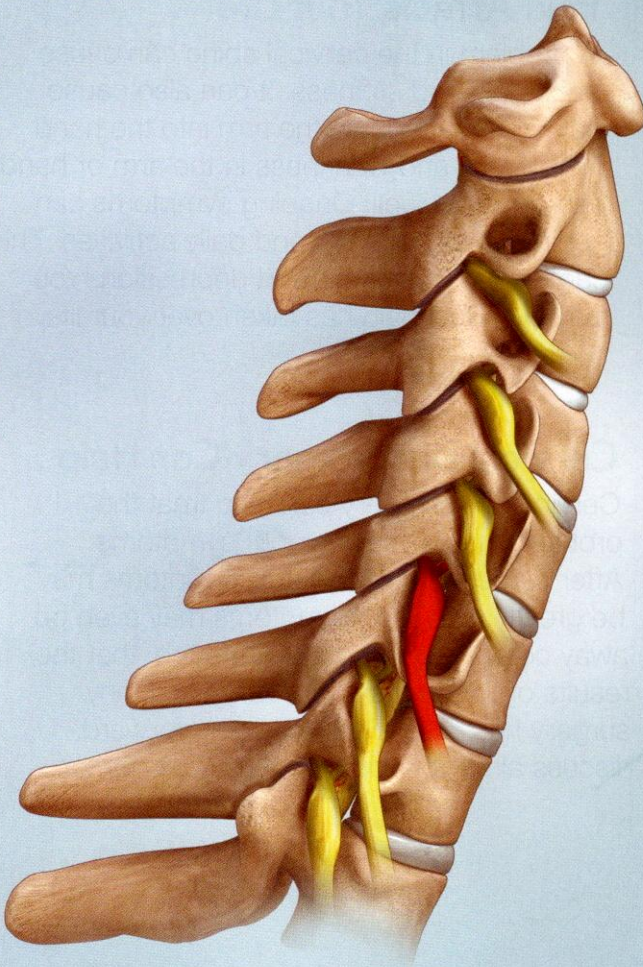


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# CERVICAL DISK SURGERY



Treating Pain and Weakness  
in the **Neck and Arm**

# A Problem in Your Neck

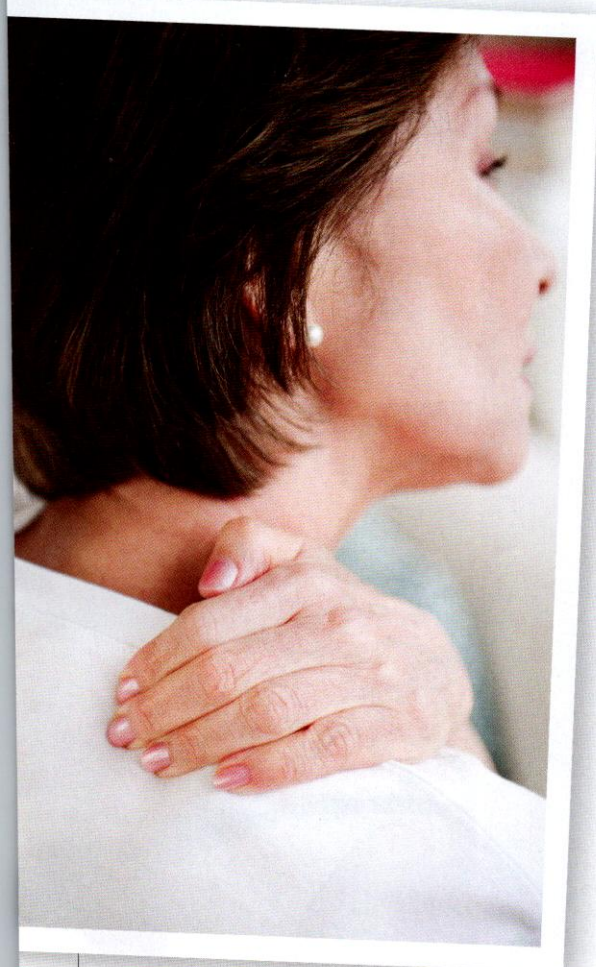
You have a disk problem in your **cervical spine** (neck). This can cause neck or arm pain that doesn't go away. This can also cause numbness and weakness in your arm and hand. Over time, these symptoms can put limits on your life. If other treatments haven't helped, cervical disk surgery may be a good option. This booklet will help you decide whether cervical disk surgery is right for you.

