Handout on Health: Back Pain

This publication is for people who have back pain, as well as family members, friends, and others who want to find out more about it. The publication describes causes, diagnosis, and treatments, and research efforts to learn more about back pain, many of which are supported by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and other components of the U.S. Department of Health and Human Services’ National Institutes of Health (NIH). If you have further questions after reading this publication, you may wish to discuss them with your doctor.

What Is Back Pain?

Back pain is an all-too-familiar problem that can range from a dull, constant ache to a sudden, sharp pain that leaves you incapacitated. It can come on suddenly—from an accident, a fall, or lifting something heavy—or it can develop slowly, perhaps as the result of age-related changes to the spine. Regardless of how back pain happens or how it feels, you know it when you have it. And chances are, if you don’t have back pain now, you will eventually.

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How Common Is Back Pain?

In a 3-month period, more than one-fourth of U.S. adults experience at least 1 day of back pain. It is one of our society’s most common medical problems.

What Are the Risk Factors for Back Pain?

Although anyone can have back pain, a number of factors increase your risk. They include:

Age: The first attack of low back pain typically occurs between the ages of 30 and 40. Back pain becomes more common with age.

Fitness level: Back pain is more common among people who are not physically fit. Weak back and abdominal muscles may not properly support the spine.
People who go out and exercise a lot after being inactive all week are more likely to suffer painful back injuries than people who make moderate physical activity a daily habit. Studies show that low-impact aerobic exercise is good for the disks that cushion the vertebrae, the individual bones that make up the spine.
Diet: A diet high in calories and fat, combined with an inactive lifestyle, can lead to obesity, which can put stress on the back.

Heredity: Some causes of back pain, such as ankylosing spondylitis, a form of arthritis that affects the spine, have a genetic component.

Race: Race can be a factor in back problems. African American women, for example, are two to three times more likely than white women to develop spondylolisthesis, a condition in which a vertebra of the lower spine—also called the lumbar spine—slips out of place.

The presence of other diseases: Many diseases can cause or contribute to back pain. These include various forms of arthritis, such as osteoarthritis and rheumatoid arthritis, and cancers elsewhere in the body that may spread to the spine.

Occupational risk factors: Having a job that requires heavy lifting, pushing, or pulling, particularly when this involves twisting or vibrating the spine, can lead to injury and back pain. An inactive job or a desk job may also lead to or contribute to pain, especially if you have poor posture or sit all day in an uncomfortable chair.

Cigarette smoking: Although smoking may not directly cause back pain, it increases your risk of developing low back pain and low back pain with sciatica. (Sciatica is back pain that radiates to the hip and/or leg due to pressure on a nerve.) Furthermore, smoking can slow healing, prolonging pain for people who have had back injuries, back surgery, or broken bones.

What Are the Causes of Back Pain?

It is important to understand that back pain is a symptom of a medical condition, not a diagnosis itself. Medical problems that can cause back pain include the following:

Mechanical problems: A mechanical problem is a problem with the way your spine moves or the way you feel when you move your spine in certain ways.
Perhaps the most common mechanical cause of back pain is a condition called intervertebral disk degeneration, which simply means that the disks located between the vertebrae of the spine are breaking down with age. As they deteriorate, they lose their cushioning ability. This problem can lead to pain if the back is stressed. Other mechanical causes of back pain include spasms, muscle tension, and ruptured disks, which are also called herniated disks.

**Injuries:** Spine injuries such as sprains and fractures can cause either short-lived or chronic pain. Sprains are tears in the ligaments that support the spine, and they can occur from twisting or lifting improperly. Fractured vertebrae are often the result of osteoporosis. Less commonly, back pain may be caused by more severe injuries that result from accidents or falls.

**Acquired conditions and diseases:** Many medical problems can cause or contribute to back pain. They include scoliosis, a curvature of the spine that does not usually cause pain until middle age; spondylolisthesis; various forms of arthritis, including osteoarthritis, rheumatoid arthritis, and ankylosing spondylitis; and spinal stenosis, a narrowing of the spinal column that puts pressure on the spinal cord and nerves. Although osteoporosis itself is not painful, it can lead to painful fractures of the vertebrae. Other causes of back pain include pregnancy; kidney stones or infections; endometriosis, which is the buildup of uterine tissue in places outside the uterus; and fibromyalgia, a condition of widespread muscle pain and fatigue.

