

THE BACK



We have all heard the expression, “Oh, my aching back!” More often than not, it refers to an actual medical problem. Next to the common cold, back pain is the most common complaint of people living in the United States. By age 30, one-third of us will experience back pain; by age 50, nearly all of us will find that the back does not deal with life the way it did at age 20.

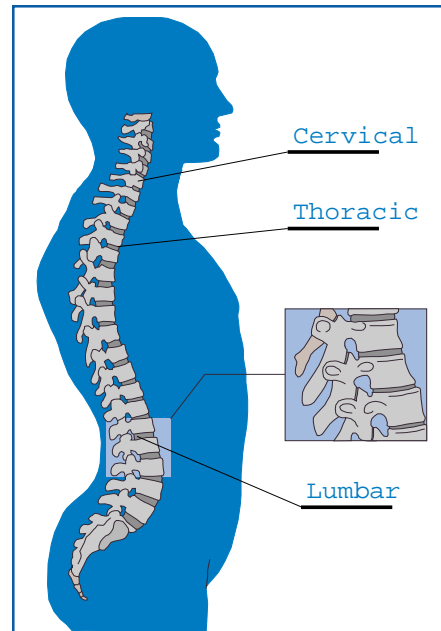
It is no wonder our backs ache — we tote around overloaded briefcases and/or shoulder bags; we lift children or heavy objects incorrectly; we sit at our desks all day (slumped over); or we have to stand most of the day. A lot of women still go all out for fashion shoes rather than comfortable ones. Unfortunately, this can add to the problem. We also feel capable of moving “the immovable” by pushing, twisting, bending, lifting, pulling, punching, and straining in ways we are not accustomed to, resulting in back pain. Back-related injuries cost a staggering amount of money every year in Workers’ Compensation claims. Physicians specializing in back pain will tell you that back pain comes in two forms — acute and chronic. This chapter will give an account of both. The solutions and steps to prevent most back pain is probably easier than you would expect.





STRUCTURE OF THE SPINE

The spine is a strong, flexible support that holds the body and head upright and allows the upper body to bend and twist. It is made up of small bones (vertebrae) that are stacked on top of each other to form a column. These vertebrae are divided into three types, each a different shape: cervical in the neck, thoracic in the upper back, and lumbar in the lower back. The vertebrae are held together by springy disks of tough cartilage. When under pressure, they compress together to absorb shock. Strong ligaments and muscles surround the spine to keep the vertebrae stable and help control movement.



BACK PAIN

Acute back pain usually comes on suddenly and intensely. The exact reason for an acute onset of back pain is only clearly diagnosed in very few people but is usually due to sprains, strains, or pulls on the muscles or ligaments. It can also be caused by normal aging, weak back and abdominal muscles, obesity, and poor posture. Because of these variables, it can be difficult for a physician to pinpoint the cause. The lower part of the back (lumbar) carries most of the weight of the body and the majority of back problems occur at the lower levels. Consequently, even a minor problem with the bones, muscles, ligaments, or tendons can cause pain in this area. Women have a high probability of suffering from back pain due to carrying infants or children, lugging groceries, bending or twisting to pick things up, and of course, pregnancy. More back pain occurs in people with psychological problems, such as depression or stress.

In people less than 60 years of age, the pain typically is acute, sudden, and often short-lived. Nine out of 10 people with acute back problems will recover on their own within a month, regardless of the treatment selected. For some people, back pain is a part of everyday life. It may linger on and on, or recur with even slight movement. This is called chronic back pain and can make any simple task a real hardship. People who are in poor physical condition, work at heavy labor, or sit or stand for long periods are at a greater risk for back problems and take considerably longer to heal. In older people, the causes of back pain are often chronic conditions such as degeneration of disks, muscle spasms, inflammation of the ligaments, and vertebral compression fractures.



PREVENTING BACK PAIN

- ◆ Exercise regularly — aerobic activity, walking, running, and swimming.
- ◆ Use chairs with a good lower back support.
- ◆ Maintain good posture. If you stand most of the day, alternate each foot on a raised stool to avoid sway back.
- ◆ Wear comfortable, moderate-heeled shoes.
- ◆ Put work surfaces at a comfortable height.
- ◆ Hold objects close to the body when lifting. Do not hold a child or heavy object out at arm's length. (Teach a child at a very early age — 12 to 14 months — to climb into the bottom of the back seat of a car and then climb into the car seat.)
- ◆ Avoid twisting, bending, and reaching while lifting.
- ◆ Bend at the knees instead of the waist when picking things up.
- ◆ Use lumbar corsets if your job requires frequent lifting.
- ◆ Rest your feet on a stool when sitting for long periods of time.
- ◆ Place a pillow or rolled-up towel behind the small of your back when driving long distances.
- ◆ Place a pillow under your knees when sleeping on your back, or between the knees when sleeping on your side.
- ◆ Build up endurance and stamina by training back muscles through speed walking and stationary biking. Also, try the following exercise:
 1. Lie face down on the floor or over the soft edge of the bed.
 2. If on the floor, place pillows as needed for comfort under your stomach and hips.
 3. Put your hands behind you on your buttocks (palms up).
 4. If lying on the floor, raise up your upper body and legs, if lying on the bed, only the legs. Hold the position up to three minutes.



SYMPTOMATIC TREATMENT

Extended bed rest and inactivity can actually weaken the back muscles and slow down recovery. After several years of reviewing thousands of scientific articles on back pain, the Agency of Health Care Policy and Research released new guidelines on treatment in late 1994 which are appropriate at this printing.

TREATMENT

Initially, bed rest, but not for long — get up and move around as soon as possible.

Apply ice to painful area for the first 24 to 48 hours for 10 to 15 minutes at two hour intervals.