## Pain Affects Your Life

A problem in the cervical spine can cause neck pain and stiffness. It can also cause pain to radiate down the arm into the hand. Numbness and weakness in the arm or hand can occur as well. Ongoing symptoms can get in the way of work and daily activities. This can lead to frustration and depression. You may even feel pain has taken over your life.

## Cervical Disk Surgery Can Help

Cervical disk surgery can help treat the problem that is causing your symptoms. After surgery, neck and arm symptoms may be greatly reduced. Symptoms may even go away completely. Be aware, though, that the results of this surgery can vary. Also, any surgery has risks. Before moving forward, discuss all of your options with your doctor.



## Understand Your Role

For best results, plan to take an active role in your treatment and recovery. Talk with your doctor about what you hope surgery will do for you. And ask what range of outcomes you should be prepared to expect. Know the benefits and risks of having surgery or choosing another option. Also keep in mind:

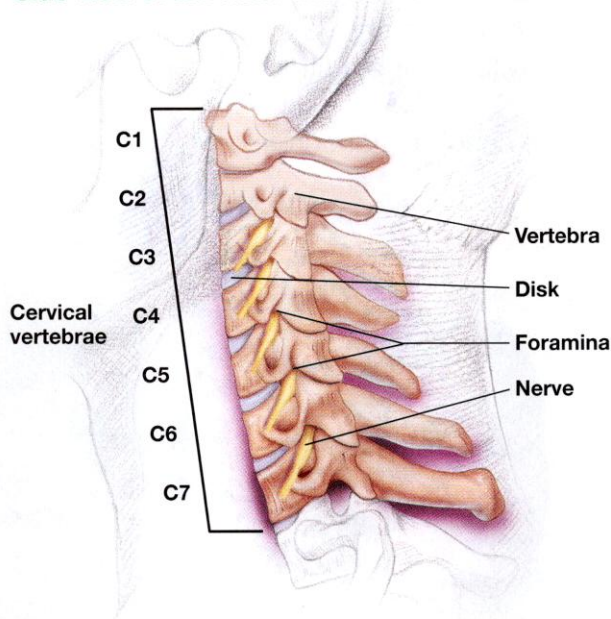
- Recovery from surgery takes time, often several months.
- After surgery, you will be asked to limit activities that put stress on your neck.
- A formal physical therapy program may be needed after surgery. This helps improve strength and mobility.



# Understanding the Cervical Spine

Your neck needs to be strong to hold up your head, which may weigh 10 pounds or more. But injury, poor posture, wear and tear, and diseases such as arthritis can damage the structures of your cervical spine. Or you may have a family tendency to develop disk problems. Pain and weakness in your neck and arms may result.

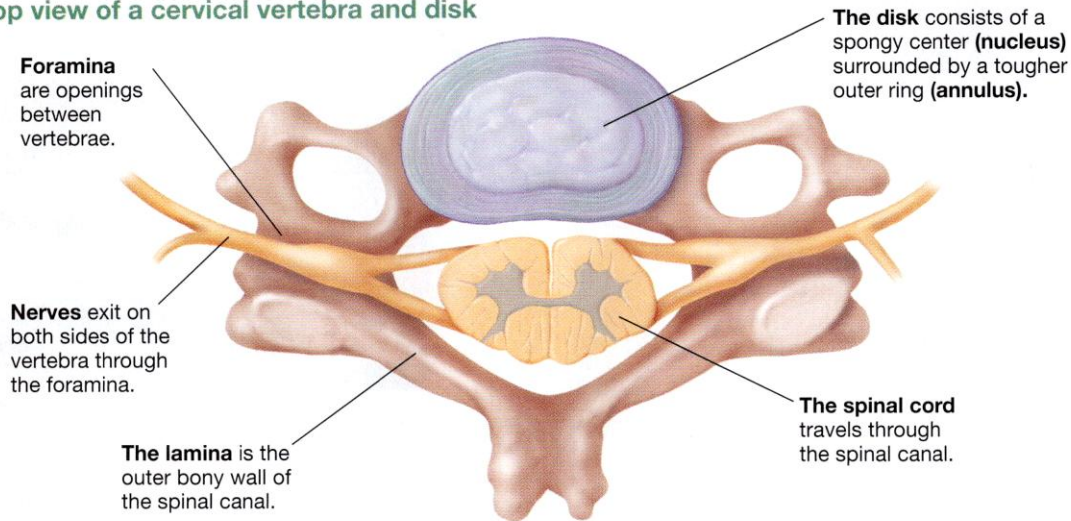
Side view of the neck and cervical vertebrae



