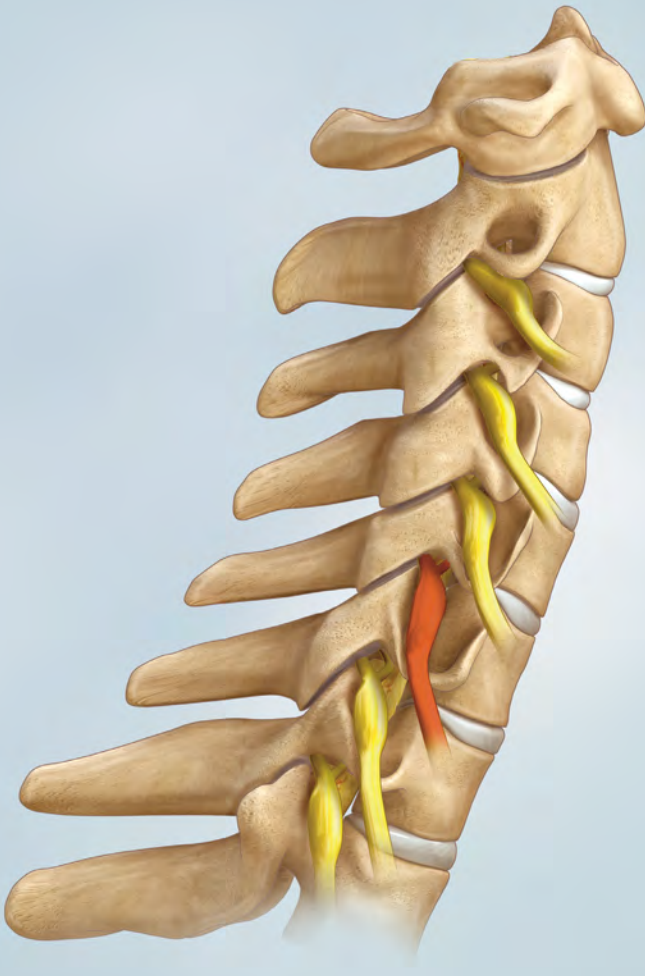


CERVICAL DISK SURGERY



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 an 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:

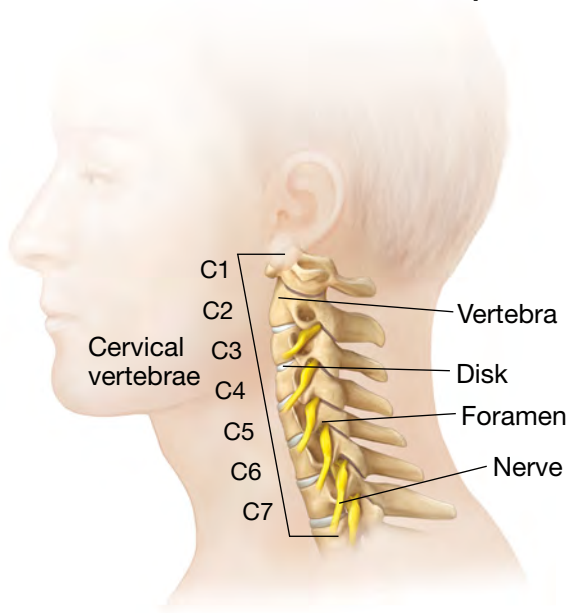
- Recovery from surgery takes time, often several months.
- After surgery, you will be asked to limit activities that put stress on your neck.
- A formal physical therapy program may be needed after surgery. This helps improve strength and mobility.



The Cervical Spine

The neck (cervical spine) is the top part of the spine. **Disks** are cushions between the bones of the spine. They absorb shock with movement and help keep the neck flexible. Problems with the disks can lead to pain and other symptoms.

