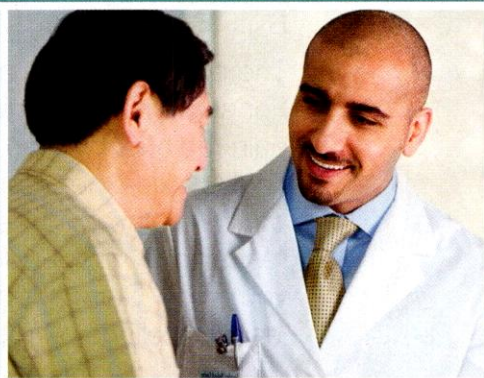
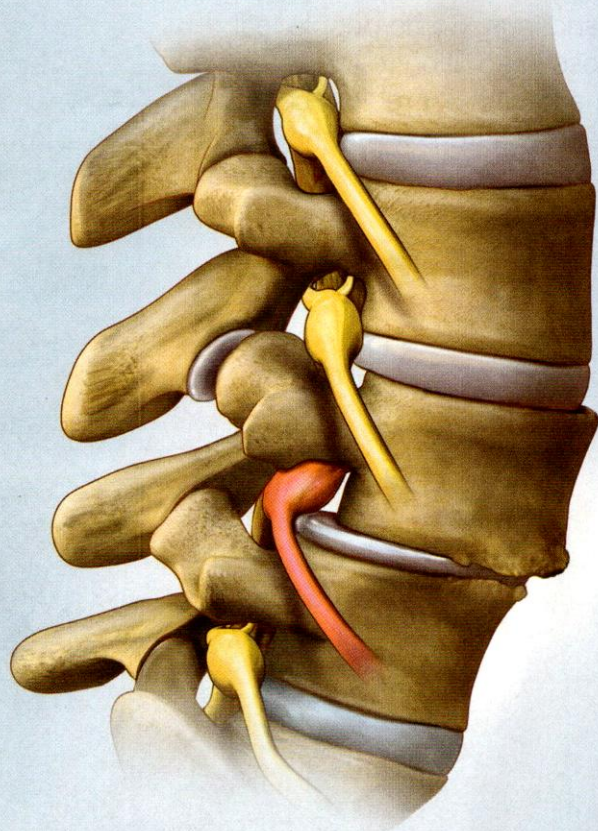


KRAMES  
staywell

# LUMBAR SPINAL SURGERY



Low Back Surgery to **Reduce Your Pain**

# Problems in the Low Back

Do you have pain due to a low back problem? You're not alone. Low back (also called lumbar) problems are common. They are often very painful. They can also make day-to-day activities hard and put limits on what you can do. There are no easy cures, but treatment can help ease your pain and improve your quality of life.

## Pain Affects Your Life

Pain due to low back problems differs from person to person. The pain may come and go with activity. Or it may be constant. For some people, pain is felt only in the low back. For others, pain radiates into the buttocks and legs. Some people feel tingling, weakness, and numbness in addition to (or instead of) pain. Whatever your symptoms, a low back problem can put restrictions on your life. It can keep you from doing the things you enjoy. Constant pain and limits on your movement can also lead to feelings of frustration, sadness, and loss.

## Surgery Can Help

If other treatments haven't relieved symptoms, surgery may be recommended. The goals of surgery are to:

- Ease back and leg pain.
- Relieve pain during movement.
- Reduce numbness or weakness.
- Improve your quality of life.



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### Understand Your Role

For best results, plan to take an active role in your treatment and recovery. You and your doctor will decide on a plan of treatment. If surgery is recommended, be clear what you hope it will do for you. Ask what range of outcomes you should be prepared to expect. Know the benefits and risks of surgery and those of any alternatives you might have.

Also keep in mind:

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



# The Lumbar Spine

**Vertebrae** are bones that stack like building blocks to make up the spine. The **lumbar spine** contains the five bottom vertebrae in the back. If any part of the lumbar spine is damaged, symptoms can result.