**Infections and tumors:** Although they are not common causes of back pain, infections can cause pain when they involve the vertebrae, a condition called osteomyelitis, or when they involve the disks that cushion the vertebrae, which is called diskitis. Tumors also are relatively rare causes of back pain. Occasionally, tumors begin in the back, but more often they appear in the back as a result of cancer that has spread from elsewhere in the body.

Although the causes of back pain are
usually physical, emotional stress can play a role in how severe pain is and how long it lasts. Stress can affect the body in many ways, including causing back muscles to become tense and painful.

**Can Back Pain Be Prevented?**

One of the best things you can do to prevent many types of back pain is to exercise regularly and keep your back muscles strong. Four specific types of exercises are described in the section **How Is Back Pain Treated?** All may help you avoid injury and pain. Exercises that increase balance and strength can decrease your risk of falling and injuring your back or breaking bones. Exercises such as tai chi and yoga—or any weight-bearing exercise that challenges your balance—are good ones to try.

Eating a healthy diet also is important. For one thing, eating to maintain a healthy weight—or to lose weight, if you are overweight—helps you avoid putting unnecessary and injury-causing stress and strain on your back. To keep your spine strong, as with all bones, you need to get enough calcium and vitamin D every day. These nutrients help prevent osteoporosis, which is responsible for a lot of the bone fractures that lead to back pain. Calcium is found in dairy products; green, leafy vegetables; and fortified products, like orange juice. Your skin makes vitamin D when you are in the sun. If you are not outside much, you can obtain vitamin D from your diet: nearly all milk and some other foods are fortified with this nutrient. Most adults don’t get enough calcium and vitamin D, so talk to your doctor about how much you need per day, and consider taking a nutritional supplement or a multivitamin.

Practicing good posture, supporting your back properly, and avoiding heavy lifting when you can may all help you prevent injury. If you do lift something heavy, keep your back straight. Don’t bend over the item; instead, lift it by putting the stress on your legs and hips.

**When Should I See a Doctor for Pain?**

In most cases, it is not necessary to see
a doctor for back pain because pain usually goes away with or without treatment. However, a trip to the doctor is probably a good idea if you have numbness or tingling, if your pain is severe and doesn’t improve with medication and rest, or if you have pain after a fall or an injury. It is also important to see your doctor if you have pain along with any of the following problems: trouble urinating; weakness, pain, or numbness in your legs; fever; or unintentional weight loss. Such symptoms could signal a serious problem that requires treatment soon.

**Which Type of Doctor Should I See?**

Many different types of doctors treat back pain, from family physicians to doctors who specialize in disorders of the nerves and musculoskeletal system. In most cases, it is best to see your primary care doctor first. In many cases, he or she can treat the problem. In other cases, your doctor may refer you to an appropriate specialist.

**How Is Back Pain Diagnosed?**

Diagnosing the cause of back pain requires a medical history and a physical exam. If necessary, your doctor may also order medical tests, which may include x rays.

During the medical history, your doctor will ask questions about the nature of your pain and about any health problems you and close family members have or have had.

Often a doctor can find the cause of your pain with a physical and medical history alone. However, depending on what the history and exam show, your doctor may order medical tests to help find the cause.

Following are some tests your doctor may order:

**X rays:** Traditional x rays use low levels of radiation to project a picture onto a piece of film (some newer x rays use electronic imaging techniques). They are often used to view the bones and bony structures in the body.
Magnetic resonance imaging (MRI):
MRI uses a strong magnetic force instead of radiation to create an image. Unlike an x ray, which shows only bony structures, an MRI scan produces clear pictures of soft tissues, too, such as ligaments, tendons, and blood vessels.

Computed tomography (CT) scan:
A CT scan allows your doctor to see spinal structures that cannot be seen on traditional x rays. A computer creates a three-dimensional image from a series of two-dimensional pictures that it takes of your back.

Blood tests:
Although blood tests are not used generally in diagnosing the cause of back pain, your doctor may order them in some cases.

Only with a medical history and exam—and sometimes medical tests—can a doctor diagnose the cause of back pain. Many times, the precise cause of back pain is never known. In these cases, it may be comforting to know that most back pain gets better whether or not you find out what is causing it.