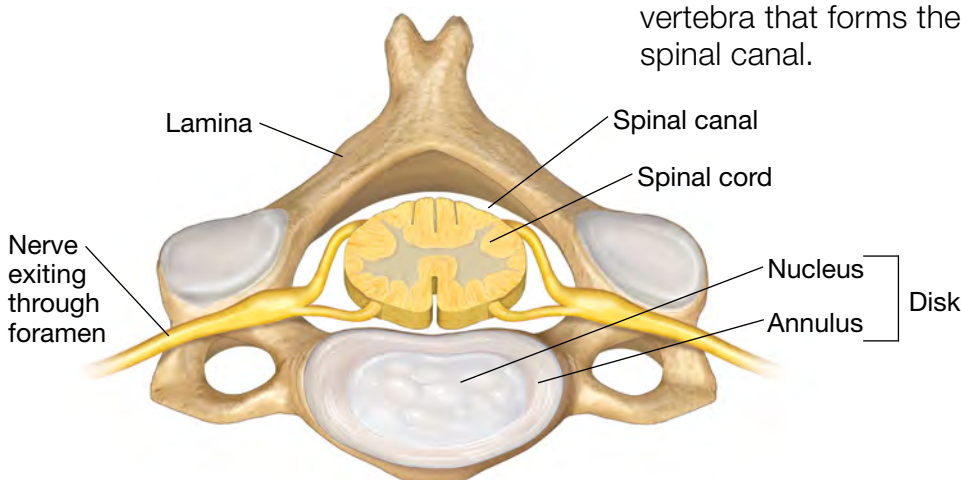
Side view of the neck and cervical spine



A Healthy Cervical Spine

- **Vertebrae** are bones that stack with disks to form the spine. The upper spine contains the first seven bones called the **cervical vertebrae**.
- **Disks** are soft pads of tissue that act as shock absorbers between the vertebrae. The firm, fibrous outer layer of a disk is called the **annulus**. The softer center is called the **nucleus**.
- The **spinal canal** is a tunnel formed by the stacked vertebrae and disks.
- The **spinal cord** runs through the spinal canal.
- **Nerves** branch out from the spinal cord. Each exits through an opening called a **foramen** on either side of the vertebrae.
- The **lamina** is the arched part of each vertebra that forms the back of the spinal canal.

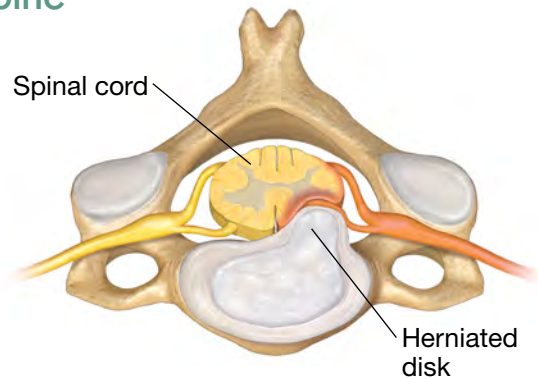
Top view of a cervical vertebra and disk



Disk Problems in the Cervical Spine

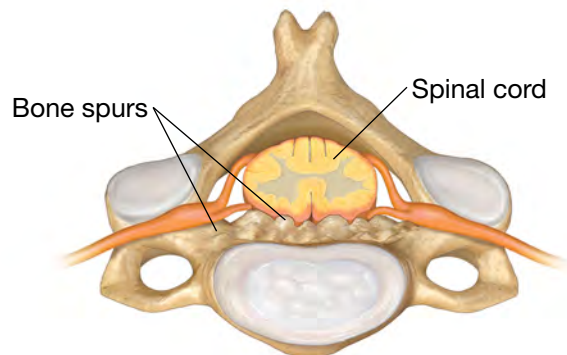
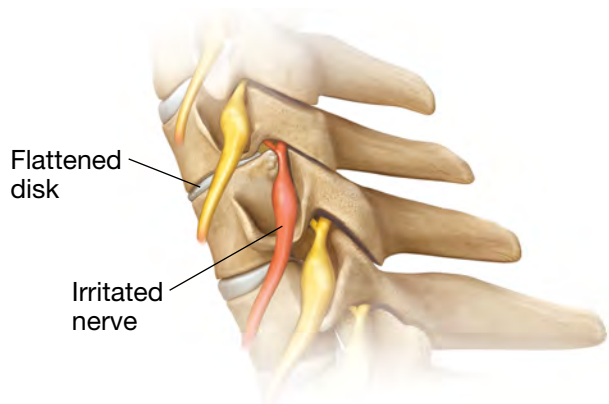
Herniated Disk

A disk can weaken and push outward (**herniate**). Part of the disk may then press on the spinal cord and nearby nerves. This may cause pain in the neck and down the arm. It may also cause numbness and weakness in the arm and hand.



