



Brought to you by the SunAssociation

Low Back Pain

by Elizabeth Smoots, MD

Definition

Low back pain is an ache or discomfort in the area of the lower part of the back and spinal column. The lower spinal column consists of many small bones that surround and protect the spinal cord and nerves. Low back pain is very common, affecting most adults at some point in their lives.

Bones of the Lower Back



Causes

There are many possible causes for low back pain, including:

- Sprain or strain of muscles or ligaments in the area (most common cause of back pain)
- Herniated (ruptured) disc —the cushions between the bones of the spine bulge out of place
- Disc degeneration, caused by aging or arthritis
- Spinal stenosis —narrowing of the spinal canal in the lumbar area
- Spondylolisthesis —slippage of a bone in the lower back
- Fractures due to trauma and/or osteoporosis
- Fibromyalgia —a condition that causes muscle aches and fatigue
- Ankylosing spondylitis —a hereditary disorder involving the spine
- In rare cases:
 - Benign or malignant tumors
 - Infections
 - Arterial problems such as as an aortic aneurysm

Risk Factors

These factors increase your chance of developing low back pain. Tell your doctor if you have any of these risk factors:

- Older age
- Certain activities (such as lifting)
- Sedentary lifestyle
- Pregnancy
- Obesity
- Smoking
- Injury
- Preexisting back injury due to:
 - Lifting a heavy object
 - Improper lifting
 - Sudden movement, bending, or twisting
 - Prolonged sitting or standing
 - Bad posture
 - Vibration from vehicles or heavy equipment
- Prior back surgery
- Other factors which may negatively influence back pain include:
 - Psychological factors, such as low job satisfaction
 - Fatigue or sleep deficit
 - Drug or alcohol abuse
 - Stress

Symptoms

Pain is usually localized in the low back. It gets worse with back motion, sitting, standing, bending, and twisting. If a nerve is irritated, the pain may extend into the buttock or leg on the affected side, and muscle weakness or numbness may be present. It usually gets better with rest, and there is good bowel and bladder control.

More serious symptoms associated with back pain that may require immediate medical attention include:

- Pain that is severe or that has gotten dramatically worse
- Progressive weakness in a leg or foot
- Difficulty walking, standing, or moving
- Numbness in the genital or rectal area
- Loss of bowel or bladder control
- Difficulty with urination
- Fever, unexplained weight loss, or other signs of illness
- Pain that awakes you from sleep at night

Pain that doesn't improve or worsens with rest (even at night) may be an indication of a more serious disease.

Diagnosis

The doctor will ask about your symptoms and medical history, and perform a physical exam. In particular, the doctor will examine your back, hips, and legs and usually will test for strength, flexibility, sensation, and reflexes.

Other tests include:

- X-rays—a test that uses radiation to take a picture of structures inside the body, especially bones. This test is usually done if you are over 50 years old or have persistent symptoms for more than a week. This test has its limitations in that it does not show herniated discs or spinal stenosis
- CT scan—a type of x-ray that uses a computer to make pictures of structures inside the body. This test provides a good picture of the vertebrae and the spinal canal. This test is done when there are persistent symptoms.
- MRI scan—a test that uses magnetic waves to make pictures of structures inside the body and shows the intervertebral discs and any abnormality of the discs. This test is done when there are persistent symptoms.
- Bone scan—a test to determine mineralization of the bones
- Blood tests—such as complete blood count (CBC) or sedimentation rate
- Urine test—to check for urinary infection or blood in the urine

It's important to keep in mind that imaging tests, like CT or MRI scan, may not be helpful immediately after a back injury.

Treatment

Treatment options include:

Bed Rest

Short-term bed rest is not generally recommended in normal individuals. It is only recommended in those with severe debilitating back pain, and for not more than 1-2 days. Movement helps in cases of muscle spasm and to maintain muscle strength.

Medication

Pain relievers, such as acetaminophen (Tylenol), aspirin (Bayer), or ibuprofen (Motrin, Advil)
Muscle relaxants for muscle spasm—These medications are not used in cases where you need to be alert, such as driving or operating machinery.
Cortisone injections

Antidepressants are also sometimes prescribed for low back pain. While these medications may be effective for depression, there is little evidence they effectively relieve chronic low back pain, whether patients are depressed or not.

Physical Therapy

Hot or cold packs
Stretching and strengthening exercises for back and abdominal muscles
Education about how to deal with back problems
Massage —Massage might be helpful especially if it is combined with education and exercise.
Ultrasound treatments or electrical stimulation

Your doctor may recommend that you restrict activities for 3-6 weeks, then resume activities as soon as possible.

Alternative Medicine

Relaxation training
Biofeedback
Acupuncture
Chiropractic or osteopathic manipulation

Surgery

Only a small number of patients need surgery. It may be needed if nerve problems develop or other treatments fail to provide relief. Common procedures are discectomy, laminectomy, and spinal fusion.