What Is the Difference Between Acute and Chronic Pain?

Pain that hits you suddenly—after falling from a ladder, being tackled on the football field, or lifting a load that is too heavy, for example—is acute pain. Acute pain comes on quickly and often leaves just as quickly. To be classified as acute, pain should last no longer than 6 weeks. Acute pain is the most common type of back pain.

Chronic pain, on the other hand, may come on either quickly or slowly, and it lingers a long time. In general, pain that lasts longer than 3 months is considered chronic. Chronic pain is much less common than acute pain.

How Is Back Pain Treated?

Treatment for back pain generally depends on what kind of pain you experience: acute or chronic.

Acute Back Pain
Acute back pain usually gets better on its own and without treatment, although you may want to try acetaminophen, aspirin, or ibuprofen to help ease the pain. Perhaps the best advice is to go about your usual activities as much as you can with the assurance that the problem will clear up. Getting up and moving around can help ease stiffness, relieve pain, and have you back doing your regular activities sooner. *Exercises or surgery are not usually advisable for acute back pain.*

**Chronic Back Pain**

Treatment for chronic back pain falls into two basic categories: the kind that requires an operation and the kind that does not. In the vast majority of cases, back pain does not require surgery. Doctors will nearly always try nonsurgical treatments before recommending surgery. In a very small percentage of cases—when back pain is caused by a tumor, an infection, or a nerve root problem called cauda equina syndrome, for example—prompt surgery is necessary to ease the pain and prevent further problems.

Following are some of the more commonly used treatments for chronic back pain.

**Nonsurgical Treatments**

*Hot or cold:* Hot or cold packs—or sometimes a combination of the two—can be soothing to chronically sore, stiff backs. Heat dilates the blood vessels, both improving the supply of oxygen that the blood takes to the back and reducing muscle spasms. Heat also alters the sensation of pain. Cold may reduce inflammation by decreasing the size of blood vessels and the flow of blood to the area. Although cold may feel painful against the skin, it numbs deep pain. Applying heat or cold may relieve pain, but it does not cure the cause of chronic back pain.

*Exercise:* Although exercise is usually not advisable for acute back pain, proper exercise can help ease chronic pain and perhaps reduce the risk of it returning. The following four types of exercise are important to general physical fitness and
may be helpful for certain specific causes of back pain. (Check with your doctor before starting a new exercise routine.)

**Flexion:** The purposes of flexion exercises, which are exercises in which you bend forward, are to (1) widen the spaces between the vertebrae, thereby reducing pressure on the nerves; (2) stretch muscles of the back and hips; and (3) strengthen abdominal and buttock muscles. Many doctors think that strengthening the muscles of the abdomen will reduce the load on the spine.

**Extension:** With extension exercises, you bend backward. They may minimize radiating pain, which is pain you can feel in other parts of the body besides where it originates. Examples of extension exercises are leg lifting and raising the trunk, each exercise performed while lying prone. The theory behind these exercises is that they open up the spinal canal in places and develop muscles that support the spine.

**Stretching:** The goal of stretching exercises, as their name suggests, is to stretch and improve the extension of muscles and other soft tissues of the back. This can reduce back stiffness and improve range of motion.

**Aerobic:** Aerobic exercise is the type that gets your heart pumping faster and keeps your heart rate elevated for a while. For fitness, it is important to get at least 30 minutes of aerobic (also called cardiovascular) exercise three times a week. Aerobic exercises work the large muscles of the body and include brisk walking, jogging, and swimming. For back problems, you should avoid exercise that requires twisting or vigorous forward flexion, such as aerobic dancing and rowing, because these actions may raise pressure in the disks and actually do more harm than good. In
addition, avoid high-impact activities if you have disk disease.

Medications: A wide range of medications are used to treat chronic back pain. Some are available over the counter. Others require a doctor’s prescription. The following are the main types of medications used for back pain.  

1 All medicines can have side effects. Some medicines and side effects are mentioned in this publication. Some side effects may be more severe than others. You should review the package insert that comes with your medicine and ask your health care provider or pharmacist if you have any questions about the possible side effects.