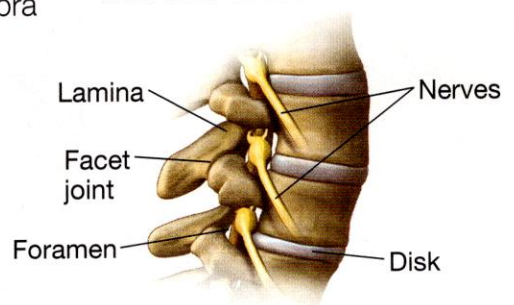
## A Healthy Lumbar Spine

- **Disks** are soft pads of tissue that act as shock absorbers between vertebrae. The firm, fibrous outer layer is called the **annulus**. The softer center is called the **nucleus**.
- The **spinal canal** is a tunnel formed within the stacked vertebrae. The opening between the vertebrae on either side of the spinal canal is called the **foramen**.
- **Nerves** run through the spinal canal. They branch out from the spinal canal through the foramen on each side.
- The **lamina** is the arched part of each vertebra that forms the back of the spinal canal.
- **Facet joints** are formed where two vertebrae meet.

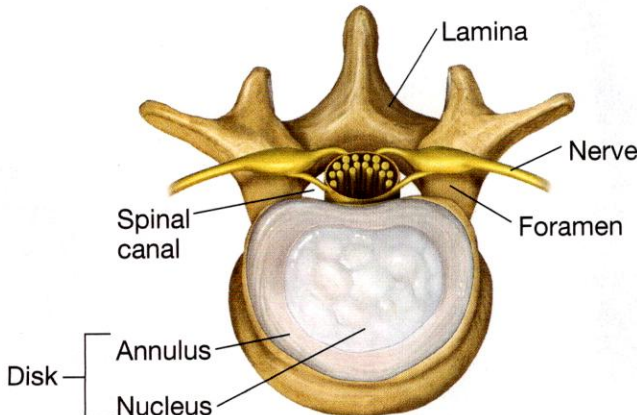


Lumbar spine

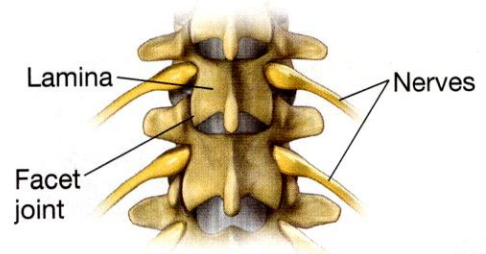
Side view of two vertebrae



Top view of a vertebra



Back view of two vertebrae

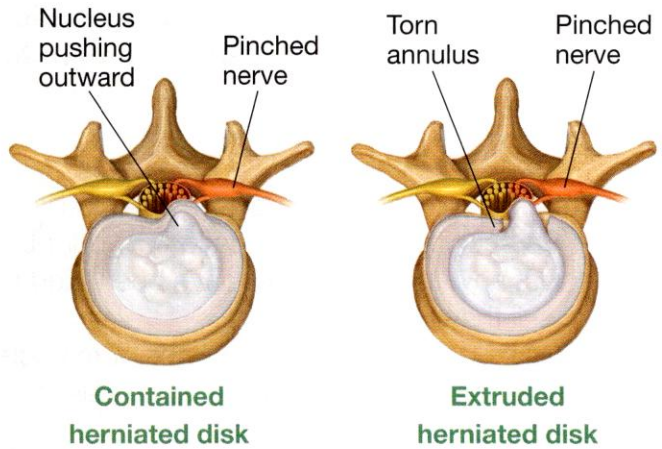


## A Damaged Lumbar Spine

### Pressure from a Disk

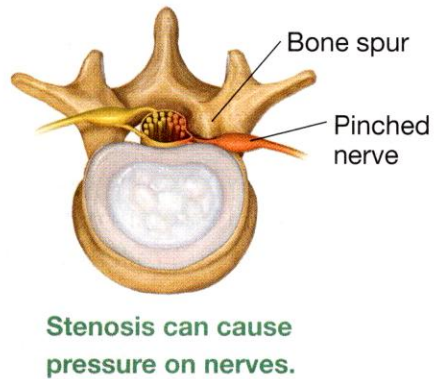
A disk can weaken and push outward (**herniate**). Part of the disk may then press on nearby nerves. There are two common types of herniated disks:

- **Contained:** the soft nucleus is pushing the annulus outward.
- **Extruded:** the annulus has torn, letting the nucleus squeeze through.



