ACDF
Anterior Cervical Discectomy and Fusion
Table of Contents

Anatomy of the Spine ........................................... 2-3
General Conditions of the Cervical Spine ......................... 4–5
What is an ACDF? .............................................. 6
How is an ACDF performed? .................................... 7–8
Frequently Asked Questions ..................................... 9
Contraindications, Complications, Warnings and Precautions .... 10
ACDF
Anterior Cervical Discectomy and Fusion

Patient Information

This brochure will help you understand more about:

- General conditions of the spine
- Information about surgical treatment of the cervical spine
- What to expect from surgery

The decision to receive medical treatment is individualized to the patient and the patient’s symptoms. The information presented within this brochure may not apply to your condition, treatment, or its outcome, as surgical techniques vary and complications can occur. It is important to discuss the viability of this procedure with your physician to decide whether this treatment option is right for you.

This brochure is intended to be an educational resource only and is not meant to be a warranty or to replace a conversation between a patient and their physician or member of their health care team. Please consult your physician for a complete list of indications, precautions, clinical results and other important medical information that pertains to this procedure.
Anatomy of the Spine

Cervical

Thoracic

Lumbar

Sacrum

Coccyx
Anatomy of the Spine

The spine is made up of vertebrae and is divided into three main sections:

- Cervical (7 vertebrae)
- Thoracic (12 vertebrae)
- Lumbar (5 vertebrae)

Below the lumbar spine is the sacrum which is comprised of five fused vertebrae. At the end of the spine is the coccyx, or the tailbone.

The vertebrae bear the weight of the upper body and provide points of attachment for muscles and ligaments. It also protects the spinal canal (cavity that runs successively through each of the vertebrae and contains the spinal cord) and provides exit points for spinal nerves.

The individual vertebrae are separated by intervertebral discs, which act as cushions or shock absorbers between the vertebral bodies.
General Conditions of the Cervical Spine

- Normal disc
- Bulging disc
- Degenerative disc
- Herniated disc
General Conditions of the Cervical Spine (cont'd)

What is causing discomfort in my arms and neck?
Age, genetics, injury, and everyday wear and tear caused by routine activities can contribute to damage and deterioration of the discs in your neck. Your surgeon may have diagnosed a herniated disc, disc degeneration, spinal stenosis, or loss of disc height as compared to your other discs. Symptoms of these conditions can include loss of motor function and dexterity, tingling or numbness in the arm or hand, and radiating pain, weakness and/or numbness in your shoulders, arms and neck.

Degenerative Disc Disease
Over time, the discs can lose flexibility, elasticity, and height, which is known as Degenerative Disc Disease (DDD). When this happens, shock absorbing abilities are reduced and abnormal motion or alignment and instability of the spine may occur.

Herniated Disc
Degeneration or injury can cause cracks and tears in the outer layer of the intervertebral disc. The gel inside the disc can be forced out of these cracks and tears, causing the disc to bulge (protrusion), break open (extrusion), or break into pieces (sequestration), putting pressure on a nerve root or the spinal cord.

Spinal Stenosis
Narrowing of areas in the spine where nerve roots and the spinal cord must travel is called Spinal Stenosis. This can be caused by herniated discs, osteophytes (bony projections), or ligaments compressing the spinal cord.
What is an ACDF?

ACDF stands for Anterior Cervical Discectomy and Fusion which is the joining of two bones together. The unhealthy disc is removed, then replaced with a bone graft or synthetic spacer, and a cervical plate with screws is used for stabilization. The primary goal of this procedure is to relieve pressure on either the nerve roots or spinal cord and/or treat a painful disc. The anterior cervical (front of the neck) approach of this surgery allows access for your surgeon to the afflicted area.
How is an ACDF Performed?

Your surgeon may have recommended an anterior cervical discectomy (surgical removal of an intervertebral disc) and fusion to treat your condition. This section describes how this procedure is performed.

A 1–2 inch horizontal incision (a surgical cut made in skin) is made in the anterior (front) of the neck, on either the right or left side. The soft tissues of the neck are gently separated to allow access to the surgical site.

Specialized pins are temporarily inserted into the superior (top) and inferior (bottom) vertebrae during the procedure. These are used to distract (pull in opposite directions) the vertebrae to allow access to and visualization of the intervertebral disc.
How is an ACDF performed? (cont'd)

Surgical instruments are used to remove the intervertebral disc. A small implant is inserted to fill the vacant disc space and join the vertebrae together.

A titanium alloy plate is placed on the surface of the neighboring vertebrae and attached with screws.

Over time, the vertebrae can grow together through fusion. This process varies between patients and can take anywhere from a few months up to a couple of years to completely fuse.
Frequently Asked Questions

**What Should I Expect from Surgery?**
Treatment with an ACDF may help you return to normal activities. Patients may notice improvement of some or all symptoms, and pain from surgery may diminish between 2 to 4 weeks after surgery. However, recovery time varies between patients.

It is the surgeon’s goal for the patient to eventually return to his/her preoperative activities. A positive attitude, reasonable expectations and compliance with your doctor’s post-surgical instructions may all contribute to a satisfactory outcome.

**When Will I Be Able to Return to Work?**
The amount of recovery time needed prior to returning to work will vary depending on the surgery, your job, and you as an individual. Please consult your surgeon for an individual recommendation.

**How Long Will I Have Restricted Activities?**
As with any surgery, the duration of time between procedure and return to normal activities is different for every patient. Your surgeon may provide a list of activities you should avoid during the first six weeks after surgery.
Contraindications, Complications, Warnings and Precautions

You may be contraindicated (not suitable) for this device if you have an infection, a congenital abnormality, are obese, pregnant, mentally ill, diabetic, suffer from rheumatoid arthritis, osteoporosis, or cancer.

As with any surgical procedure, complications may occur following the placement of this device. These can include but are not limited to early or late implant bending, failure, loosening, movement/migration, bone fracture, and allergic reaction to implant material.

Other general complications associated with any spinal procedure include non-union or delayed union, pseudarthrosis, pain, second surgery, bleeding, early or late infection, spinal cord and/or nerve damage, incisional complication, scar formation, blood vessel damage, cardiovascular system compromise, respiratory problems, complications due to bone grafting, reactions to anesthesia, impotence, sexual dysfunction, paralysis, and death.

This list does not include all possible contraindications, complications, warnings, or precautions. Please consult with your surgeon for additional information on this topic and how it applies to your particular medical condition.