KRAMES
PATIENT EDUCATION

Back Owner's Manual

A Guide to the Care of the Low Back

A Healthy Back Keeps You Moving Forward

If back pain has you feeling down, you're not alone. Low back pain affects many of us. That's because we tend to neglect our backs. But your back is what keeps you in motion. So it's important that you take good care of it. This booklet shows you how to care for your back so that you can be pain-free and always moving forward.

Pain Is a Real Problem

Low back pain is a common problem. It's one of the main reasons people visit the doctor. Severe pain, sharp twinges, or constant dull aches have many people seeking medical care for their backs. Back pain may seem to come on suddenly. But the truth is: Back pain often occurs after years of poor back health.

What Causes Back Pain?

Some back pain can't be avoided, such as pain from an injury. Getting older can also lead to aches and pains. But often, back pain is the result of years of misuse. Bad habits that can lead to back pain include:

- Poor posture
- Bad body mechanics
- Not enough exercise
- Being overweight

You can control all of these causes. With proper care, you can help your back feel better now and prevent back pain in the future.

When to Seek Emergency Care

It's common to have some backaches at times. But if you have any of these problems, seek medical care right away:

- Back pain that won't go away
- Leg weakness, numbness, or constant leg pain
- Numbness in your groin or rectal area
- Problems controlling your bladder or bowels

This booklet is not intended as a substitute for professional medical care. Only your doctor can diagnose and treat a medical problem.

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Your Goal: A Pain-Free Back

There is no simple cure for back pain. But there are things you can do to prevent or relieve it. For example, you can take steps to change habits that lead to back pain or make it worse. Improving your posture, body mechanics, and overall health will lessen pain or even make it go away. Most people who make these changes feel better. It does take time and effort. But your goal of a pain-free back will be well worth it.

The Road to Recovery

To improve your back health, keep moving. Gentle activities, such as walking and swimming, can help reduce back pain. Once pain is reduced, your doctor will probably tell you it's okay to be even more active. He or she may help you set up an exercise program. Your program may include stretching, strength training, and activities that get the heart rate up (called aerobic or cardio exercise). Check with your healthcare provider before trying new exercises. This way, you're sure to get safely started on the road to recovery.

Keep moving with activities that help your back stay fit and flexible, such as walking.

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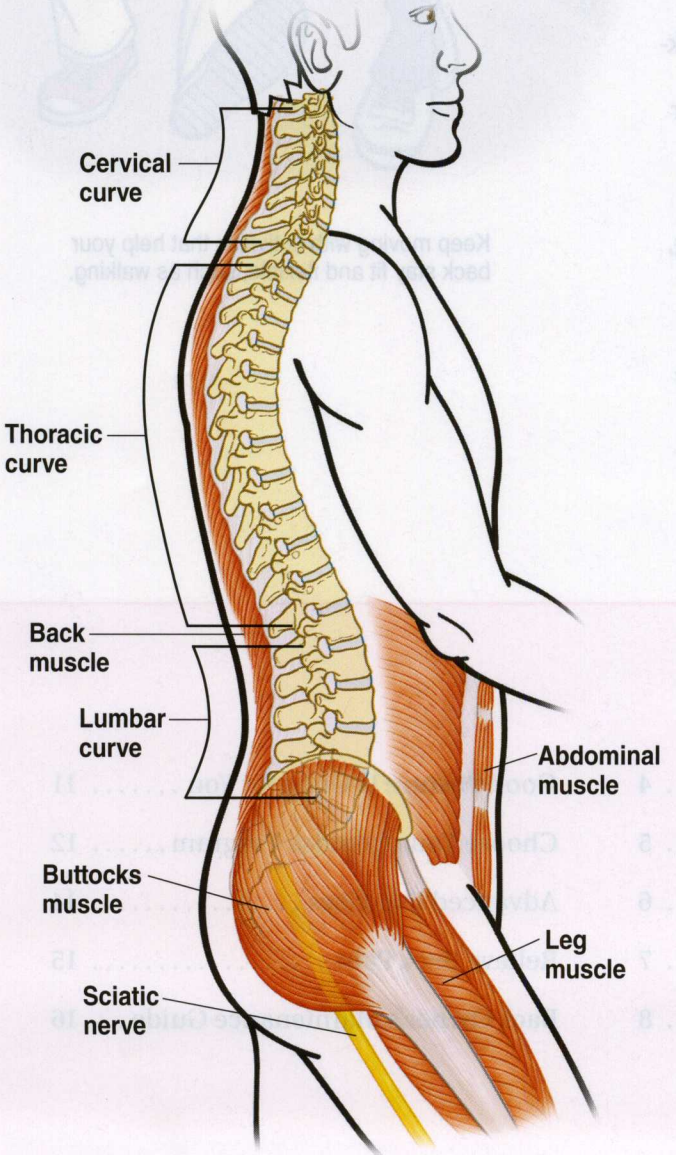
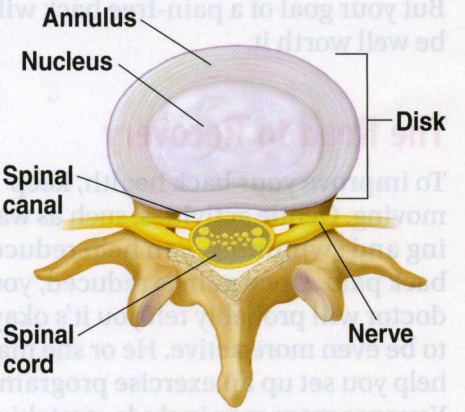
Anatomy of a Healthy Back

