

# Low Back Pain

## What is low back pain?

Low back pain is pain and stiffness in the lower back. It is one of the most common reasons people miss work.

## How does it occur?

Low back pain is usually caused when a ligament or muscle holding a vertebra in its proper position is strained. Vertebrae are bones that make up the spinal column through which the spinal cord passes. When these muscles or ligaments become weak, the spine loses its stability, resulting in pain. Because nerves reach all parts of the body from the spinal cord, back problems can lead to pain or weakness in almost any part of the body.

Low back pain can occur if your job involves lifting and carrying heavy objects, or if you spend a lot of time sitting or standing in one position or bending over. It can be caused by a fall or by unusually strenuous exercise. It can be brought on by the tension and stress that cause headaches in some people. It can even be brought on by violent sneezing or coughing.

People who are overweight may have low back pain because of the added stress on their back.

Back pain may occur when the muscles, joints, bones, and

connective tissues of the back become inflamed as a result of an infection or an immune system problem. Arthritic disorders as well as some congenital and degenerative conditions may cause back pain.

Back pain accompanied by loss of bladder or bowel control, difficulty in moving your legs, or numbness or tingling in your arms or legs may indicate an injury to your spine and nerves, which requires immediate medical treatment.

## What are the symptoms?

Symptoms include:

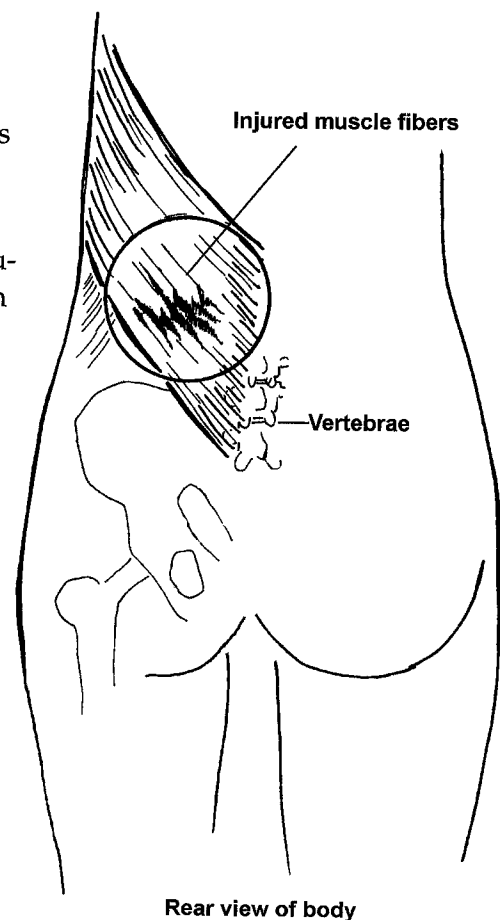
- pain in the back or legs
- stiffness and limited motion.

The pain may be continuous or may occur only in certain positions. It may be aggravated by coughing, sneezing, bending, twisting, or straining during a bowel movement. The pain may occur in only one spot or may spread to other areas, most commonly down the buttocks and into the back of the thigh.

A low back strain typically does not produce pain past the knee into the calf or foot. Tin-

gling or numbness in the calf or foot may indicate a herniated disk or pinched nerve. Be sure to see your doctor if you have weakness in your leg, especially if you cannot lift your foot, because this is a sign of nerve damage. New bowel or bladder problems related to your back pain may indicate severe injury to your spinal cord, and you should see your doctor. Pain that increases

## Low Back Pain



## Low Back Pain

despite treatment indicates a more severe problem, which should be evaluated.

### **How is it diagnosed?**

Your doctor will review your medical history and examine you. He or she may order x-rays. In certain situations a myelogram, CT scan, or MRI may be ordered.

### **How is it treated?**

The early stages of back pain with muscle spasms should be treated with ice packs for 20 to 30 minutes every 4 to 6 hours for the first 2 to 3 days. You may lie on a frozen gel pack, crushed ice, or a bag of frozen peas.

The following are ways to treat low back pain:

- After the initial injury, applying heat from a heating pad or hot water bottle.
- Resting in bed on a firm mattress. Often it helps to lie on your back with your knees raised. However, some people prefer to lie on their side with their knees bent.
- Taking aspirin, ibuprofen, or other anti-inflammatory medications; muscle relaxants; or other pain medications if recommended by your doctor.
- Having your back massaged by a trained person.

- Having traction, if recommended by your doctor.
- Wearing a belt or corset to support your back.
- Talking with a counselor, if your back pain is related to tension caused by emotional problems.
- Beginning a program of physical therapy, or exercising on your own. Begin a regular exercise program to gently stretch and strengthen your muscles as soon as you can. Your doctor or physical therapist can recommend exercises that will not only help you feel better but will strengthen your muscles and help avoid back trouble later.