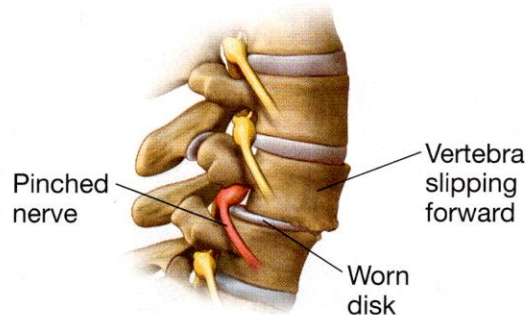
### Pressure from Bone

With age, a disk may thin and wear out. Vertebrae above and below the disk then begin to touch and rub together. **Bone spurs** (growths) may form. Bone spurs that form in the foramen or spinal canal can result in **stenosis** (narrowing). This may cause pressure on nerves.



### An Unstable Spine

A worn disk may allow vertebrae to slip forward. This is called a **spondylolisthesis**. Slipping vertebrae can irritate nerves and joints. They can also worsen stenosis.



**Spondylolisthesis can occur when a worn disk allows the vertebra above it to slip forward and pinch a nerve.**

# Medical Evaluation

To evaluate your low back, your doctor takes a medical history, performs a physical exam, and may order diagnostic tests. You and your doctor can then discuss a treatment plan that's right for you.

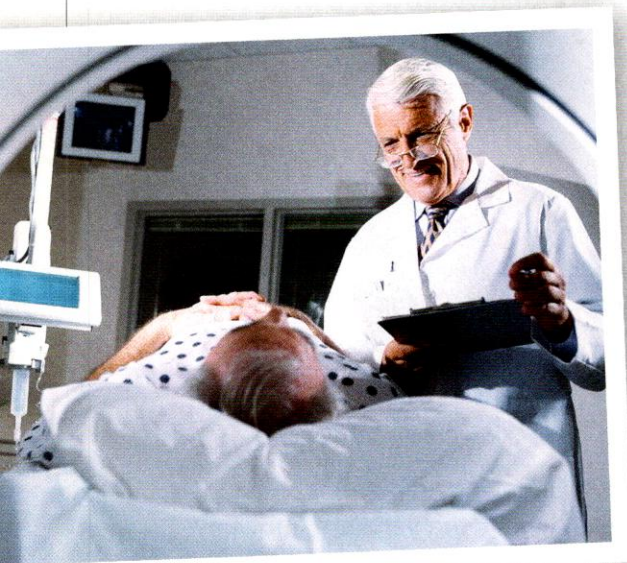
## Medical History

Tell your doctor about your health and back problems. Be sure to:

- Be specific about the location of your pain.
- List any treatments that have been tried for your back problem and how well they worked.
- Describe your pain and whether it restricts your life or affects your moods.
- Mention health problems you may have, such as high blood pressure, heart disease, or diabetes.
- Tell your doctor what medications you take.
- Tell your doctor if you smoke.

## Physical Exam

Your doctor will examine your back. He or she will move you into positions to check for pain and stiffness. Other parts of the exam measure strength, reflexes, and sensation.



## Diagnostic Tests

- **Imaging tests** will likely be done. These include **x-rays**, **MRI** (magnetic resonance imaging), or **CT** (computerized tomography) 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** (electromyograms) may be done to look for muscle and nerve damage.

# Nonsurgical Treatment

Before surgery is planned, nonsurgical treatments are often tried. In some cases, they may be used along with surgery. You and your doctor will discuss how these options fit into your treatment plan.

## Physical Therapy

This is a program of regular visits with a trained physical therapist. The program may include:

- **Exercises**, such as walking, to improve your strength and mobility.
- **Education** to help you learn how to protect your back when you move.
- **Treatments**, such as ultrasound, massage, heat, or cold to help reduce pain.
- **Hands-on (manual) therapy** to gently increase movement in the spine.