A healthy back supports the body and lets it move freely. It does this with the help of the spine's three natural curves. Strong, flexible muscles also help keep these curves properly aligned. Disks that cushion vertebrae play an important role in back health, too. When all parts are healthy, your back can support you without pain.

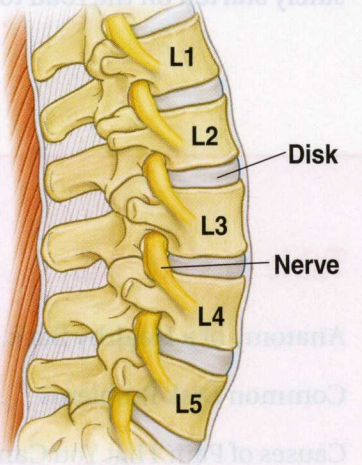
Three Natural Curves

Bones **(vertebrae)** and pads of soft tissue **(disks)** stack together to create the spine. The spine follows three curves: **cervical curve** (neck), **thoracic curve** (upper back), and **lumbar curve** (lower back). When properly aligned, these curves help you keep balance. They also support you while you move by distributing your weight along the spine.





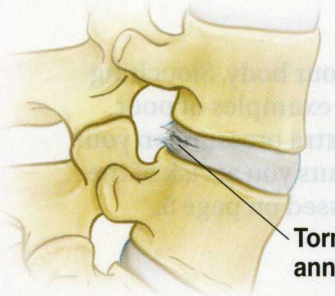
Vertebrae and **disks** make up the spine. They protect the spinal cord and nerves.



The **lumbar** part of the spine is made up of five vertebrae (L1 through L5). They carry most of the body's weight, which makes this part of the spine more prone to injury than the rest of the back.

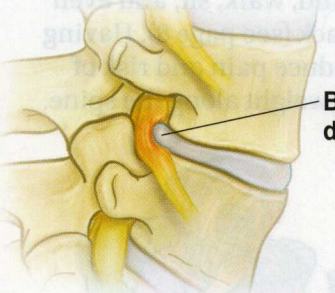
Common Disk Problems

Disks are soft cushions of tissue between the vertebrae. Disks can tear, bulge, rupture, or degenerate (wear out with age or use). When this happens, disks no longer cushion vertebrae properly. This can lead to back pain, stiffness, and other problems.



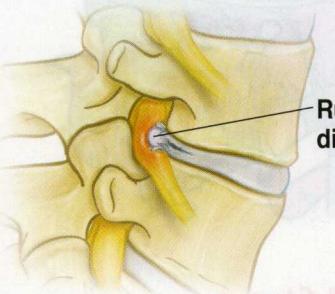
Torn Annulus

The **annulus** is the disk's tough outer ring. A sudden movement can cause a tiny tear in the annulus. Nearby muscles and ligaments can also become strained or sprained (pulled or torn). Because the annulus, muscles, and ligaments contain nerve endings, injuries to them cause back pain.



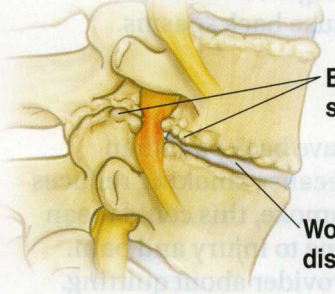
Bulging Disk

Each disk has a spongy center **(nucleus)** that helps absorb shock during movement. When an annulus wears out or the disk is squeezed too much, the nucleus can push on the annulus and create a bulge. The bulging disk can then press on spinal nerves and cause back and leg pain.



Ruptured Disk

With a ruptured disk (sometimes called a slipped or herniated disk), the annulus breaks open and allows the soft nucleus to squeeze out. The nucleus then presses against or pinches nerves, causing pain. Pain that radiates down the buttocks and legs is called **sciatica.** If pressure continues, the nerves become damaged. Severe pain, numbness, or muscle weakness in the legs, or problems walking can occur.



