This booklet is designed to inform you about the Anterior Cervical Discectomy and Fusion (ACDF) surgical procedure. It is not meant to replace any personal conversations that you might wish to have with your physician or other member of your healthcare team.

Not all the information here will apply to your individual treatment or its outcome. The information is intended to answer some of your questions and serve as a stimulus for you to ask appropriate questions about the procedure.
The area of the spine in your neck is called the **cervical spine**. It is made up of seven bones, called vertebrae. These vertebrae are connected by several joints, which allow you to bend, twist, and move your neck. The main joint between two vertebrae is called a disc. The disc is comprised of two parts, a tough and fibrous outer layer (annulus fibrosis), and a soft, gelatinous center (nucleus pulposus). These two parts work in conjunction to allow the spine to bend, twist, and also provide shock absorption.
What is causing my pain?
There are several primary causes of cervical spine problems. The majority of the symptoms are caused by disc, bone, or ligaments pressing onto the nerve roots or cord.

DEGENERATIVE DISC DISEASE (DDD)
During the natural aging process, the discs between each vertebral body can lose their flexibility, height, and elasticity. This can lead to a tear in the tough outer layer of the disc, causing the gelatinous core to bulge or herniate. As DDD advances, osteophytes (or bone spurs) develop around the disc and joints of the spine.

NERVE COMPRESSION
Cervical disc bulging or herniation can cause pressure on the nerve roots and/or spinal cord causing symptoms including radiating arm, neck, and shoulder pain, loss of dexterity or motor function, and numbness and tingling in the hand or arm.

CERVICAL CORD COMPRESSION
In some patients, the spinal cord can be compressed by bony osteophytes (spurs), herniated discs or by other soft tissues such as ligaments. This is often referred to as spinal stenosis, which can lead to symptoms including: radiating arm pain, arm and hand weakness and numbness, loss of dexterity and motor function, gait instability, and neck pain.

TRAUMA AND INSTABILITY
Compression of the cord and nerve roots can also be caused by accidents and injuries which damage parts of the spine. Some of the possibilities are traumatic disc herniation, facet fracture, ligament instability, and fracture dislocation.
What are my treatment options?
Many of the symptoms can be treated without surgery with methods that involve rest, heat, medication, and physical therapy. It is important that you speak to your physician about the best options for you.

If your symptoms do not improve with other methods, your physician may suggest spinal surgery. Surgery is reserved for those who do not gain relief from non-operative forms of treatment, patients whose symptoms are increasing or worsening, and/or patients that present with a spinal condition which indicates the need for surgery.

What is an ACDF procedure?
An Anterior Cervical Discectomy and Fusion (ACDF) procedure is a type of cervical spine surgery from the front (anterior) of the neck (cervical) that often successfully addresses spinal symptoms. ACDF surgery is a very common procedure relative to overall spine surgeries and has a long and studied record of positive outcomes. An ACDF surgery consists of removing the damaged disc and then growing bone between the vertebrae above and below. ACDF procedures may be performed with the use of an implant, such as a plate, to provide support until fusion occurs.

Anterior approaches, such as in ACDF, involve less muscle stripping from the spine and allow good access to the discs at the front of the spine compared to a posterior approach. It provides the physician with a clear and uncomplicated approach to the cervical spine, and patients tend to have less incisional pain from this approach.
Is an ACDF right for me?

In the cervical spine, surgery is often performed via an anterior approach to address a multitude of issues, including degenerative disorders, fractures, or tumors. Your physician may determine that an ACDF procedure is a good option for you if you require an interbody fusion, are skeletally mature, and have gone through six weeks of non-surgical treatment.

Conversely, your physician may determine that an ACDF procedure is not a good option for you if you are not a good candidate for fusion surgery in general due to other medical conditions. These conditions can be signs of inflammation or infection near the operative site, patient sensitivity to implant materials, patients with inadequate bone quality, and other indications.

What can I expect...?

**Before surgery**

Your physician will review your condition and explain all of your treatment options, including medications, physical therapy, and other surgeries such as removal of the diseased disc, fusion, etc.

Once you have been admitted to the hospital, you will be taken to a pre-op room and prepared for surgery. This may include instruction about the surgery, cleansing of your surgical site, as well as instruction about the postoperative period.
What happens *during* surgery?