## Medication

You may be prescribed medications to treat pain, muscle spasm, and inflammation. Most are taken in pill form. Others are injected into joints or into areas near disks and nerves. Talk with your doctor about how your medications work. Also be sure to take pills as directed and on time—not just when you feel pain.

## Activity Changes

Some changes in your daily routine may help ease stress on your back, both before and after surgery. Your doctor or physical therapist may recommend:

- Learning good body mechanics to protect your back while you move.
- Limiting certain activities, such as lifting.
- Changing your sleeping posture and how you get out of bed.
- Using back supports, such as a lumbar roll.



# Surgical Treatment

**Once surgery is scheduled, plan ahead for both your procedure and recovery. Follow any instructions you are given. If you have questions, be sure you get them answered before the procedure.**

## Preparing for Surgery

The better prepared you are for surgery, the smoother your recovery is likely to be. To help have a successful surgery:

- Tell your doctor what prescription and over-the-counter medications, supplements, or herbal remedies you take. Be sure to mention if you take aspirin, ibuprofen, or drugs to prevent blood clots. Ask if you should stop taking any of them before surgery.
- Stop smoking. Smoking makes it harder for bone to heal. If you smoke, ask your doctor for advice on stopping before surgery.
- Talk with your doctor about ways to manage possible blood loss. This may include giving blood ahead of time in case you need a transfusion during 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.
- Don't eat or drink anything for as long as instructed before surgery.
- See the checklist on the back cover of this booklet for further instructions.





## The Day of Surgery

Arrive at the hospital on time. Before surgery, 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. The surgical site is marked. You may also be asked more than once for your name and what surgery you are having. This is for your safety. Just before surgery, you'll be given general anesthesia, which puts you into a state like deep sleep through the procedure.

## Reaching Your Spine

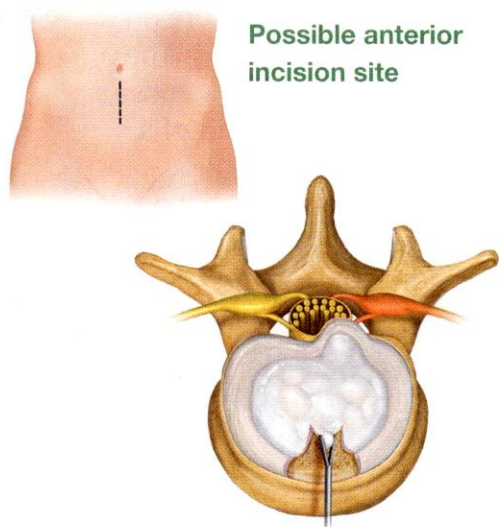
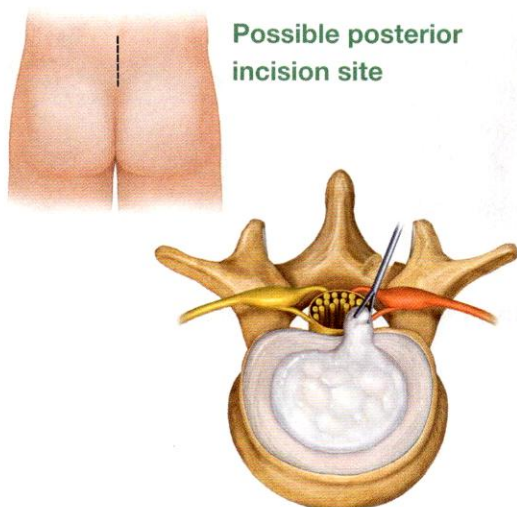
To reach your spine, the surgeon may make an incision in your back (**posterior approach**), or in your abdomen (**anterior approach**). After surgery, the incision is closed with stitches, staples, or surgical glue.

### Posterior Approach

The surgeon reaches the spine through your back. This gives the doctor access to the back of your spine.

### Anterior Approach

The surgeon reaches the spine through your abdomen. This gives access to the front of your spine.