## A Healthy Cervical Spine

The upper spine is a flexible column made up of the **cervical vertebrae**. These seven bones are separated by spongy, shock-absorbing **disks**. The spinal cord runs through a large central opening (**spinal canal**) formed by the vertebrae. Nerves branching from the spinal cord travel to your arms and other parts of your body through small openings (**foramina**) between the vertebrae. As you grow older, it's normal for your disks to wear out and harden. As a result, your neck may not be as flexible as it once was.

Top view of a cervical vertebra and disk



## Your Problem Spine

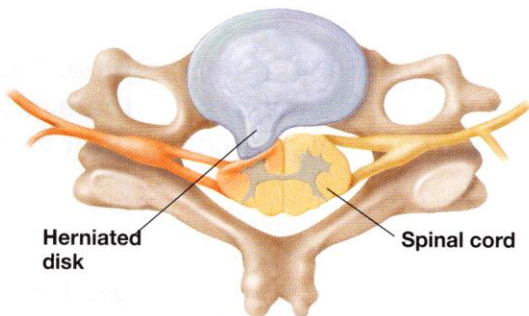
One of the most common cervical spine problems is a damaged disk. A disk may be injured and bulge outward (**herniation**).

The bulge may press on a nerve.

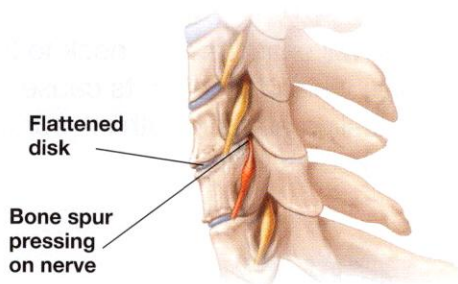
Or it may wear out gradually

(**degeneration**). A worn-out disk may become so flat that the vertebrae above and below it slip back and forth or almost touch.

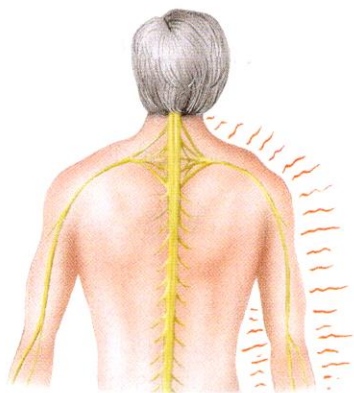
As disks wear out, abnormal bone growths (**bone spurs**) can form on the vertebrae and in the foramina, causing narrowing (**stenosis**).



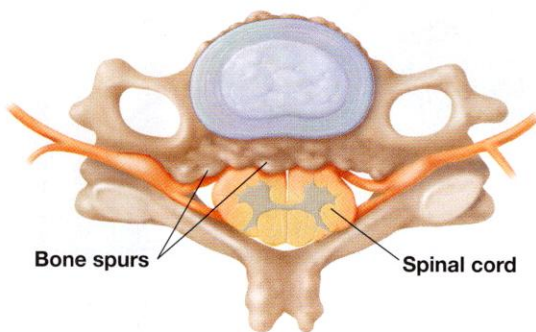
**With a herniated disk**, the annulus tears or the nucleus pushes through the annulus. The herniated portion of the disk may press on a nearby nerve. This may cause neck or arm pain, or weakness in the arm.



**In degenerative disk disease**, the disks flatten over time. The surrounding vertebrae begin to touch, and the nerves may be pinched. Bone spurs may also form, further irritating the nerves.



**Arm pain and weakness** may be caused by pressure on the nerves traveling from the cervical spine down the arm.



**In stenosis**, bone spurs grow into the foramina and spinal canal, narrowing the openings. The nerves and spinal cord may be compressed, resulting in pain, weakness, numbness, and loss of coordination.

# Medical Evaluation

Your doctor will evaluate your spine. This is done with a medical history, physical exam, and tests. After the evaluation, you and your doctor can discuss a treatment plan that's right for you.