Degenerative Disk Disease

With age, disks may wear out and flatten. Vertebrae above and below the disk then begin to touch. This can pinch and irritate nearby nerves. Where vertebrae rub together, bone growths (**spurs**) may form. These may cause narrowing (**stenosis**) of the spinal canal or foramen. The nerves and spinal cord are further squeezed and irritated. This can cause or worsen numbness and weakness.



Arm pain, numbness, and weakness may be caused by pressure on the nerves that travel from the cervical spine down the arm.



Medical Evaluation

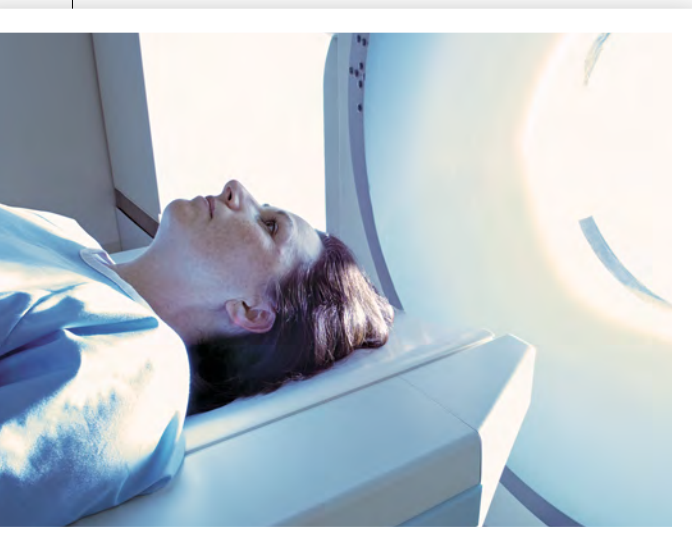
Your doctor will evaluate your spine. This is done with a medical history, physical exam, and tests. After the evaluation, you and your doctor can discuss a treatment plan that's right for you.

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** help give more information. These may include x-ray, MRI (magnetic resonance imaging), CT (computed 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) collar 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 used 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 or prevents healing. If you smoke, ask your doctor for advice on stopping.
- 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.
- Take steps to help avoid a fall. Remove trip hazards such as throw rugs, step stools, and cords.

Risks and Complications

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

- Infection
- Bleeding with possible need for a transfusion
- Risks of 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 collar, if prescribed. A collar limits motion in the cervical spine. This can help with healing. The collar 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 (IV)** line 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 measures are for your safety. Just before surgery, you'll be given **anesthesia** to prevent pain. This will likely be general anesthesia, which puts you into a state like deep sleep throughout the procedure.



Anterior Cervical Disk Surgery

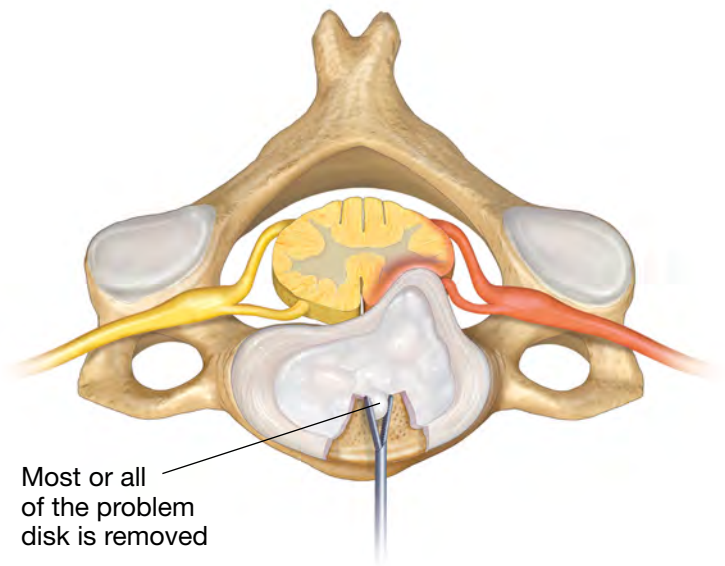
During surgery, most of a problem disk is removed (**diskectomy**). To reach the disk, an incision is made in the front (**anterior**) of the neck. After the disk is removed, two or more vertebrae may be fused together. Or, the problem disk may be replaced with an artificial one.

