

## Anterior Cervical Discectomy and Fusion

See the brochures:

1. Anatomy and Terminology of the Spine.
2. Spine and Disc Disease.

### Introduction

**Anterior cervical discectomy and fusion (ACDF)** is an operation performed on the cervical (upper) spine to relieve pinched nerves or spinal cord, or to remove diseased discs, vertebrae or bone spurs. It is one of the most common operations in the US. **Anterior** means surgery from the front, **cervical** refers to the spine in the neck, and **discectomy** means removal of a disc. **Fusion** means placing a **bone graft** in between the vertebrae (where the disc used to be) and allowing the vertebrae and bone graft to fuse together over time. Fusion usually also involves placement of a small metal plate and screws to strengthen the fusion. This is called **instrumentation**.

There are several other operations that are performed as variations of ACDF. These include **anterior cervical corpectomy** (removal of all or part of a vertebra along with the disc), and **anterior microsurgical foraminotomy** (removal of some bone and disc without fusion).

### Signs and symptoms

Herniated discs, diseased discs, and bone spurs typically cause severe neck and arm pain, as well as often weakness, numbness and/or tingling in an arm or other parts of the body. Surgery is performed when pain and neurological symptoms do not respond to non-surgical means, or when non-surgical treatments are unlikely to help.

### Diagnosis

Most commonly patients will undergo MRI (magnetic resonance imaging) scanning. Computerized tomography (CT) scanning, myelography, electrical testing and other tests may be performed as well.

### Operation

Surgery may be done as an inpatient or outpatient. If surgery is performed early in the day, patients are frequently discharged home the same day. If done later in the day, discharge will more likely be the next day. Occasionally patients are kept in the hospital more than one day.

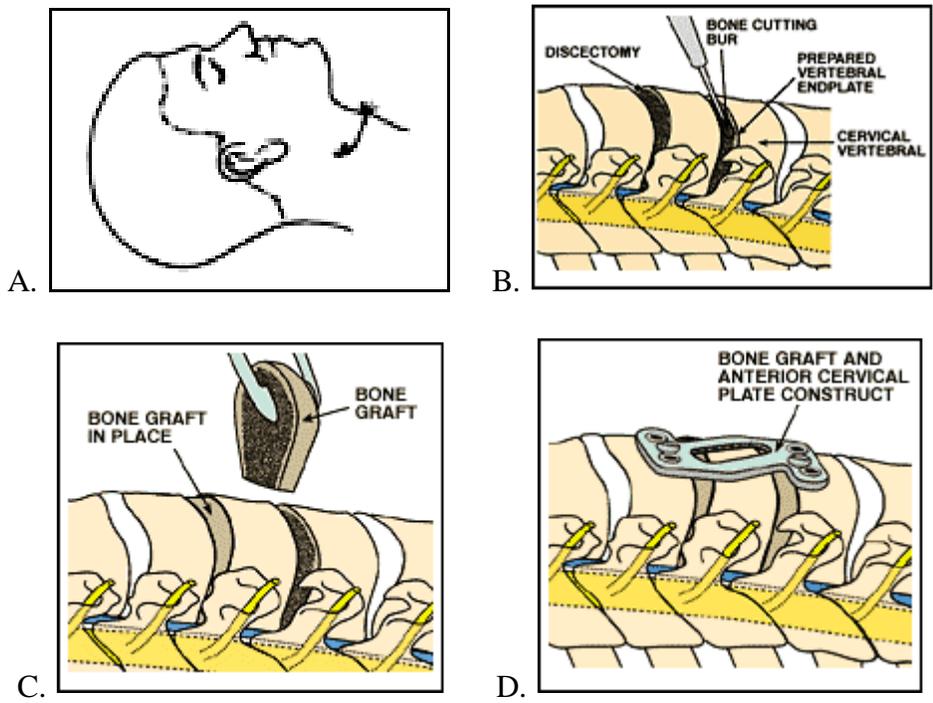


Figure 1

- A. An incision is made in the anterior cervical region.
- B. Disc(s), vertebrae and/or bone spurs are removed microsurgically.
- C. Bone graft is placed.
- D. Anterior plate (instrumentation) is placed.

In this operation, an incision is made in the front of the neck (figure 1A). The soft tissues of the neck are separated and the front of the spine is exposed. The disc and/or vertebrae are removed microsurgically (figure 1B). This part of the operation is done with special instruments under an operating microscope. Next, a bone graft is placed as a spacer where the disc (and/or vertebrae) used to be (figure 1C). Bone graft can come either from the patient (**autograft**) or from a bone bank (donor bone, or **allograft**). There are pros and cons to each method. Your doctor will discuss this with you. Finally, instrumentation is usually performed, generally consisting of a plate and screws.

**Risks of Surgery**

All surgery has risks and potential for complications. Your doctor will discuss this with you.

**After Surgery**

The pre-operative symptoms may take several days to several weeks to improve. In addition, there generally will be neck and shoulder pain and sore throat for a few weeks. There may be swallowing difficulty, and patients should eat soft foods until this improves. There will be soreness in the hip and leg area if bone graft was taken

from the iliac crest. There may be a numb patch of skin beneath the jaw near the incision for several months. This becomes barely noticeable. The voice may be hoarse for a time.

Patients generally cannot dislodge any screws, plates or bone grafts after surgery by performing simple activities of daily living, such as bending, doing housework, lifting light objects (up to 20 lbs) or gardening. However the neck muscles can become painful with too much exertion. Patients are instructed to push themselves slightly during the recovery period, but not to overdo it. Any sleep position is allowed.

Activity is beneficial. Low-impact exercise is best at first. Patients may drive when they feel safe doing so and when the doctor has allowed them to stop the use of the cervical collar (if one has been prescribed). Simple head turning in all directions is usually encouraged from day one.

### **Cervical Collar**

A cervical collar may be prescribed. Most of the time, the cervical collar is for comfort and support and is not mandatory. Collars are to be removed to sleep, eat and shower unless otherwise instructed by your doctor.

### **Further Instructions**

Patients will be given further instructions regarding wound care, medications, activities, and other issues after discharge from the hospital.