## Medical History

You will be asked about your symptoms, when you feel them, and what parts of your body are affected. Tell your doctor about your health and any previous neck or spine problems. Also describe for your doctor how your neck problem affects your daily life.

## Physical Exam

Your doctor will examine your neck to find out how well you can move it and to see which movements cause symptoms. Your doctor will also check the feeling and strength in your arms and hands. Your reflexes will be checked as well.

## Diagnostic Tests

- **Imaging tests** will be done. These include x-ray, MRI (magnetic resonance imaging), CT (computerized tomography), or a bone scan. These tests create pictures of bones, disks, and nerves.
- **Contrast imaging tests**, such as a discogram or myelogram, may also be done. For these tests, contrast dye is used to help soft tissues (such as disks) show up more clearly.
- **EMG** (electromyography) and **NCS** (nerve conduction studies) may be done. These check muscle and nerve function.



# Nonsurgical Treatments

Before surgery is recommended, nonsurgical treatments may be tried. You and your doctor can discuss how these options fit into your treatment plan.

## Pain Relief

- **Medication** may be prescribed to treat pain, inflammation, and muscle spasm. Some medications are injected into joints or into areas near disks and nerves. Others are taken in pill form.
- **Restricting movement** may be advised. This may include avoiding certain activities or wearing a soft cervical (neck) brace for a few weeks.

## Physical Therapy

A **physical therapist** may teach you exercises to improve neck strength and range of motion. Your posture and movements may be evaluated and corrected. Therapies such as heat and massage may be used to help relieve your symptoms. In some cases, a treatment called traction may be recommended to help ease pressure on irritated nerves. Follow the exercise program given to you by your doctor or physical therapist.



Place your hand on one side of your head. Press your head and hand against each other. Repeat on the other side.



Slowly bend your neck to one side, then return it slowly to the center. Repeat on the other side.

## Self-Care

- Practice good posture whether you're sitting, standing, or moving.
- Use a headset to avoid painful neck positions when on the phone.
- Try supporting your neck with a cervical pillow when lying down.

# Preparing for Surgery

Once surgery is scheduled, plan ahead for the procedure and recovery. If you have any questions, be sure to get them answered. Know the risks of surgery. And know what surgery can and cannot do for you. Having realistic expectations is one key to a successful procedure.

## Planning Ahead

The better prepared you are for surgery, the smoother your recovery is likely to be. Follow all instructions given. Also:

- Stop smoking. Smoking slows healing. If you smoke, ask your surgeon for advice on stopping before surgery.
- Talk with your surgeon about how long you will need to be away from work. This may depend on the type of work that you do.
- Driving and certain other daily activities may be restricted for a few days or longer. Arrange for family and friends to help you with errands and household chores during this time.
- Consider moving items you use often to between shoulder and hip level. This helps keep you from needing to bend and reach after surgery.

## Risks and Complications

*As with any procedure, cervical disk surgery has certain risks. These can include:*

- Infection
- Bleeding; possible need for transfusion
- Risks from anesthesia
- Problems with swallowing
- Persistent hoarseness
- Implant problems or breakage
- Damage to nearby structures
- Injury to the nerves or spinal cord
- Paralysis (very rare)