Reaching and Removing the Disk

Your surgeon makes an incision in your neck. Soft tissue is moved aside to expose the disk. Most of the disk is then removed. Your surgeon may also remove any bone spurs that press on nerves.

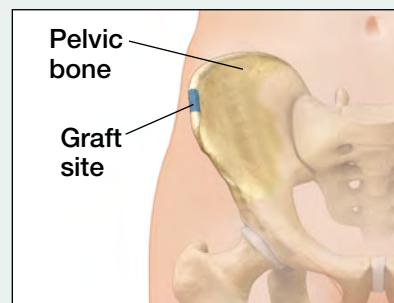


Possible
incision site



Bone Graft

If you are having fusion, bone graft is needed. This substance causes the vertebrae to fuse. The graft may be manmade bone substitute. It may come from a human donor who has died. Or, it may come from your own body (in some cases, your pelvic bone). Your surgeon will discuss these options with you.

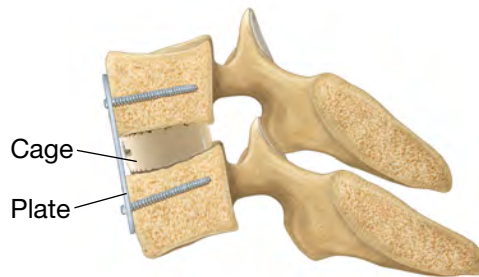


Fusion

Fusing vertebrae limits their movement. This can help reduce pressure on the nerves and spinal cord to relieve pain. First, most of the disk is removed. Then the space between the vertebrae is enlarged. The space is then filled with bone graft. Often, bone graft is put inside a device called a cage. The cage is then placed between the vertebrae. In some cases, the cage may be fixed to the vertebrae with screws. In others, a metal plate may be added over the front of the vertebrae and secured with screws. If used, the cage, screws, and plate remain in the body and are not removed.



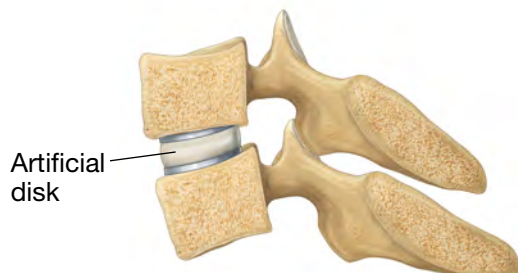
The disk is removed from between the vertebrae.



The space is filled with bone graft, often in a cage. It may be covered with a plate.

Disk Replacement

This procedure replaces a problem disk with a new disk of manmade materials. First, the problem disk is removed. The vertebrae are gently moved apart. Then the replacement disk is put between the vertebrae. The new disk is anchored into the bone. In time, bone will grow into and around the new disk to hold it firmly in place.



