Low Back Pain

Causes of lower back pain

Short-term (acute) lower back pain generally lasts a few days to a few weeks. Most acute back pain is the result of trauma to the lower back, or the culmination of conditions such as poor posture, obesity, poor physical condition, smoking, stress, or a poor sleeping position. Conditions such as arthritis or disc disease, osteo­por­osis or other bone diseases, viral infections, irritation to joints and discs, or congenital abnormalities in the spine can also cause pain. Occasionally, back pain “radiates” from the kidneys, abdomen, or other parts of the body.

Symptoms

- muscle aches or stabbing pain in lower back
- limited flexibility or range of motion
- difficulty standing straight

Treatment

Being physically active significantly improves low back pain. Treatment involves pain relievers, reducing inflammation, restoring proper function and strength to the back, and preventing recurrence of the injury. Most patients fully recover.

General treatment measures

**Heat:** Applying heat with heating pads or heated blankets can provide short-term relief of acute back pain. Warm baths can also help muscles relax. Avoid sleeping on a heating pad, which can burn and lead to tissue damage.

**Bed rest:** At night or while resting, lie on one side, with a pillow between the knees to ease pain and reduce stress on the lower back. Bed rest alone can worsen back pain and lead to complications such as depression, decreased muscle tone, and blood clots in the legs. Resume normal activities as soon as possible.

**Spinal manipulation:** Trained specialists (such as chiropractors or osteopaths) use spinal manipulation to reduce pain and restore mobility.

**Massage:** Gentle working of the soft tissues can be performed by a massage therapist to help with pain and restore soft tissue mobility.

Medication

**Nonprescription:** Acetaminophen, naproxen, and ibuprofen are pain relievers that can be taken orally to ease pain and reduce stiffness, swelling, or inflammation. Follow the recommended dosage on the label directions when using acetaminophen. The recommended dose for ibuprofen is three 200 mg tablets every four to six hours, taken with food. Do not exceed 2400 mg daily.

**Prescription:** Prescription medications may be prescribed to manage severe pain. These medications should be used only for a short period of time and under a clinician’s supervision. Side effects can include drowsiness, slower reaction time, and impaired judgment. Chronic use of these drugs may be harmful, adding to depression and possibly increasing pain, and has the potential for addiction.

Stretching and strengthening the back

Exercise that helps strengthen the back and abdominal muscles may be the most effective way to speed recovery. In addition to the exercises below, back-healthy activities such as swimming, walking, or movement therapy can help improve coordina­tion, posture, and balance. Any mild discomfort felt at the start of these exercises should disappear as muscles become stronger. If the pain is more than mild and lasts longer than 15 minutes, stop and consult a clinician.
Stretches

**Pelvic tilt:** Lie on the back with both knees bent and feet flat on the floor. Press the small of the back against the floor, without using the legs. Hold for five seconds. Repeat ten times.

**Piriformis stretch:** Lie on the back with both knees bent. Cross one leg over the other. Pull the opposite knee to the chest until a stretch is felt in the buttock/hip area. Hold for 20 seconds and relax. Repeat five times on each side.

**Knee to chest:** Lie on the back with legs straight out in front. Bring one knee up to the chest and grasp the back of the thigh. Pull the knee toward the chest, stretching the buttock muscle. Hold the position for 15 to 30 seconds and return to the starting position. Repeat three times on each side.

**Prone lying:** Lie on the stomach with the arms placed along the body and head turned to one side. A small pillow under the hips and an ice pack wrapped in a towel may provide additional pain relief. Maintain this position for three to five minutes.

**Prone press-up:** Slowly work up to the prone press-up. Lie on the stomach with the hands on the floor near the shoulders. Slowly push the upper body off the floor by straightening the arms, keeping the hips on the floor. Hold for five seconds and repeat ten times.

**Standing hamstring stretch:** Place the heel on a stool about 15 inches high. Keeping the knee straight, lean forward and bend at the hips until a mild stretch is felt in the back of the thigh. Do not roll the shoulders or bend at the waist. Hold the stretch for 15 to 30 seconds. Repeat three times with each leg.

**Hamstring stretch on wall:** Lie on the back with the buttocks close to a doorway, and extend the legs forward along the floor. Raise one leg and rest it against the wall next to a door frame. The other leg should extend through the doorway. Feel the stretch in the back of the thigh. Hold for 15 to 30 seconds. Repeat three times on each side.

**Hip flexor muscle stretch:** Kneel with the left foot in front. Slowly shift weight forward, keeping the back straight. Lifting the stomach muscles and pushing the left buttock toward the floor, hold for 30 seconds. Relax and return to the starting position. Repeat with the opposite leg.

**Cat and camel:** Start on the hands and knees. Let the stomach sag, allowing the back to curve down. Hold this position for five seconds. Then arch the back and hold for five seconds. Do three sets of ten.

**Child’s pose:** Kneel and rest the head on the floor. Feel the stretch in the lower back. Hold for 20 seconds. Do this stretch after any exercise that arches the back.

**Strengthening exercises**

**Quadruped:** Start on the hands and knees, keeping the lower back straight. Lift one arm straight up next to the ear. Then extend the opposite leg out to the back. Try not to twist the body. Hold the arm and leg parallel to the floor for five seconds. Return to the starting position and repeat ten times. Then repeat with the opposite leg and arm.

**Bridging:** Lie on back with both knees bent and the feet flat on the floor. Raise the hips and the lower back off the floor, keeping the lower back straight. Hold the position for five seconds. Relax and repeat ten times.

**Partial sit-up:** Lie on the back with both knees bent and the feet flat on the floor. Slowly curl the head and shoulders off the floor. Hold briefly for one to two seconds, and then relax. Do 10 to 20 times.
Tips for a healthier back

- Regularly stretch and exercise to keep the back healthy, and remember to always stretch before any strenuous physical activity.
- Stay active. Speed walking, swimming, or biking for 30 minutes a day can increase muscle strength and flexibility. Yoga is another way to gently stretch muscles and ease pain.
- Wear comfortable shoes without a high heel.
- Do not slouch when standing or sitting. When standing, keep weight balanced on the feet. The back supports weight most easily when it is less curved.
- When studying or using a computer, sit in a chair with good back support and proper position and height for the task. Keep the shoulders back. Switch positions often and periodically walk around or gently stretch muscles to relieve tension. A pillow or rolled-up towel placed behind the small of the back can provide some back support. If sitting for a long time, rest the feet on a low stool or stack of books.
- When lifting objects, lift with the knees, pull in the stomach muscles, and keep the head down and in line with a straight back. Keep the object close to the body. Do not twist when lifting and do not lift anything that may be too heavy.
- Use a backpack, slung over both shoulders, to carry books rather than a shoulder bag. Minimize weight to avoid strain.
- Sleep on the side to keep the spine straight. Always sleep on a medium-firm mattress.
- Eat a balanced diet to maintain a healthy weight. Extra weight at the waistline can strain the lower back. A diet with sufficient calcium, phosphorus, and vitamin D promotes new bone growth.
- Don’t smoke. Smoking reduces blood flow to the lower spine and causes the spinal discs to degenerate.

When to contact a clinician

Seek care for the following:

- frequent, painful, or bloody urination
- severe pain that spreads to the legs or buttocks
- leg pain that goes below the knee
- a history of back or spine problems
- pain and inflammation not noticeably reduced after 72 hours of self-care

Some symptoms may indicate a more serious medical problem. If any of the following symptoms are experienced, contact a clinician immediately:

- progressive weakness or numbness in the legs
- pain accompanied by fever
- loss of bowel or bladder control
- inability to empty bladder fully

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