Osteoarthritis

As disks and joints wear out over time, growths of bone **(bone spurs)** form on the vertebrae. Bone spurs can irritate nerves and narrow the spinal canal **(stenosis),** causing back pain. In most cases, osteoarthritis occurs as we age. But good posture and body mechanics, healthy eating, and regular exercise can help slow the onset of osteoarthritis.

Causes of Pain That You Can Control

Something as simple as slouching can lead to disk problems and back pain. So can moving your back the wrong way. Even stress can throw back muscles into a painful spasm. But you can help control these causes of back pain. And when you do, you will help reduce pain and improve the overall health of your back.

Poor Posture

Posture is the way you hold your body. Slouching or over-arching the back are examples of poor posture. Poor posture puts extra pressure on your disks and vertebrae. It also puts you at risk of the painful disk problems discussed on page 5.

Bad Body Mechanics

The way you move your body is called body mechanics. There are correct ways to stand, walk, sit, and even sleep that are best for your back (see page 8). Having good body mechanics can reduce pain and risk of injury by evenly distributing weight along the spine.

Lack of Exercise

Without exercise the muscles that support the spine weaken. This can lead to poor posture and bad body mechanics. Lack of exercise can also lead to excess weight.

Excess Weight

Practicing proper posture is harder when carrying excess body weight. This makes practicing good body mechanics difficult, too. Added body weight also puts more stress on the back and tends to make back pain worse.

Tension and Emotional Stress

Emotional stress can worsen back pain. Money worries, family pressures, fatigue, and other stresses of daily life often cause back spasms.

Smoking

Smokers are more likely to have back pain than nonsmokers. This may be because smoking reduces nutrition to the disk. If you smoke, this could mean weakened disks that are prone to injury and pain. So talk to your healthcare provider about quitting.

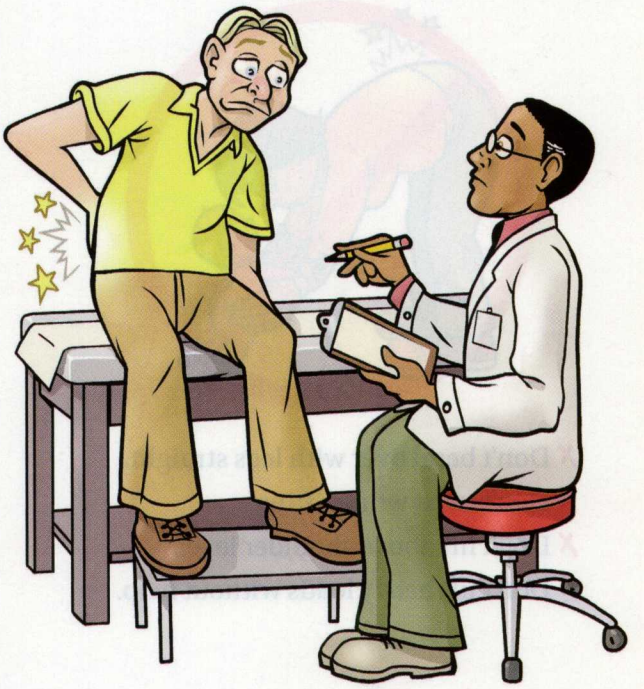
Your Medical Evaluation

A medical evaluation is needed to find the cause of your back problem. This can include a health history, physical exam, and diagnostic tests. These help your healthcare provider decide the best treatment plan for you.

Medical History

Questions the healthcare provider may ask you include:

- Where is your pain? How often does it bother you?
- How and when did your pain first start?
- Does the pain stay in one place? Or, does it radiate down your buttocks or leg?
- What relieves the pain? What makes it worse?
- What is your occupation?
- How does back pain affect your life?



Physical Exam

Your healthcare provider can learn a lot by looking at your back when you're in different positions. He or she may check your posture, and muscle strength and flexibility. Your reflexes and the sensation in your legs may also be tested. Depending on your symptoms, a more thorough physical exam may be needed to find the cause of your back pain.

Diagnostic Tests

Your healthcare provider may also use one or more of the following tests to diagnose pain:

- **X-ray:** takes images of bones
- **MRI (magnetic resonance imaging):** takes highly detailed images of bone and soft tissues
- **CT (computerized tomography) scan:** takes a series of special x-rays of bones and soft tissues
- **EMG (electromyogram):** checks electrical activity in muscles
- **Myelogram:** makes images of problems in the spinal canal using injected dye

Do's and Don'ts of Body Mechanics

There are wrong ways and right ways to move your back. Bad body mechanics can damage your spine. To reduce your risk of injury and pain, practice the "do's," and avoid the "don'ts."