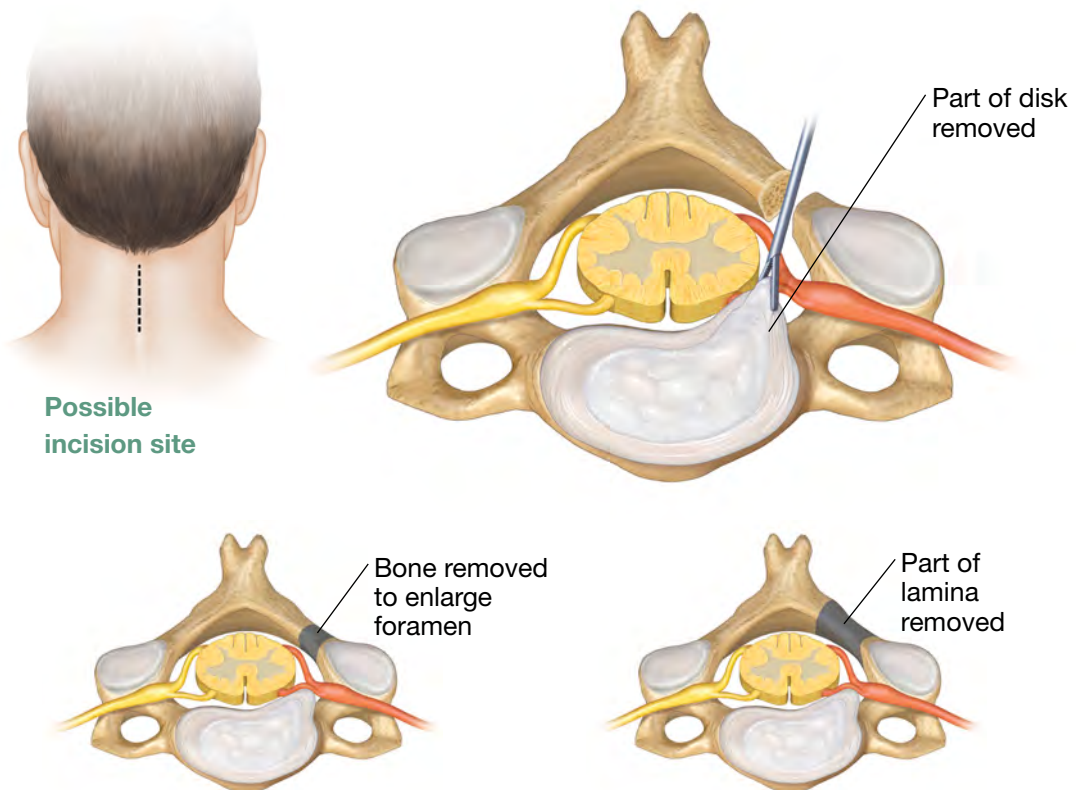
The disk is removed and replaced with an artificial one.

Posterior Cervical Disk Surgery

In some cases, the disk is reached through the back (**posterior**) of the neck. With this approach, bone may be removed from the back of the vertebra to enable your surgeon to reach the disk. A portion of the disk is then removed (**discectomy**).

Reaching and Removing Bone and Disk

Your surgeon makes an incision in the middle of the back of your neck. First, a portion of the lamina may be removed. Bone may also be removed to enlarge the foramen. This allows the surgeon to reach the disk. It can also relieve pressure on nearby nerves. A portion of the disk is then removed. If present, bone spurs may also be removed.



The location and amount of vertebra 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 collar to help protect your neck. Avoid twisting or bending your neck as much as possible.



▶▶ You may be given a collar that helps protect your healing neck.

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.

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 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 cervical collar as directed, if you have one. The amount of time the collar is needed can vary. You may be told to wear the collar 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, or as instructed by your surgeon
- 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 makes your disks less healthy and 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	After Surgery
<div><input type="checkbox"/> Have any tests or exams as instructed.</div> <div><input type="checkbox"/> Stop taking any medications as instructed.</div> <div><input type="checkbox"/> Do not smoke.</div> <div><input type="checkbox"/> 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.</div>	<div><input type="checkbox"/> Care for your incision as directed. Ask how long you should keep from getting your incision wet.</div> <div><input type="checkbox"/> Wear a collar as instructed.</div> <div><input type="checkbox"/> Do exercises or physical therapy as prescribed.</div> <div><input type="checkbox"/> Make and keep follow-up visits with your doctor.</div> <div><input type="checkbox"/> Ask when you can begin driving again. Also ask about returning to work and sex.</div>

Also available in Spanish

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