Analgesics: Analgesic medications are those designed specifically to relieve pain. They include over-the-counter acetaminophen and aspirin, as well as prescription narcotics. Aspirin and acetaminophen are the most commonly used analgesics; narcotics should only be used for a short time for severe pain or pain after surgery. People with muscular back pain or arthritis pain that is not relieved by medications may find topical analgesics helpful. These creams, ointments, and salves are rubbed directly onto the skin over the site of pain. They use one or more of a variety of ingredients to ease pain.

NSAIDs: Nonsteroidal anti-inflammatory drugs (NSAIDs) are drugs that relieve pain and inflammation, both of which may play a role in some cases of back pain. A subclass of NSAIDs called COX-2 inhibitors, are available only with a prescription. It’s important to work with your doctor to choose the one that’s safest and most effective for you.  

2 Warning: Side effects of NSAIDs include stomach problems; skin rashes; high blood pressure; fluid retention; and liver, kidney, and...
heart problems. The longer a person uses NSAIDs, the more likely he or she is to have side effects, ranging from mild to serious. Many other drugs cannot be taken when a patient is being treated with NSAIDs, because NSAIDs alter the way the body uses or eliminates these other drugs. Check with your health care provider or pharmacist before you take NSAIDs. NSAIDs should only be used at the lowest dose possible for the shortest time needed.

**Other medications:** Muscle relaxants and certain antidepressants have also been prescribed for chronic back pain, but *their usefulness is questionable.* If the cause of back pain is an inflammatory form of arthritis, medications used to treat that specific form of arthritis may be helpful against the pain.

**Traction:** Traction involves using pulleys and weights to stretch the back. The rationale behind traction is to pull the vertebrae apart to allow a bulging disk to slip back into place. Some people experience pain relief while in traction, but that relief is usually temporary. Once traction is released, the stretch is not sustained and back pain is likely to return. *There is no scientific evidence that traction provides any long-term benefits for people with back pain.*

**Behavioral modification:** Developing a healthy attitude and learning to move your body properly while you do daily activities, particularly those involving heavy lifting, pushing, or pulling, are sometimes part of the treatment plan for people with back pain. Other behavior changes that might help pain include adopting healthy habits, such as exercise, relaxation, and regular sleep, and dropping bad habits, such as smoking and eating poorly.

**Complementary and alternative treatments:** When back pain becomes chronic or when medications and other conventional therapies do not relieve it, many people try complementary and
alternative treatments. Although such therapies won’t cure diseases or repair the injuries that cause pain, some people find them useful for managing or relieving pain.

**Surgical Treatments**

Depending on the diagnosis, surgery may either be the first treatment of choice—or it is reserved for chronic back pain for which other treatments have failed. If you are in constant pain or if pain reoccurs frequently and interferes with your ability to sleep, to function at your job, or to perform daily activities, you may be a candidate for surgery.

Some of the diagnoses that may need surgery include:

**Herniated disks:** In this potentially painful problem, the hard outer coating of the disks, which are the circular pieces of connective tissue that cushion the bones of the spine, are damaged, allowing the disks’ jelly-like center to leak, irritating nearby nerves. This causes severe sciatica and nerve pain down the leg. A herniated disk is sometimes called a ruptured disk.

**Spinal stenosis:** Spinal stenosis is the narrowing of the spinal canal, through which the spinal cord and spinal nerves run. It is often caused by the overgrowth of bone caused by osteoarthritis of the spine. Compression of the nerves caused by spinal stenosis can lead not only to pain, but also to numbness in the legs and the loss of bladder or bowel control. Patients may have difficulty walking any distance and may have severe pain in their legs along with numbness and tingling.

**Spondylolisthesis:** In this condition, a vertebra of the lumbar spine slips out of place. As the spine tries to stabilize itself, the joints between the slipped vertebra and adjacent vertebrae can become enlarged, pinching nerves as they exit the spinal column. Spondylolisthesis may cause not only low back pain but also severe sciatica leg pain.

**Vertebral fractures:** These fractures are caused by trauma to the vertebrae of the
spine or by crumbling of the vertebrae resulting from osteoporosis. This causes mostly mechanical back pain, but it may also put pressure on the nerves, creating leg pain.

**Diskogenic low back pain (degenerative disk disease):** Most people’s disks degenerate over a lifetime, but in some, this aging process can become chronically painful, severely interfering with their quality of life.