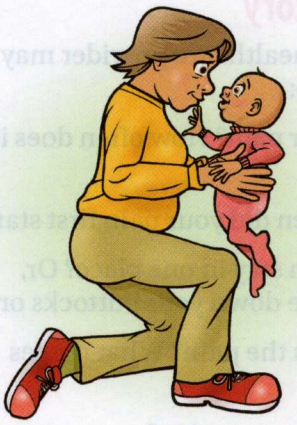
Lifting

✗ Don't bend over with legs straight.

✗ Don't twist while lifting.

✗ Don't lift above shoulder level.

✗ Don't lift heavy loads without help.



✓ Do bend your knees, not your back.

✓ Do be sure of your footing.

✓ Do lift with your legs.

✓ Do hold objects close to your body.

Sitting

✗ Don't sit in a chair that's too high or too low.

✗ Don't arch or round your back.

✗ Don't lean forward.

✗ Don't slump or slouch.

✓ Do sit with both feet flat on the floor.

✓ Do keep your knees at or slightly below the level of your hips.

✓ Do protect your low back with a lumbar support or rolled-up towel.

Do's and Don'ts of Body Mechanics (Continued)

Here are more ways you can improve the way you move your body to help protect your back.

Standing or Walking

✗ Don't stand too long in one position.

✗ Don't bend forward with legs straight.

✗ Don't walk with poor posture.

✗ Avoid wearing high-heeled shoes.

✓ Do stand with one foot up; change positions often.

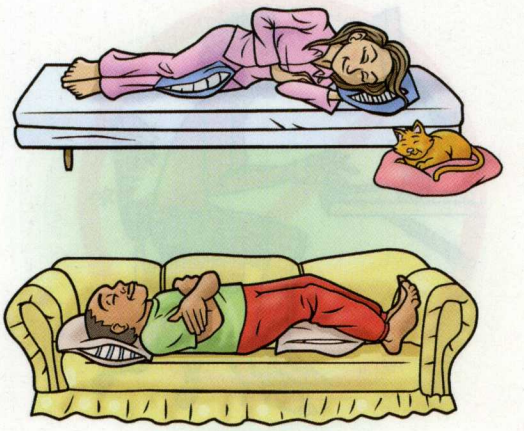
✓ Do correct your posture when necessary.

✓ Do wear comfortable, low-heeled shoes.

Sleeping

✗ Don't sleep or lounge on soft, sagging, nonsupportive mattresses or cushions.

✗ Don't sleep on your stomach.



✓ Do sleep on a mattress that supports your back's natural curves.

✓ Do sleep on your side with a pillow between bent knees, or on your back with a pillow under your knees.

Driving

✗ Don't sit too far back from the wheel. Stretching for the pedals and wheel strains the back.

✗ Don't drive with your knees higher than the level of your hips.

✓ Do use a lumbar support cushion.

✓ Do sit upright and drive with both hands on the wheel.

✓ Do shift weight often.

✓ Do keep back pockets empty.

Working at the Computer

✗ Don't slump or slouch.

✗ Don't sit in a chair that's too high or too far from your workstation.

✗ Don't lean forward to read the screen.

✓ Do sit firmly against the chair back.

✓ Do protect your back with a lumbar support or rolled-up towel.

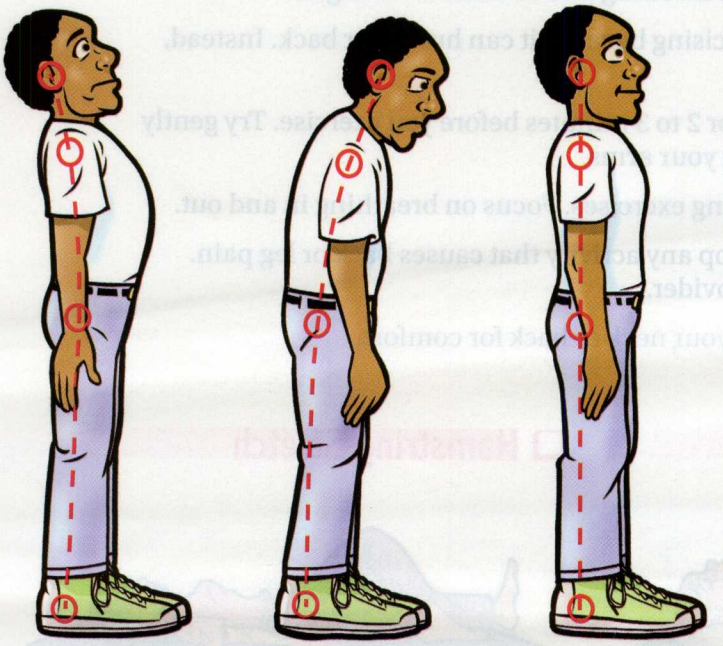
✓ Do use an adjustable footrest.