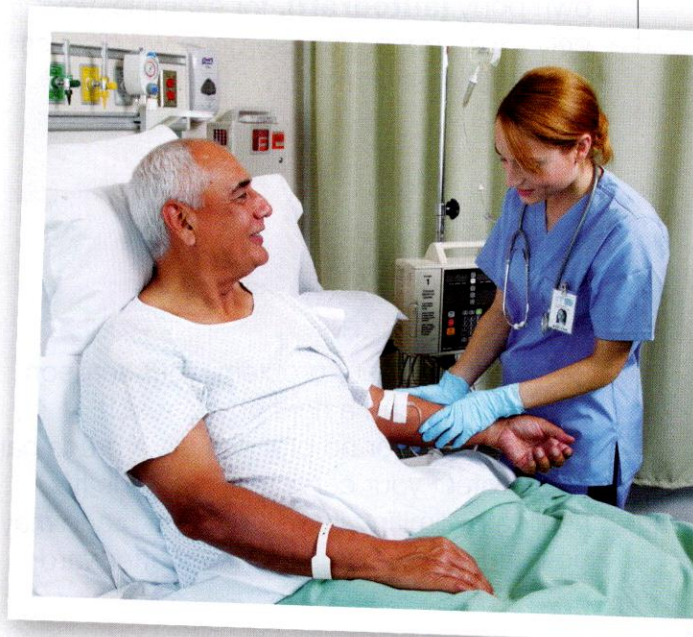


## Before Surgery

- Tell your doctor what prescription and over-the-counter medications you take. This includes aspirin, ibuprofen, and other NSAIDs. This also includes herbs and supplements. If you take medications to prevent blood clots, be sure to mention them. Ask if you should stop taking any of your medications before surgery.
- Arrange for an adult family member or friend to give you a ride to and from surgery. If you live alone, have someone prepared to stay with you for a night or two afterward.
- Get fitted for a brace, if prescribed. A brace limits motion in the cervical spine. This can help with healing. The brace may be fitted before surgery or right afterward.
- Stop eating or drinking before surgery as instructed.

## The Day of Surgery

Arrive at the hospital on time. An intravenous line (**IV**) will be placed in your arm or hand. This delivers fluids and medications. You may be given an IV medication to help you relax. You will likely be asked more than once to provide your name and what procedure you're having. Also, the incision site on your neck will be marked. These are standard safety measures. Just before surgery, you'll be given **anesthesia** (medication to prevent pain). You will likely receive general anesthesia. This puts you into a state like deep sleep.

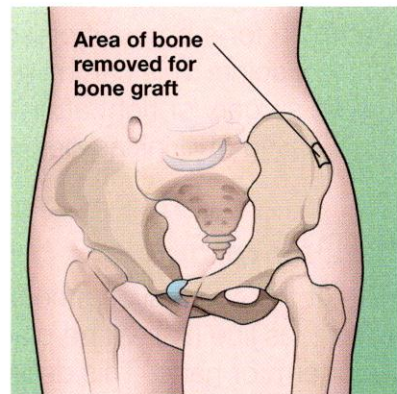


# Understanding Your Surgery

During surgery, your surgeon may remove all or part of the disk (**diskectomy**). To reach the cervical spine, he or she may make an incision in the front (**anterior**) or the back (**posterior**) of your neck. With the anterior approach, the neck may be made more stable with a **fusion** (joining) of the vertebrae. With the posterior approach, bone may be removed to enable your surgeon to reach the disk.

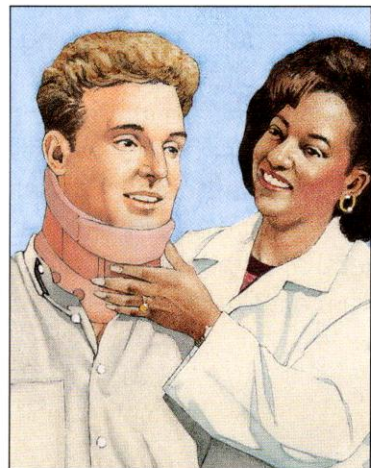
## If You Need a Bone Graft

Depending on the type of surgery, you may need a bone graft. The graft is a piece of bone that can be obtained from a bone bank (**allograft**) or from a bone in your own body (**autograft**), for example, your pelvic (hip) bone. Your surgeon will discuss these options with you.



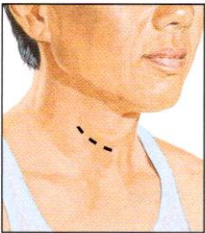
## Fitting a Brace

Depending on your problem, your surgeon may recommend a rigid brace, a soft cervical collar, or no brace at all. A brace can help protect your cervical spine while it's healing by limiting its motion. The brace may be fitted before surgery or right afterward.

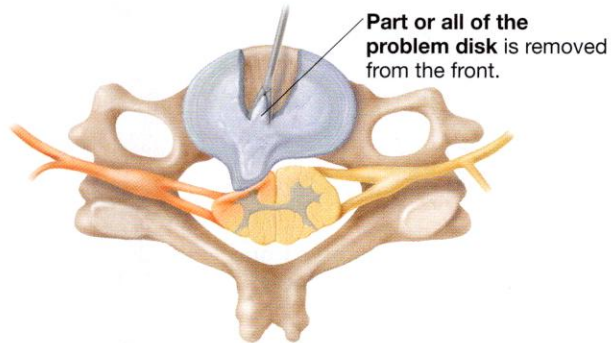


## Through the Front: Anterior Approach

Your surgeon will make a horizontal or vertical incision (about 1 to 3 inches long) on either side of your neck. To reach the disk, soft tissue is moved aside. All or part of the disk that is irritating the nerve is then removed. Your surgeon may remove bone spurs. The vertebrae may then be prepared for a fusion.