**SURGICAL PROCEDURE**

**STEP 1**  
**APPROACH**
Traditionally, a small incision is created over the treatment area. The size of the incision can vary based on number of levels and or complexity of the case.

**STEP 2**  
**DISC REMOVAL**
The diseased or damaged disc is removed to reduce pressure from the symptomatic cord or nerve root.

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What implants are used?

Below are some examples of implants that may be used during your ACDF procedure:

*Plate with screws*

*Implant with built-in fixation*

*Implant*
An implant is inserted into the void left once the disc is removed. This implant acts as a mechanical support for the vertebrae while bone grows between vertebral bodies during the fusion (bone healing) process. That segment of your spine will stabilize once fusion occurs.

Your surgeon may choose to add additional fixation depending on the type of implant used. A small plate and screws are then placed over the disc space to act as a stabilization device (internal brace) to help hold everything in place while fusion occurs.
What can I expect...?

**After surgery**

After surgery you will wake up in the recovery room, where your vital signs will be monitored and your immediate postoperative condition will be carefully observed. Most patients stay in the recovery room between one and three hours after surgery. Once the medical staff feels that you are doing well, you will be returned to your room in the hospital. It is normal for your incision to be sore immediately after surgery. The nursing staff will be checking to make sure that your vital signs are stable and that there is no problem with either the wound or nerve function in your extremities.

Most ACDF patients are discharged from the hospital the day after surgery, but your physician will determine the best postoperative course for you, depending on your comfort and any other health problems you may have. Your physician will discuss with you any pain medications to take home, as well as wound care instructions, exercises, physical therapy, collar wear, and any activity restrictions, if applicable.

Are there risks involved?

All surgery presents risks and complications that are important to discuss with your physician prior to your surgery. Listening to your physician’s guidance both before and after surgery will help to ensure the best possible outcome from your procedure.

Risks associated with anterior cervical surgery of the spine include: cervical edema (swelling), dysphagia (difficulty swallowing); dysphonia (hoarseness); vocal cord paralysis; laryngeal palsy; sore throat; recurring aspirations; nerve deficits or damage; tracheal,
esophageal, and pharyngeal perforation; airway obstruction; deficit or
damage to the spinal cord, nerve roots, or nerves possibly resulting
in paralysis or dural tears or leaking; cerebrospinal fistula; discitis,
arachnoiditis, and/or other types of inflammation; loss of disc height;
loss of proper curvature, correction, height, or reduction of the spine;
vertebral slipping; scarring, herniation, or degeneration of adjacent
discs; surrounding soft tissue damage, spinal stenosis, myelopathic,
or radicular symptoms; spondylosis; otitis media; fistula; vascular
damage and/or rupture; and headache. Please contact your physician to
discuss all potential risks.

Frequently asked questions

CAN I SHOWER AFTER SURGERY?
Depending on your surgical incision, you may have showering
restrictions. Ask your physician for appropriate instructions.

WILL I HAVE A SCAR?
This surgery involves a small incision on the anterior (front) of your
neck. In some instances, the incision follows a natural skin fold,
and thus the resulting scar usually heals so that it is barely visible.
Ask your physician for more information though, as every patient
is different.

WHEN CAN I DRIVE?
For a period of time after your surgery, you may be cautioned about
activities such as driving. Your physician will tell you when you may
drive again.

CAN I TRAVEL?
The implants used in the ACDF procedure may activate a metal
detector. Because of increased airport security measures, please
call your local airport authority before traveling to get information
that might help you pass through security more quickly and easily.
Ask your physician to provide a patient identification card.
If you have any questions about the ACDF procedure or cervical spine surgery in general, please call or see your physician, who is the only one qualified to diagnose and treat your spinal condition. This patient information brochure is not a replacement for professional medical advice.

RESOURCES

For more information about the ACDF procedure, please visit: www.nuvasive.com

If you would like to learn more about patient support and education for chronic back, leg, and neck pain sufferers and their loved ones, please visit: www.thebetterwayback.org
AN INTRODUCTION TO

ACDF
ANTERIOR CERVICAL DISCECTOMY & FUSION

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