Good Posture Is Good for You

Poor posture throws off the spine's natural curves. This can lead to back pain and injury. For example, poor posture can cause disks to wear out. But when you practice proper posture, you help keep the spine healthy and well aligned. This decreases your risk of pain.

Checking Your Posture

To test your posture, stand with your back against a wall. There should be only a small space between your back and the wall. Check to see if you hold your back too swayed (like in the "military" stance) or if you slouch forward. Military and slouched stances put added stress on your back.



Military stance makes the spine arch too much.

Slouched stance makes the spine round too much.

Straight stance aligns the spine's natural curves.

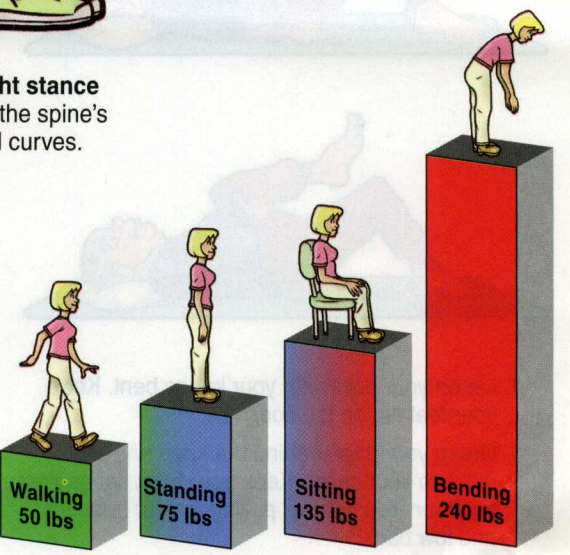
Improving Your Posture

It's not too late to change your posture. Follow these steps to improve your posture:

- Breathe deeply.
- Relax your shoulders, hips, and knees.
- Think of the ears, shoulders, hips, and ankles as a series of dots. Now, adjust your body to connect the dots in a straight line.
- Tuck in your buttocks a bit if your back is swayed.

Reducing Stress on Your Spine

Your spine supports your body's weight. Certain positions put more pressure on your back than others. For example, sitting puts more stress on the back than walking. So do your best to limit the amount of time you spend in the positions that put the most stress on your spine.



If you weigh 110 lbs, sitting puts 135 lbs of pressure on your back, but walking puts only 50.

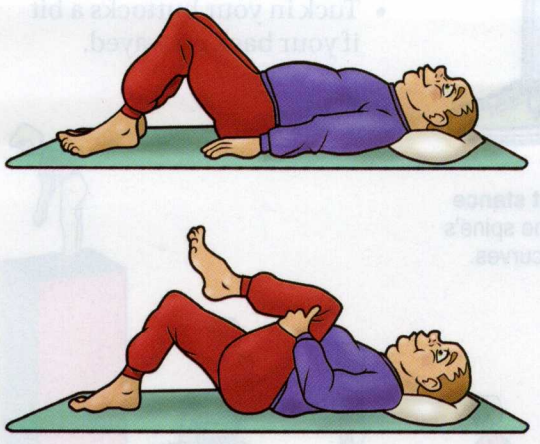
Choose Your Exercise Program

A good exercise program helps you stretch and strengthen the muscles that support your back. These muscles let the back be flexible and move naturally. Beginning on this page are examples of exercises you can do to strengthen and stretch your muscles. **Be sure to speak with your healthcare provider before starting any exercise program.** Find exercises that work for you. Move from basic to advanced exercises. And remember: Don't overdo it!

Play It Smart: Tips for a Safe Exercise Program

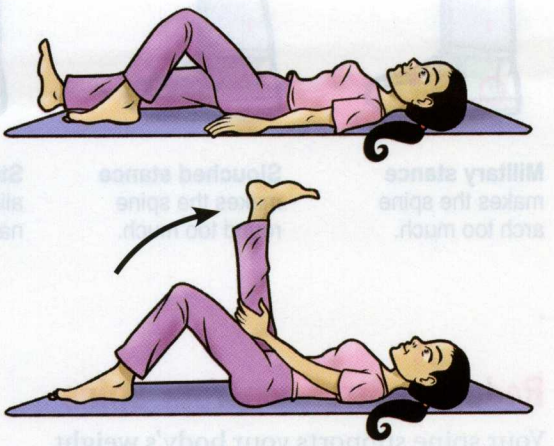
- If you're recovering from a back problem, do only the exercises suggested by your healthcare provider. If instructed, do the exercises in this booklet daily. You might take 15 minutes in the morning and 15 minutes at night.
- Avoid occasional, excessive exercising because it can hurt your back. Instead, do regular, moderate activity.
- Always warm up your muscles for 2 to 3 minutes before you exercise. Try gently marching in place while moving your arms.
- Don't hold your breath while doing exercises. Focus on breathing in and out.
- Expect a little discomfort, but stop any activity that causes back or leg pain. Then, talk to your healthcare provider.
- If you prefer, put a pillow under your neck or back for comfort.