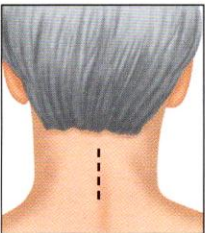


**Possible  
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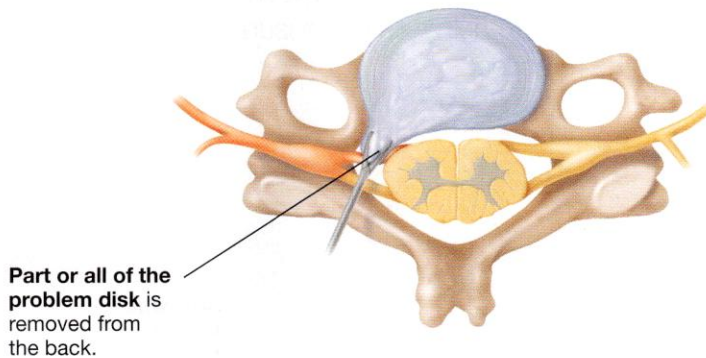


## Through the Back: Posterior Approach

Your surgeon will make an incision (about 2 to 4 inches long) in the middle of the back of your neck. Then he or she may remove bone to reach the problem area. The surgeon then removes the damaged portion of the disk.

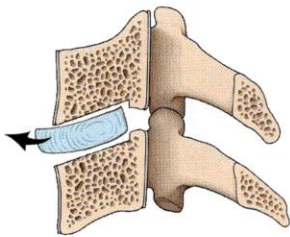


**Possible  
incision site**

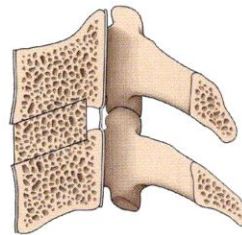


## Adding Stability: Fusion

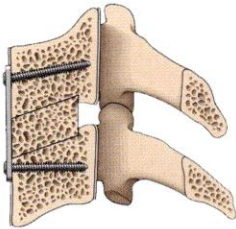
After removing a disk from the front, your surgeon may fuse the vertebrae above and below it. This limits movement, helping to relieve pressure and pain. First, the surgeon enlarges the space between the vertebrae. The surgeon then “plugs” the space with a cylinder- or wedge-shaped bone graft. Metal plates may be added over the front of the vertebrae and secured with screws. Or, a cage (a plastic or metal “basket” packed with bone graft) may be inserted where the disk was removed. These supports remain in the body.



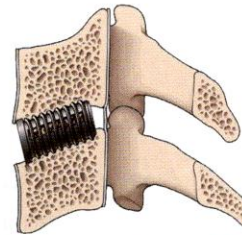
The disk is removed from between the vertebrae.



A bone graft is inserted to plug the opening.



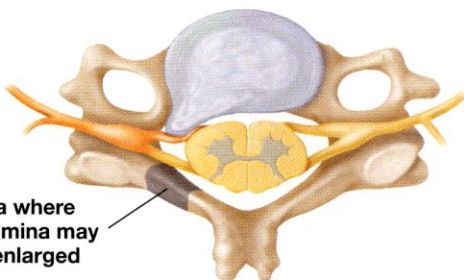
A metal plate may be used to keep the vertebrae stable.



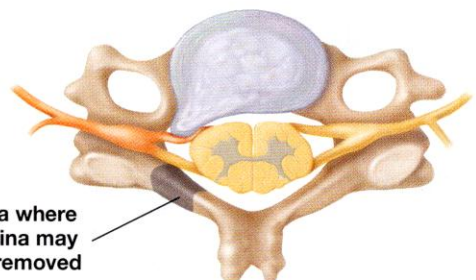
A cage may be used to support the vertebrae.

## Removing Bone

To reach the disk from the back, your surgeon may enlarge the foramina or remove a portion of the lamina. To help relieve pressure on the nerves or spinal cord, bone spurs may also be removed.



Area where foramina may be enlarged



Area where lamina may be removed

The location and amount of bone removed depend on the type of problem you have.