Following are some of the most commonly performed back surgeries:

**For herniated disks:**

- **Laminectomy/diskectomy:** In this operation, part of the lamina, a portion of the bone on the back of the vertebrae, is removed, as well as a portion of a ligament. The herniated disk is then removed through the incision, which may extend two or more inches.

- **Microdiskectomy:** As with traditional diskectomy, this procedure involves removing a herniated disk or damaged portion of a disk through an incision in the back. The difference is that the incision is much smaller and the doctor uses a magnifying microscope or lenses to locate the disk through the incision. The smaller incision may reduce pain and the disruption of tissues, and it reduces the size of the surgical scar.

- **Laser surgery:** Technological advances in recent decades have led to the use of lasers for operating on patients with herniated disks accompanied by lower back and leg pain. During this procedure, the surgeon inserts a needle in the disk that delivers a few bursts of laser energy to vaporize the tissue in the disk. This reduces its size and relieves pressure on the nerves. Although many patients return to daily activities within 3 to 5 days after laser surgery, pain relief may not be apparent until several weeks or even months after the surgery. The usefulness of laser diskectomy is still being debated.

**For spinal stenosis:**

- **Laminectomy:** When narrowing of the spine compresses the nerve roots, causing pain or affecting sensation,
doctors sometimes open up the spinal column with a procedure called a laminectomy. In a laminectomy, the doctor makes a large incision down the affected area of the spine and removes the lamina and any bone spurs, which are overgrowths of bone that may have formed in the spinal canal as the result of osteoarthritis. The procedure is major surgery that requires a short hospital stay and physical therapy afterwards to help regain strength and mobility.

For spondylolisthesis:

**Spinal fusion:** When a slipped vertebra leads to the enlargement of adjacent facet joints, surgical treatment generally involves both laminectomy (as described above) and spinal fusion. In spinal fusion, two or more vertebrae are joined together using bone grafts, screws, and rods to stop slippage of the affected vertebrae. Bone used for grafting comes from another area of the body, usually the hip or pelvis. In some cases, donor bone is used.

Although the surgery is generally successful, either type of graft has its drawbacks. Using your own bone means surgery at a second site on your body. With donor bone, there is a slight risk of disease transmission or tissue rejection, which happens when your immune system attacks the donor tissue. In recent years, a new development has eliminated those risks for some people undergoing spinal fusion: proteins called bone morphogenic proteins are being used to stimulate bone generation, eliminating the need for grafts. The proteins are placed in the affected area of the spine, often in collagen putty or sponges.

Regardless of how spinal fusion is performed, the fused area of the spine becomes immobilized.

For vertebral osteoporotic fractures:

**Vertebroplasty:** When back pain is caused by a compression fracture of a vertebra caused by osteoporosis or trauma, doctors may make a small incision in the skin over the affected area and inject a cement-like mixture called polymethylacrylate into the fractured
vertebra to relieve pain and stabilize the spine. The procedure is generally performed on an outpatient basis under a mild anesthetic.

3Used only if standard care, rest, corsets and braces, and analgesics fail.

**Kyphoplasty:** Much like vertebroplasty, kyphoplasty is used to relieve pain and stabilize the spine following fractures caused by osteoporosis. Kyphoplasty is a twostep process. In the first step, the doctor inserts a balloon device to help restore the height and shape of the spine. In the second step, he or she injects polymethylacrylate to repair the fractured vertebra. The procedure is done under anesthesia, and in some cases it is performed on an outpatient basis.

**For diskogenic low back pain (degenerative disk disease):**

**Intradiskal electrothermal therapy (IDET):** One of the least invasive therapies for low back pain involves inserting a heating wire through a small incision in the back and into a disk. An electrical current is then passed through the wire to strengthen the collagen fibers that hold the disk together. The procedure is done on an outpatient basis, often under local anesthesia. The effectiveness of IDET is not clear.

**Spinal fusion:** When the degenerated disk is painful, the surgeon may recommend removing it and fusing the disk to help with the pain. This fusion can be done through the abdomen, a procedure known as anterior lumbar interbody fusion, or through the back, called posterior fusion. Fusion for low back pain or any spinal surgeries should only be done as a last resort, and the patient should be fully informed of risks.