❑ Knee-to-Chest Raise



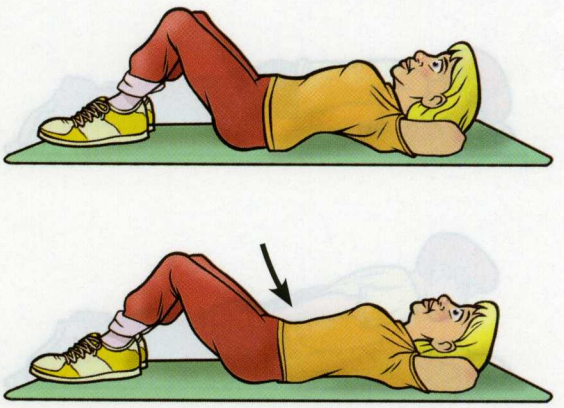
1. Lie on your back with your knees bent. Keep your feet flat on the floor.
2. Grasp your thigh behind the knee and slowly pull it to your chest. Keep your back flat against the floor. You will feel pulling in your buttocks and low back.
3. Hold for _____ seconds. Switch legs. Repeat exercise _____ times.

❑ Hamstring Stretch



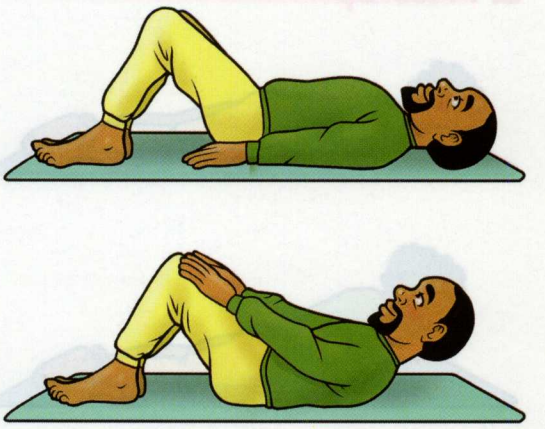
1. Lie on your back. Lift your leg. Place your hands around your thigh, just above the knee. (Use a towel if you have trouble reaching around your thigh.) Then tighten your abdominal muscles.
2. Pull your leg toward your chest until you feel pulling in the back of the leg. Gently straighten your leg as much as you can.
3. Hold for _____ seconds. Switch legs. Repeat exercise _____ times.

❑ Pelvic Tilt



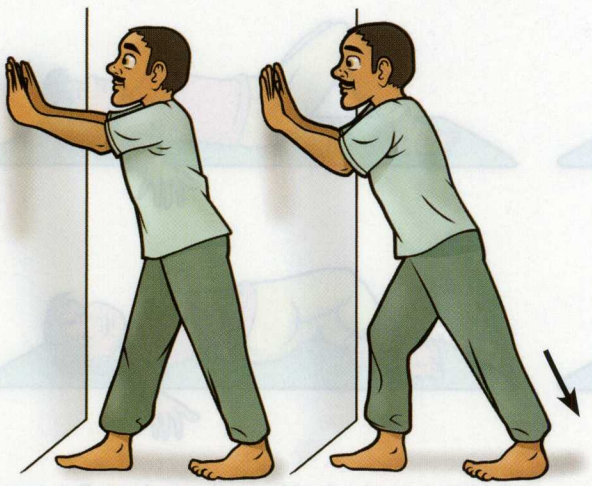
1. Lie down and bend both knees.
2. Press your low back into the floor and tighten your abdominal muscles.
3. Hold for _____ seconds. Relax. Repeat exercise _____ times.

❑ Half Sit-Ups



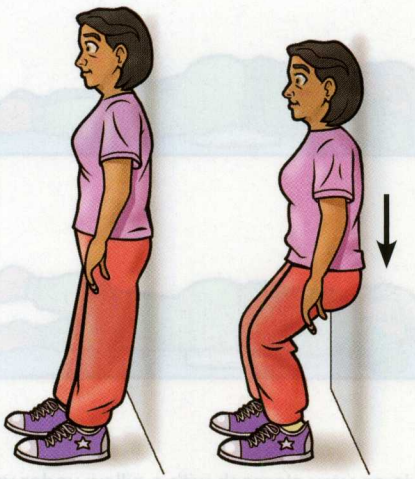
1. Lie on your back with both knees bent, feet flat on the floor, arms by your sides.
2. Use your abdominal muscles to raise your head and shoulders slightly off the ground. Reach for your knees.
3. Hold for _____ seconds. Relax. Repeat exercise _____ times.