# Recovering in the Hospital

**After surgery, you will stay in the hospital until you have recovered enough to go home. Most people go home the same day. Some may need to stay in the hospital for one or more nights.**

## Right After Surgery

You will be monitored in a recovery unit for a few hours. Then you will be moved to a hospital room. The IV will remain in place for most of your hospital stay. You may have a tube to drain fluid from your incision. You may also have a tube called a catheter to drain your bladder. These are usually removed before you leave the hospital. In addition, you may have a brace to help protect your neck. Avoid twisting or bending your neck as much as possible.

## Controlling Pain

You will be given pain medication by mouth or IV. Or, you may control the medication yourself with a patient-controlled analgesia (PCA) pump. Some pain is normal, even with medication. If you are very uncomfortable, be sure to tell the nurse.

## Getting Up and Moving

Soon after surgery, you will be encouraged to get up and walk. This helps improve blood flow. It also keeps fluid from building up in your lungs. Before you go home, you may meet with a physical therapist. He or she may teach you ways to protect your neck during daily activities. You may also be given a program of exercises to do at home.

▶▶ **Before leaving the hospital, you may meet with a physical therapist.**



# Recovering at Home

Recovering from surgery may take a few months. Once at home, be sure to care for yourself as directed. Also, see your surgeon for follow-up visits as recommended.

## When You Get Home

- Take pain medications as instructed by your surgeon. Also, ask your surgeon when it's okay to restart medications that were stopped before surgery.
- Care for your incision as directed. Don't shower or bathe until your surgeon says it's okay.
- Wear a brace as directed, if you have one. The amount of time the brace is needed can vary. You may be told to wear the brace all day, even when sleeping and showering. Or, you may be allowed to take it off for short periods.
- Don't drive, lift heavy objects, or return to work without your surgeon's approval.

## Follow-Up Visits

You will have one or more follow-up visits with your surgeon to check the progress of your recovery. If you had fusion, x-rays may be taken to see how well the graft is fusing. If you had numbness or weakness in the arm or hand prior to surgery, nerve and muscle function may be tested. Once your neck is healed, physical therapy may be prescribed to help you regain strength and movement.

## When to Call the Surgeon

*Call your surgeon right away if you have:*

- Fever of 100.4°F (38°C) or higher
- Increasing pain, redness, swelling, bleeding, or drainage from the incision
- Trouble swallowing or breathing
- New neck or arm pain
- New numbness or weakness in the arms or legs



## Keeping Your Cervical Spine Healthy

Disk surgery may help relieve your symptoms. But you'll need to continue caring for your spine to help keep it healthy. Follow the tips below.

- **Stay active.** Regular exercise, such as walking, keeps your muscles strong and flexible. This supports your spine.
- **Practice good posture.** Keep your chin level. Avoid slouching or slumping. A physical therapist can tell you more about how to protect your spine.
- **Don't smoke.** Smoking may make your disks more prone to damage. It also keeps your muscles from getting all the oxygen they need.
- **Manage stress.** Tension can cause or worsen neck and back problems. Find ways to manage stress and ease tension.



▶▶ Walking is a great way to stay active and keep your spine healthy after surgery.

## Work with Your Doctor

Cervical disk surgery can help ease symptoms due to problems in the cervical spine. Before making the decision to have surgery, talk with your doctor about *all* of your options. Be clear what results to expect. Also, know what you need to do to prepare for surgery and recover from it. By being informed, you help your doctor ensure that your needs are met.

## Your Surgery Checklist

Use this checklist to remind yourself what to do before and after your surgery. Follow any other instructions you are given.

### Before Surgery

- Have any tests or exams as instructed.
- Stop taking any medications as instructed.
- Do not smoke.
- Stop eating and drinking before surgery as instructed. Depending on the time of your surgery, this may mean nothing to eat or drink after midnight the night before surgery.

### After Surgery

- Care for your incision as directed. Ask how long you should keep from getting your incision wet.
- Wear a brace as instructed.
- Do exercises or physical therapy as prescribed.
- Make and keep follow-up visits with your doctor.
- Ask when you can begin driving again. Also ask about returning to work and sex.

This booklet is not intended as a substitute for professional medical care. Only your doctor can diagnose and treat a medical problem. This booklet has been customized for Atlanta Spine Institute.

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