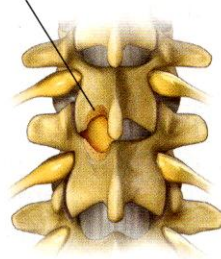
# During Surgery

**Decompression surgeries are used to relieve pressure on a nerve. This may be done by removing bone from a part of the vertebrae. It may also be done by removing some or all of the disk. A combination of procedures is often used.**

## □ Laminotomy

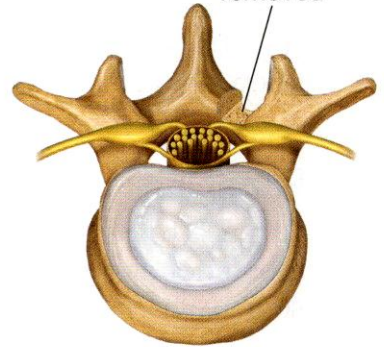
A laminotomy removes a portion of the lamina. The opening that is created may be enough to take pressure off a nerve. In most cases, though, a bulging disk or a bone spur is also pressing on the nerve. If so, these are removed as well.

Part of lamina removed



**View from the back**

Part of lamina removed

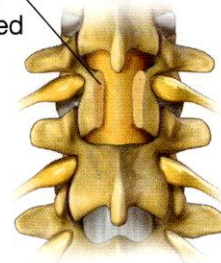


**View from the top**

## □ Laminectomy

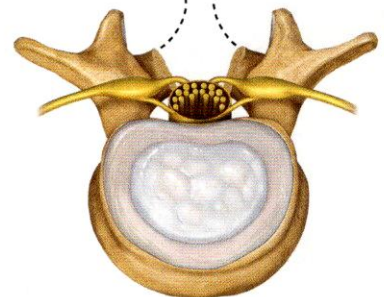
A laminectomy removes the entire lamina. This helps relieve pressure on compressed nerves. The surgeon may also remove a bone spur or part of a bulging disk. If it has become narrowed, the foramen may also be widened.

Entire lamina removed



**View from the back**

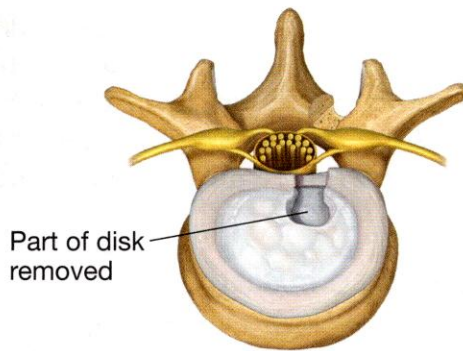
Entire lamina removed



**View from the top**

## □ Diskectomy

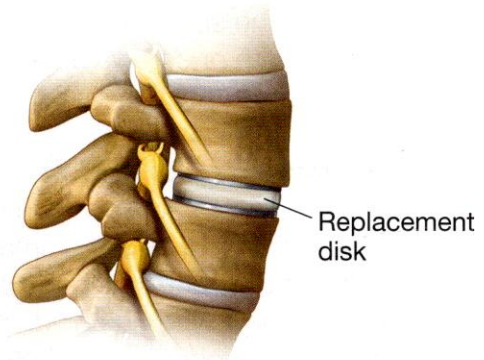
A diskectomy removes a portion of a damaged disk. In most cases, a laminotomy is done first to expose the disk. Then, any part of the disk that presses on a nerve is removed. Disk matter that is loose or may cause problems in the future is also removed. Enough disk is left in place to cushion the vertebrae.



View from the top

## □ Disk Replacement

This procedure replaces a damaged disk with a new disk of manmade materials. First, a diskectomy is done and most of the 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.