❑ Calf Stretch



1. Position yourself with your arms braced against a wall. Put one foot approximately 1½ feet behind the other.
2. Bend your front leg, while keeping both heels on the floor. Lean forward until you feel pulling in the back of your back leg. Do not bounce.
3. Hold for _____ seconds. Switch legs. Repeat exercise _____ times.

❑ Wall Slide

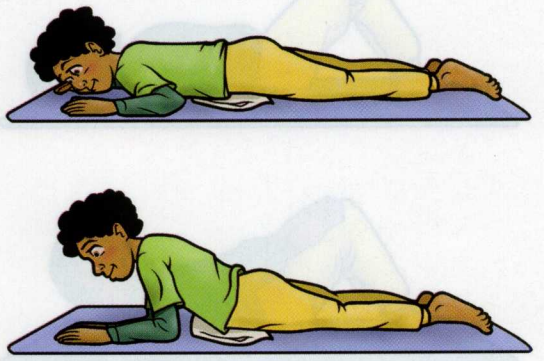


1. Stand with your shoulder blades against the wall. Place feet about 4 to 6 inches in front of you, shoulder-width apart. Tuck in your buttocks.
2. Slide down about 2 feet. Keep your back against the wall. Don't let your knees go past your toes.
3. Hold for _____ seconds. Slide back up the wall. Relax. Repeat exercise _____ times.

Advanced Exercises

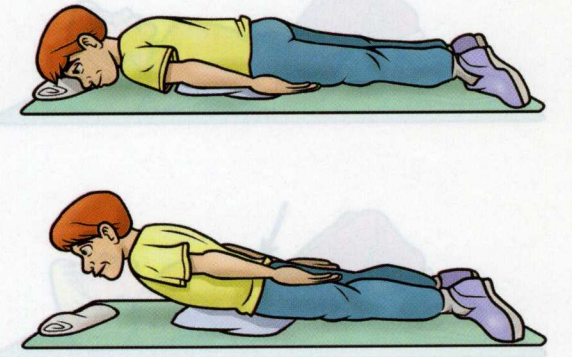
Talk to your healthcare provider before trying advanced exercises.

❑ Press-Up



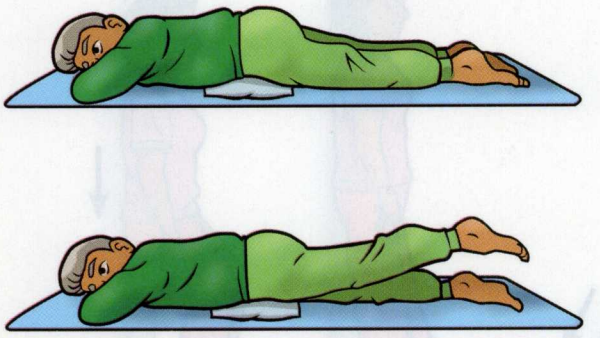
1. Lie on your stomach with a pillow under your pelvis. Place your hands on the floor near the sides of your head.
2. Press up on your elbows, slowly arching your back. Hold this position for _____ seconds.
3. Return to the first position and relax. Repeat exercise _____ times.

❑ Back Extension



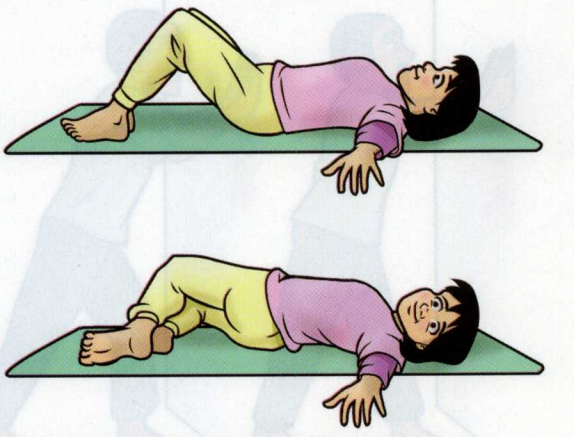
1. Lie on your stomach with a pillow under your pelvis. Put your hands by your sides.
2. Slowly raise your chest off the floor, arms behind you. Go only as high as feels comfortable.
3. Hold for _____ seconds. Relax. Repeat exercise _____ times.

❑ Hip Extension



1. Lie on your stomach with a pillow under your pelvis.
2. Straighten your left leg and tighten your buttocks. Then slowly raise the left leg from the hip. Return the leg to the floor.
3. Repeat exercise _____ times. Switch legs.

❑ Lower Back Rotation



1. Lie on your back with your knees bent. Put your feet on the floor. Extend your arms out and place your palms on the floor.
2. Slowly drop both knees to one side while turning your head to the other side; keep your shoulders to the floor.
3. Hold for _____ seconds. Return to start. Repeat exercise _____ times on each side.

