 weeks.[\[12\]](#)

Activity restrictions: You'll have some temporary restrictions on lifting, bending, and twisting to protect your fusion while it heals.

Physical therapy: Early gentle exercises starting within the first week after surgery are safe and may help your recovery.[\[13\]](#)

Fusion: It takes about 3-6 months for the bones to fully fuse together, though you'll feel better long before this happens.

What You Can Do to Improve Your Outcome

- Stop smoking: Smoking significantly reduces your chances of successful fusion and increases complications
- Follow activity restrictions: This protects your fusion while it heals
- Attend physical therapy: If recommended by your surgeon
- Take medications as prescribed: Especially pain medications in the early recovery period
- Keep all follow-up appointments: So your surgeon can monitor your healing

Final Thoughts

ACDF is a well-established, safe, and effective procedure for treating cervical spine problems. While all surgery carries risks, the vast majority of patients experience significant improvement in their pain and function with a low rate of serious complications. Your surgical team will work with you to minimize risks and optimize your recovery.

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