**Disk replacement:** When a disk is herniated, one alternative to a diskectomy, in which the disk is simply removed, is removing the disk and replacing it with a synthetic disk. Replacing the damaged one with an artificial one restores disk height and movement between the vertebrae. Artificial disks come in several designs.
What Kind of Research Is Being Done?

The National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) supports research to better understand and treat back pain.

One major focus of research in recent years has been on the relative efficacy and cost effectiveness of surgical versus nonsurgical treatment of conditions associated with low back and leg pain. A multi-year, multicenter study called the Spine Patient Outcomes Research Trial (SPORT) compared the most commonly used standard surgical and nonsurgical treatments for patients with the three most common diagnoses for which spine surgery is performed: intervertebral disk herniation, spinal stenosis, and degenerative spondylolisthesis.

Early findings from the study showed that, in general, otherwise healthy people who have surgery for one of these three conditions are likely to fare better than those who receive nonoperative care. (However, long-term follow-up suggests that the advantages of surgery decrease with time for spinal stenosis.)

SPORT investigators also found that people who are reluctant to have surgery may also recover with nonoperative treatments if their conditions are not progressing and their pain is tolerable. And, importantly, delaying or avoiding surgery does not cause additional damage in most cases.

NIAMS-supported research in back pain is ongoing. Goals of research are to:

- understand the mechanisms of back pain
- identify ways to prevent back pain
- improve surgical and nonsurgical treatments for back pain
- prevent disability in people who suffer from back pain.

More information on research is available from the following websites:

- NIH Clinical Research Trials and You was designed to help
people learn more about clinical trials, why they matter, and how to participate. Visitors to the website will find information about the basics of participating in a clinical trial, first-hand stories from clinical trial volunteers, explanations from researchers, and links on how to search for a trial or enroll in a research-matching program.

- **ClinicalTrials.gov** offers up-to-date information for locating federally and privately supported clinical trials for a wide range of diseases and conditions.

- **NIH RePORTER** is an electronic tool that allows users to search a repository of both intramural and extramural NIH-funded research projects from the past 25 years and access publications (since 1985) and patents resulting from NIH funding.

- **PubMed** is a free service of the U.S. National Library of Medicine that lets you search millions of journal citations and abstracts in the fields of medicine, nursing, dentistry, veterinary medicine, the health care system, and preclinical sciences.

**For More Information**

**National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)**
Information Clearinghouse
National Institutes of Health

1 AMS Circle
Bethesda, MD 20892-3675
Phone: 301-495-4484
Toll free: 877-22-NIAMS (877-226-4267)
TTY: 301-565-2966
Fax: 301-718-6366
Email: NIAMSinfo@mail.nih.gov
Website: [https://www.niams.nih.gov](https://www.niams.nih.gov)

If you need more information about available resources in your language or another language, please visit our website or contact the NIAMS Information Clearinghouse at NIAMSinfo@mail.nih.gov.

**Other Resources**
Key Words

**Acute pain.** The most common type of back pain. Acute pain often begins suddenly—after a fall or injury, for example—and lasts no longer than 6 weeks.

**Analgesics.** Medications designed to relieve pain. Analgesics used for back pain include both prescription and over-the-counter products. Some are made to be taken orally, and others are rubbed onto the skin.

**Ankylosing spondylitis.** A form of
arthritis that affects the spine, the sacroiliac joints, and sometimes the hips and shoulders. In severe cases, the joints of the spine fuse and the spine becomes rigid.

**Cauda equina syndrome.** A condition in which the nerves that control the bowels and bladder are pinched as they leave the spine. Unless treated promptly, the condition can lead to the loss of bowel or bladder function.

**Cervical spine.** The upper portion of the spine closest to the skull. The cervical spine comprises seven vertebrae.

**Chronic pain.** The least common type of back pain. Chronic pain may come about suddenly or gradually; it generally lasts for 3 months or longer.

**Disk.** A circular piece of cushioning tissue situated between each vertebrae of the spine. Each disk has a strong outer cover and a soft jelly-like filling.

**Diskectomy.** The surgical removal of a herniated disk. A diskectomy can be performed in a number of different ways, such as through a large incision in the spine or through newer, less invasive procedures using magnifying microscopes, x rays, small tools, and lasers.

**Facet joints.** The joints where the vertebrae of the spine connect to one another. Arthritis of the facet joints is believed to be an uncommon cause of back pain.