Relieve Back Pain

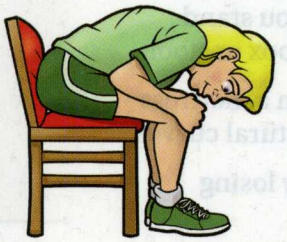
Aches and pains are your body's way of telling you to pay more attention to your back. Your back may need to be stretched or rested. Or, you may need to ice it, apply heat, or take over-the-counter medications to help stop back pain.

Rest Your Back

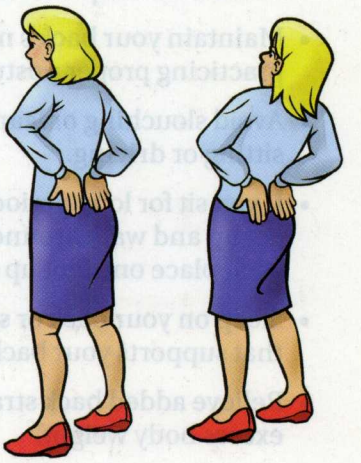
Certain positions help relax the back. They stretch the spine and the muscles that support it. Rest positions can also take pressure off the back. So give your back a rest in these positions.

NOTE: Do these positions only if instructed by your healthcare provider.

Lie on your back on the floor with your legs up on a stool. Put a pillow under your neck for comfort. Hold for 15 minutes.



Lean forward in your chair. Lower your head to the knees. Hold for 1 minute.



Stand with your hands on the low back. Bend slightly back for 15 seconds. Repeat 2 or 3 times.

Treat Pain

To treat your back pain, consider using:

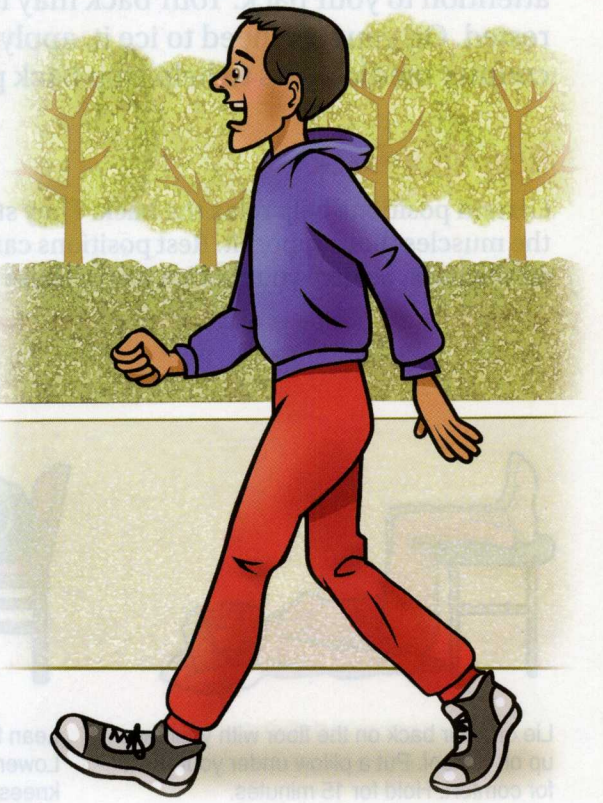
- **Ice** to reduce swelling. Place an ice pack wrapped in a thin towel where your back hurts most. Keep it on for 15 to 20 minutes. Repeat this each hour. If you don't have an ice pack, a bag of frozen peas will also work. If ice hasn't relieved pain after 2 days, try heat.
- **Heat** to relax muscles. Put moist heat, such as a towel heated with warm water, on the sore area for 10 to 15 minutes each hour. Taking a warm bath or shower may also help.
- **Over-the-counter medicines** to reduce pain. Try using aspirin, ibuprofen, or naproxen. Talk to your healthcare provider before taking any medications.

A Physical Therapist May Help

A physical therapist is trained to evaluate and treat your back pain. He or she will also plan an exercise program to help you treat yourself. A physical therapist may practice mobilization (gentle movement of the vertebrae). Other treatments may include using machines that produce cold, heat, or electrical stimulation to help treat your back pain or injury.

Back Owner's Maintenance Guide

- Exercise daily to build strong, supportive muscles. Walking and swimming are great ways to strengthen muscles.
- Think before you lift. Always lift with your legs, not with your back. Do this by squatting and bending your knees. Hold the object close to your body when lifting. And ask for help with heavy loads!
- Maintain your back's natural curves by practicing proper posture.
- Avoid slouching or leaning forward while sitting or driving.
- If you sit for long periods, take time to get up and walk around. If you stand a lot, place one foot up on a box or stool.
- Sleep on your back or side on a mattress that supports your back's natural curves.
- Relieve added back strain by losing excess body weight.
- Quit smoking to reduce your risk of back pain and injury.
- Always talk to your healthcare provider about concerns you may have about the health of your back.



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