View from the side

## Risks and Complications

*Risks and possible complications of these surgeries include:*

- Infection
- Bleeding or blood clots
- Damage to nearby nerves
- Spinal fluid leak
- No improvement of pain, or worsened pain
- Bladder or bowel dysfunction
- Implant breakage
- Need for more surgery
- Paralysis (very rare)



# During Fusion Surgery

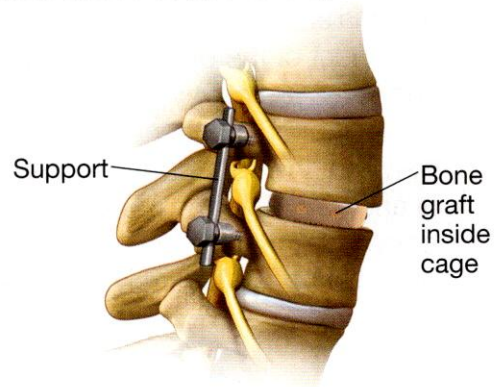
Spinal fusion surgery makes the spine more stable. This can help ease low back and leg pain. During the surgery, bone graft is put between two or more vertebrae. Over time, the bone graft and nearby bone grow into a solid unit. The surgery can be done several ways. Your surgeon can describe how your procedure will be done.

## During a Fusion

- The spine is reached from the front or the back.
- In some cases, most of the disk is removed from between the vertebrae. Then, bone graft is put inside a device called a cage. The cage is placed between the vertebrae. In other cases, bone graft is placed on the back of the spine between the transverse processes.
- To hold the spine steady as the bone graft fuses with the vertebrae, a metal plate or screws and rods may be added. These supports stay in place permanently.

## Understanding Bone Graft

Bone graft is what allows the vertebrae to fuse. This graft is often small pieces of bone from your own body or from a human donor who has died. In some cases, manmade bone substitute is used. Your surgeon can tell you more about the graft that will be used.



View from the side

## Risks and Complications

*Risks and possible complications of spinal fusion surgery include:*

- Infection
- Bleeding or blood clots
- Damage to nearby nerves
- Graft not fusing or shifting out of place
- Pain not improving or getting worse
- Bladder or bowel dysfunction
- Implant breakage
- Need for more surgery
- Spinal fluid leakage
- Paralysis (very rare)



# Recovering in the Hospital

**After surgery, you'll stay in the hospital while you recover enough to go home. The length of your stay depends on what type of surgery you had and how well you're healing.**

## Right After Surgery

When you wake up from surgery, you may feel groggy, thirsty, or cold. Your throat may be sore. This is normal. The IV line will remain in place for most of the hospital stay. You may have tubes in your incision and a catheter in your bladder. These stay in place for a few days. During your stay, you will wear compression stockings or foot or leg pumps to help prevent blood clots.



## Controlling Pain

You will likely have discomfort. You will be given pain medication to control it. Some pain is normal after back surgery, even with medication. If you are very uncomfortable, tell the nurse.

## Getting Up and Moving

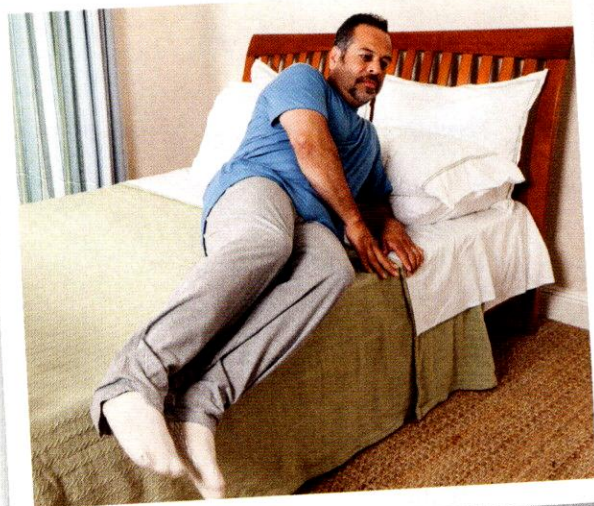
Soon after surgery, you'll be encouraged to get up and walk. This helps prevent clots and keeps fluid from building up in your lungs. You may wear a brace to support your spine. Before you go home, you may meet with a physical therapist. He or she will teach you ways to protect your spine during daily activities. You may also be given a program of exercises to do at home.

# Recovering at Home

Recovering from surgery takes time. For a smoother recovery, follow all the instructions you are given. Ask any questions you have about your recovery.

## Make Moving Safer During Healing

- Use reachers and graspers to help you avoid reaching and bending.
- Get a raised toilet seat. Ask your discharge nurse how to find one.
- Avoid lifting until your doctor tells you it is safe. You may be given restrictions on how much weight you can lift.
- Move around a little more each day. Avoid sitting for long stretches of time.
- Protect your back when getting into and out of bed. Your physical therapist can teach you how.