**Fibromyalgia.** A condition of widespread muscle pain, fatigue, and tender points on the body. Fibromyalgia is one cause of low back pain.

**Herniated disk.** A potentially painful problem in which the hard outer coating of the disk is damaged, allowing the disk’s jelly-like center to leak and cause irritation to adjacent nerves.

**Intradiskal electrothermal therapy (IDET).** A treatment for herniated disks in which a wire is inserted into the disk through a small incision in the back. An electrical current is then passed through wire to modify and strengthen the
collagen fibers that hold the disk together.

**Kyphoplasty.** A procedure for vertebral fractures in which a balloon-like device is inserted into the vertebra to help restore the height and shape of the spine and a cement-like substance is injected to repair and stabilize it.

**Laminectomy.** The surgical removal of the lamina (the back of the spinal canal) and spurs inside the canal that are pressing on nerves within the canal. The procedure is a major surgery requiring a large incision and a hospital stay.

**Lumbar spine.** The lower portion of the spine. The lumbar spine comprises five vertebrae.

**Osteoarthritis.** A disease in which the cartilage that cushions the ends of the bones at the joints wears away, leading to pain, stiffness, and bony overgrowths, called spurs. It is the most common form of arthritis and becomes more likely with age.

**Osteoporosis.** A condition in which the bones become porous and brittle and break easily.

**Rheumatoid arthritis.** A disease that occurs when the body's immune system attacks the tissue that lines the joints, leading to joint pain, inflammation, instability, and misshapen joints.

**Sacroiliac joints.** The joints where the spine and pelvis attach. The sacroiliac joints are often affected by types of arthritis referred to as spondyloarthropathies.

**Sciatica.** Pain felt down the back and outer side of the thigh. The usual cause is a herniated disk, which is pressing on a nerve root.

**Scoliosis.** A condition in which the spine curves to one side as a result of congenital malformations, neuromuscular disorders, injury, infection, or tumors.

**Spinal fusion.** The surgical joining of two or more vertebrae together, usually with bone grafts and hardware. The resulting fused vertebrae are stable but immobile. Spinal fusion is used as a treatment for spondylolisthesis, scoliosis, herniated
disks, and spinal stenosis.

**Spinal stenosis.** The narrowing of the spinal canal (through which the spinal cord runs), often by the overgrowth of bone caused by osteoarthritis of the spine.

**Spondyloarthropathy.** A form of arthritis that primarily affects the spine and sacroiliac joints.

**Spondylolisthesis.** A condition in which a vertebra of the lumbar (lower) spine slips out of place.

**Tissue rejection.** Tissue rejection occurs when a person's immune system attacks donor tissue, such as donor bone tissue used for spinal fusion surgery.

**Vertebrae.** The individual bones that make up the spinal column.

**Vertebroplasty.** A minimally invasive surgical procedure that involves injecting a cement-like mixture into a fractured vertebra to relieve pain and stabilize the spine.

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The mission of the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), a part of the U.S. Department of Health and Human Services' National Institutes of Health (NIH), is to support research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases; the training of basic and clinical scientists to carry out this research; and the dissemination of information on research progress in these diseases. The NIAMS Information Clearinghouse is a public service sponsored by the Institute that provides health information and
information sources. Additional information can be found on the NIAMS website at www.niams.nih.gov. Information on bone and its disorders can be obtained from the NIH Osteoporosis and Related Bone Diseases – National Resource Center by calling (toll free) 800–624–BONE (2663) or by visiting its website at www.niams.nih.gov/bone.

For Your Information

This publication contains information about medications used to treat the health condition discussed here. When this publication was developed, we included the most up-to-date (accurate) information available. Occasionally, new information on medication is released.

For updates and for any questions about any medications you are taking, please contact

U.S. Food and Drug Administration
Toll free: 888-INFO-FDA
(888-463-6332)
Website: http://www.fda.gov

For additional information on specific medications, visit Drugs@FDA at http://www.accessdata.fda.gov/scripts/cder/daf/. Drugs@FDA is a searchable catalog of FDA-approved drug products.

For updates and questions about statistics, please contact

Centers for Disease Control and Prevention, National Center for Health Statistics
Toll free: 800-232-4636
Website: http://www.cdc.gov/nchs

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