When the pain subsides, ask your doctor about starting an exercise program such as the following:

- Exercise moderately every day, using stretching and warm-up exercises suggested by your doctor or physical therapist.
- Exercise vigorously for about 30 minutes two or three times a week by walking, swimming, using a stationary bicycle, or doing low-impact aerobics.

Participating regularly in an exercise program will not only help your back, it will also help keep you healthier overall.

### **How long will the effects last?**

The effects of back pain last as long as the cause exists or until your body recovers from the strain, usually a day or two but sometimes weeks.

### **How can I take care of myself?**

In addition to the treatment described above, keep in mind these suggestions:

- Use an electric heating pad on a low setting (or a hot water bottle wrapped in a towel to avoid burning yourself) for 20 to 30 minutes. Don't let the heating pad get too hot, and don't fall asleep with it. You could get a burn.
- Try putting an ice pack wrapped in a towel on your back for 20 minutes, one to four times a day. Set an alarm to avoid frostbite from using the ice pack too long.
- Put a pillow under your knees when you are lying down.
- Sleep without a pillow under your head.
- Lose weight if you are overweight.
- Practice good posture. Stand with your head up, shoulders straight, chest forward, weight balanced evenly on both feet, and pelvis tucked in.

## Low Back Pain

Pain is the best way to judge the pace you should set in increasing your activity and exercise. Minor discomfort, stiffness, soreness, and mild aches need not interfere with activity. However, limit your activities temporarily if:

- Your symptoms return.
- The pain increases when you are more active.
- The pain increases within 24 hours after a new or higher level of activity.

### ***When can I return to my sport or activity?***

The goal of rehabilitation is to return you to your sport or activity as soon as is safely possible. If you return too soon you may worsen your injury, which could lead to permanent damage. Everyone recovers from injury at a different rate. Return to your sport will be determined by how soon your back recovers, not by how many days or weeks it has been since your injury occurred. In general, the longer you have symptoms before you start treatment, the longer it will take to get better.

It is important that you have fully recovered from your low back pain before you return to your sport or any strenuous activity. You must

be able to have the same range of motion that you had before your injury. You must be able to run, jump and twist without pain.

### ***What can I do to help prevent low back pain?***

You can reduce the strain on your back by doing the following:

- Don't push with your arms when you move a heavy object. Turn around and push backwards so the strain is taken by your legs.
- Whenever you sit, sit in a straight-backed chair and hold your spine against the back of the chair.
- Bend your knees and hips and keep your back straight when you lift a heavy object.
- Avoid lifting heavy objects higher than your waist.
- Hold packages you carry close to your body, with your arms bent.
- Use a footrest for one foot when you stand or sit in one spot for a long time. This keeps your back straight.
- Bend your knees when you bend over.
- Sit close to the pedals when you drive and use your seat belt and a hard backrest or pillow.

- Lie on your side with your knees bent when you sleep or rest. It may help to put a pillow between your knees.
- Put a pillow under your knees when you sleep on your back.
- Raise the foot of the bed 8 inches to discourage sleeping on your stomach unless you have other problems that require that you keep your head elevated.

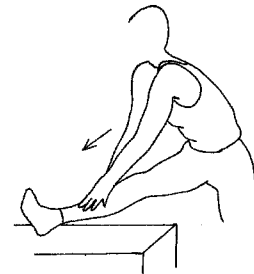
To rest your back, hold each of these positions for 5 minutes or longer:

- Lie on your back, bend your knees, and put pillows under your knees.
- Lie on your back, put a pillow under your neck, bend your knees to a 90-degree angle, and put your lower legs and feet on a chair.
- Lie on your back, bend your knees, and bring one knee up to your chest and hold it there. Repeat with the other knee, then bring both knees to your chest. When holding your knee to your chest, grab your thigh rather than your lower leg to avoid overflexing your knee.

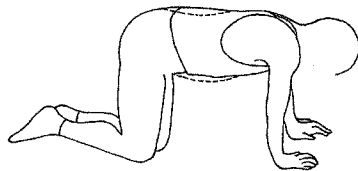
## Low Back Pain Rehabilitation Exercises

The goal of these exercises is to strengthen your abdominal muscles, stretch your lower back, hip flexors, and hamstrings. These exercises may help reduce lower back pain by correcting muscle imbalances in strength and flexibility of the trunk and hips.

1. Hamstring stretch: Place the heel of one leg on a stool about 15 inches high. Lean forward, bending at the hips until you feel a mild stretch in the back of your thigh. Make sure you do not roll your shoulders and bend at the waist when doing this or you will stretch your lower back instead. Hold the stretch 30 to 60 seconds. Do the same exercise with the other leg. Repeat 3 times.