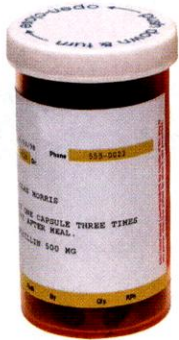
▶▶ To get out of bed safely, first roll onto your side. Then use your arms to raise your body. Gently swing both legs to the floor. Put one foot slightly behind the other. Then use your leg muscles to push up to standing.

## When to Call the Doctor

*Call the doctor right away if you have:*

- Increasing pain, redness, or drainage from your incision
- A fever of 100.4°F (38°C) or higher
- New pain, weakness, or numbness in your legs
- A severe headache
- Loss of bladder or bowel control





## Take Pain Medication as Directed

- Take medication on time as directed. Don't wait for pain to get bad.
- Ask your doctor about how and when to stop pain medication. Do not stop taking it without talking to your doctor first.
- Do not drive while you are taking narcotic pain medication.

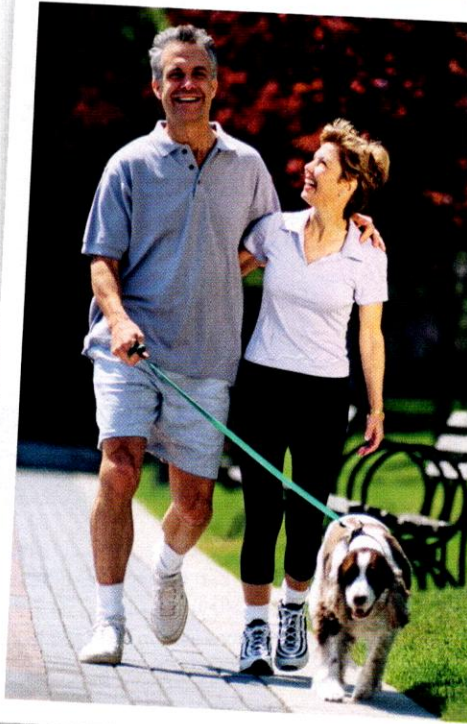
## Improve Strength with Activity

An exercise program supervised by your doctor or physical therapist can help you heal faster. It can also reduce pain. Start with short walks. Each day, walk a few minutes more. Your doctor or physical therapist may recommend water exercises, which ease pressure on the back. You may also be given specific back exercises to help with healing.

## Use Good Body Mechanics

These protect your back while it heals and help prevent future problems. Follow a few simple rules:

- Lift with your legs. Hold objects close to your body.
- Don't slump or slouch when you sit.
- Use your knees to bend down. Don't bend over from your waist.
- Turn with your feet instead of twisting your body.



## Keep Follow-Up Appointments

Follow-up appointments let your doctor check how well you're healing. Your medication and activity levels may also be adjusted. Be sure to ask any questions you have during these visits. By working together, you and your doctor can help ensure a smoother recovery.

## Work with Your Doctor

Lumbar spinal surgery can help ease your back pain. The decision to have surgery is up to you. Before you make that decision, know your options. Be clear what results you can expect and what surgery can and can't do for you. Work with your doctor to have all your questions answered before moving forward.

### Your Surgery Checklist

Use this checklist to prepare for surgery and during recovery. And follow any other instructions you are given.

#### Before Surgery

- Move household items that you use often to between hip and shoulder level. This helps keep you from needing to reach or bend after surgery.
- You will likely not be able to drive for a week or longer after surgery. So arrange for rides as needed.
- If you smoke, talk to your doctor about stopping.
- Stop eating and drinking as instructed before surgery.

#### After Surgery

- Care for your incision as directed. Ask how long you should avoid getting your incision wet.
- Ask how long before you can begin driving again. Also ask about returning to work.
- Ask about returning to sex. Your doctor can recommend positions that are safer for your healing back.
- See your doctor for scheduled follow-up visits.



**TAKE OUR PATIENT SURVEY.** Help us help other patients.

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