If you have low back pain, follow your doctor's instructions.

Prevention

The following steps may help you avoid low back pain:

Begin a safe exercise program with the advice of your doctor.
Maintain a healthy weight.
If you smoke, quit.
Practice good posture to reduce pressure on your spine.
Avoid sitting or standing in one position for prolonged periods.
If you must remain standing for long periods, rest one foot at a time on a small stool to relieve pressure on your low back.
When lifting, hold the object close to your chest, maintain a straight back, and use your leg muscles to slowly rise.
Avoid aggravating activities, for example bending, twisting, and sudden movements.
Consider job retraining if your work requires a lot of heavy lifting or sitting.

If you have back pain during pregnancy, try wearing a BellyBra. This is a special bra to support your back and abdomen.

While some people think that using shoe inserts will prevent back pain, so far there is not a lot of evidence to support this.

RESOURCES:

American Academy of Orthopaedic Surgeons

<http://www.aaos.org/>

Family Doctor.org

<http://www.familydoctor.org/>

REFERENCES:

American Academy of Family Physicians. Management of chronic musculoskeletal pain: focus on low back pain. CME videotape monograph; 1999.

American Association of Neurological Surgeons website. Available at: <http://www.aans.org/> . Accessed July 1, 2009.

Back pain. Mayo Clinic website. Available at: <http://www.mayoclinic.com/health/back-pain/DS00171/DSECTION=3> .

Published February 8, 2008. Accessed July 1, 2009.

Bratton RL. Assessment and management of acute low back pain. *Am Fam Physician* . 1999;60:2299-2309.

Hagen KB, Hilde G, Jamtvedt G, Winnem M. Bedrest for acute low back pain and sciatica. *Cochrane Database Rev* . 2000;CD001254.

Katz JN. Lumbar disc disorders and low-back pain: socioeconomic factors and consequences. *J Bone Joint Surg Am*. 2006;88 Suppl 2:21.

Low back pain. *The Merck Manual*. 17th ed. Whitehouse Station, NJ: Merck; 1999.

Patel AT, Ogle AA. Diagnosis and management of acute low back pain. *Am Fam Physician* . 2000;62:2414-2415.

Press release. American Academy of Orthopedic Surgeons. 2006.

9/16/2008 DynaMed's Systematic Literature Surveillance <http://www.ebscohost.com/dynamed/what.php> : Kalus SM,

Kornman LH, Quinlivan JA. Managing back pain in pregnancy using a support garment: a randomised trial. *BJOG*.

2008;115:68-75. Epub 2007 Nov 12.

12/16/2008 DynaMed's Systematic Literature Surveillance <http://www.ebscohost.com/dynamed/what.php> : Furlan AD,

Imamura M, Dryden T, Irvin E. Massage for low-back pain. *Cochrane Database Syst Rev*. 2008;CD001929.

1/30/2009 DynaMed's Systematic Literature Surveillance <http://www.ebscohost.com/dynamed/what.php> : Yuan J,

Purepong N, Kerr DP, Park J, Bradbury I, McDonough S. Effectiveness of acupuncture for low back pain: a systematic review. *Spine*. 2008;33:E887-900.

2/17/2009 DynaMed's Systematic Literature Surveillance <http://www.ebscohost.com/dynamed/what.php> : Bigos SJ,

Holland J, Holland C, Webster JS, Battie M, Malmgren JA. High-quality controlled trials on preventing episodes of back problems: systematic literature review in working-age adults. *Spine J*. 2009;9:147-168.

2/17/2009 DynaMed's Systematic Literature Surveillance <http://www.ebscohost.com/dynamed/what.php> : Chou R, Fu R, Carrino JA, Deyo RA. Imaging strategies for low-back pain: systematic review and meta-analysis. *Lancet*. 2009;373:463-472.

2/24/2009 DynaMed's Systematic Literature Surveillance <http://www.ebscohost.com/dynamed/what.php> : Sahar T, Cohen

M, Ne'eman V, et al. Insoles for prevention and treatment of back pain. *Cochrane Database Syst Rev*.

2009;(1):CD005275.

9/2/2009 DynaMed Systematic Literature Surveillance <http://www.dynamicmedical.com/what.php> : Urquhart D, Hoving J,

Assendelft W, Roland M, van Tulder M. Antidepressants for non-specific low back pain. *Cochrane Database Syst Rev*.

2009;(3):CD001703.

Last reviewed July 2010 by [Robert E. Leach, MD](#)

Last Updated: 7/9/2010

This content is reviewed regularly and is updated when new and relevant evidence is made available. This information is neither intended nor implied to be a substitute for professional medical advice. Always seek the advice of your physician or other qualified health provider prior to starting any new treatment or with questions regarding a medical condition.

To send comments or feedback to our Editorial Team regarding the content please email us at

healthlibrarysupport@ebscohost.com.