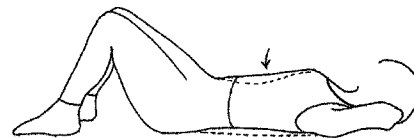
Hamstring stretch



Cat and camel

2. Cat and camel: Get down on your hands and knees. Let your stomach sag, allowing your back to curve downward. Hold this position for 5 seconds, then arch your back. Repeat 10 times. Do 2 sets.

3. Pelvic tilt: Lie on your back with your knees bent and your feet flat on the floor. Tighten your stomach muscles to flatten your lower back against the floor. Hold for 5 seconds, then relax. Repeat 10 times. Do 3 sets.



Pelvic tilt

4. Partial curl: Lie on your back with your knees bent and your feet flat on the floor. Tighten your stomach muscles and flatten your back against the floor. Tuck your chin to your chest. With your hands stretched out in front of you, curl your upper body forward until your shoulders clear the floor. Hold this position for 3 seconds. Don't hold your breath. It helps to breathe out as you lift your shoulders up. Relax. Repeat 10 times. Build to 3 sets of 10. To challenge yourself, clasp your hands behind your head and keep your elbows out to the side.



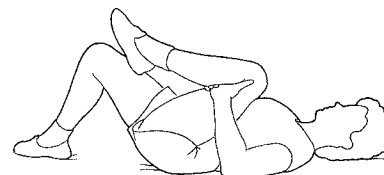
Partial curl

5. Prone hip extension: Lie on your stomach with your legs straight out behind you. Tighten your buttock muscles and lift your right leg off the floor, keeping your knee straight. Hold this position for 5 seconds. Then lower your leg and relax. Repeat the same with your left leg. Hold 5 seconds and then lower the leg and relax. Repeat 10 times on each side. Build up to 3 sets of 10.



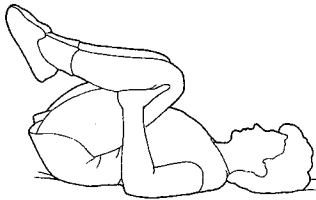
Prone hip extension

6. Single knee to chest: Now do a pelvic tilt and pull one knee up to your chest. Hold for 5 seconds and return to the starting position. Alternate sides, and repeat it 10–20 times.



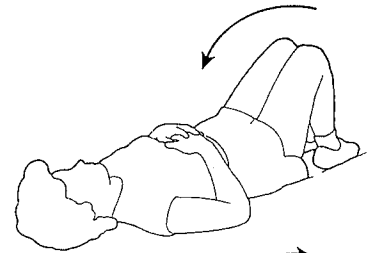
Single knee to chest

## Low Back Pain Rehabilitation Exercises

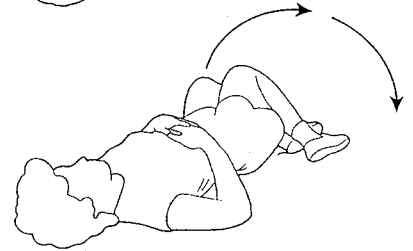


**Double knee to chest**

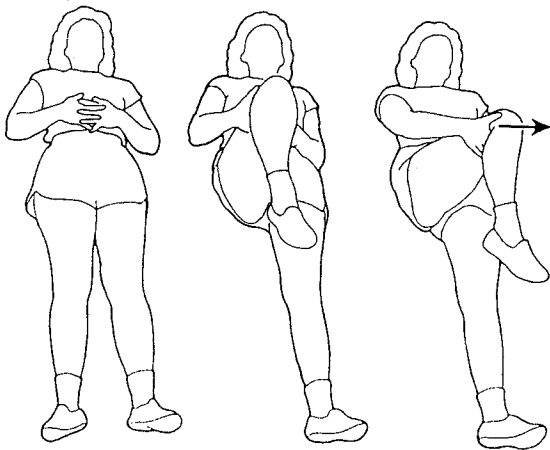
7. Double knee to chest: Again, do a pelvic tilt and now pull both knees up to your chest. Hold for 5 seconds and repeat it 10–20 times. You may need to lift one leg at a time until your stomach muscles get stronger.



8. Lower trunk rotation: Do a pelvic tilt. Keeping shoulders down flat, gently rotate the knees to one side, then the other, as far as you can. Repeat 10–20 times.



**Lower trunk rotation**



**Piriformis stretch**

9. Piriformis stretch: Lie on your back as shown. Pull one knee up and across your trunk so you feel a comfortable stretch in the top buttocks and back. Hold for 5–15 seconds and repeat 5–10 times on each side.

You can modify this exercise by reaching for your knee with the opposite hand and keeping your shoulders flat on the floor. Pull your knee over as far as you can allowing your trunk to rotate.