If pain lasts longer than 48 hours, applying heat or taking a hot shower or bath may help relieve the symptoms – or, alternate heat with cold.

Stretching seems to help the healing process in a sore back. While lying down, bend your knees and bring them up to your chest, then apply a little pressure on your knees. Stretch out and then relax. Repeat several times daily.

Careful spinal manipulation and massage by a chiropractor, osteopathic physician, physical therapist, or massage therapist can help some people during the first month of low back pain symptoms.

DRUG TREATMENT

Over the counter acetaminophen (Tylenol) or ibuprofen (Advil, Motrin) may be helpful. For chronic back pain in adults, daily aspirin is sometimes recommended instead of acetaminophen or ibuprofen. In some cases, a stronger prescribed pain medication may be necessary.



WHEN TO SEE A DOCTOR

Most back pain eventually resolves by itself; however, back pain can be the symptom of a more serious condition. See a doctor if your back pain is associated with any of the following symptoms:

Pain from the buttock and back thigh that radiates down the leg This is a sign of pressure on the roots of the sciatic nerve. This is usually caused by a prolapsed disk but may be due to tumor or a blood clot. (It may also be caused by a muscle spasm or just sitting in an awkward position.)

Leg numbness and weakness These are significant neurological symptoms and are signs that a spinal nerve may be compressed. Without treatment, loss of function could be permanent.

Unrelenting intense pain for more than two weeks This pain could signal a serious condition, such as cancer or a blood vessel aneurysm.

Recent fall or accident This may represent a fractured spine that could produce permanent neurological damage and requires immediate treatment.

Fever or chills Combined fever and chills with back pain could represent an infection in the spine, kidneys, or surrounding tissues.

Numbness in the groin and both legs These can be symptoms of an uncommon condition (cauda equina syndrome) in which a bundle of nerves in the lower spine is compressed by disease, frequently cancer. This is a medical emergency.

AGE-RELATED CAUSES OF BACK PAIN

Less than 60

Sprains

Accidents

Fractures

Herniated disk

Muscle spasms

Poor posture

Obesity

Pregnancy

More than 60

Chronic conditions

Arthritis

Inflammation of ligaments

Spinal stenosis

Degeneration of disks

Vertebral compression fractures

Cancer



IDENTIFIABLE DIAGNOSES

■ LUMBAR STENOSIS

Lumbar stenosis is an overgrowth of the laminae (thin layer of the vertebrae) and can result from arthritis and narrowing of the spine causing compression, as with an injury or a tumor.

SIGNS AND SYMPTOMS Pain in the buttock, thigh, and calf associated with walking or standing (pain stops when sitting or bending forward).

DRUG TREATMENT Epidural injections of steroids (anti-inflammatory), analgesics (morphine-like substances), and anesthetics (xylocaine or marcaine) may be useful to relieve swelling and inflammation.

SURGICAL TREATMENT In severe cases, a laminectomy (chipping away of the bony arches of the vertebrae) may be considered.

■ PROLAPSED DISKS

Disks made of cartilage separate and cushion the vertebrae and have a hard outer covering with a jellylike center. Wear and tear or pressure can cause a rupture of the outer layer of the disk, causing pressure on the spinal nerve root. (This is also referred to as “slipped disk.”) Prolapsed disks occur most frequently in the lower back or in the neck.

SIGNS AND SYMPTOMS Mild to severe pain in the back or in the neck.

In the neck — associated numbness or weakness of an arm and/or hand with pain in the extremity.

In the lower back — numbness or weakness may occur in the buttock, legs, or feet with shooting pain caused by coughing, sneezing, straining, or sitting for a long time; pain usually is in one arm or one leg — not both.

TREATMENT The most common treatment is restricted activities, rest for up to two weeks, physical therapy (ice, heat, massage, traction), and then walking.

SURGICAL TREATMENT If conservative treatment does not work, surgical removal of the disk (discectomy) may be necessary. In selected cases, a newer procedure using a microscope and special instruments can be used to remove the protruding disk tissue through a tiny incision in the back (microdiscectomy).



■ SPONDYLOSIS

This is a condition of the back in which, over time, the spine becomes rigid and loses flexibility. The cause may be overuse, injury, or simply the aging process. Whatever the cause, the disks between the vertebrae and the spaces between the spine become worn and sometimes bony spurs develop. This condition has also been called degenerative back disease and is related to osteoarthritis of the spine.

SIGNS AND SYMPTOMS Back pain; tenderness and difficulty in moving the back; pain in the back of the thighs; mild cases often have no symptoms.

TREATMENT A combination of analgesic drugs (aspirin, Tylenol, or ibuprofen), aerobic exercise, and other self-help approaches are used to keep mobility and strength. If overweight, weight loss with exercise enhances the strength of the abdominal muscles and is beneficial. Losing weight also reduces the stress on the spinal column.

SURGICAL TREATMENT If symptoms with conservative care persist or progress, a surgical procedure that chips away the thin bony arches of one or more vertebrae (laminectomy) is done to relieve pressure on the spinal nerves.

■ STRAINS/SPASMS OF THE BACK MUSCLES

This occurs with activity that may cause pulling or abnormal stretching of the back muscles and is commonly called a muscle strain or pulling.

SIGNS AND SYMPTOMS Back pain and stiffness; pain aggravated by movement.

TREATMENT The treatment is conservative and uses ice, avoidance of stressful physical activities, and use of aerobic exercises.

DRUG TREATMENT Analgesics for pain are usually prescribed.



■ VERTEBRAL COMPRESSION FRACTURE

In young, active persons, this is most often caused by trauma secondary to accidents and sport injuries. In older persons, compression fractures are most often seen in advanced osteoporosis (fragile and weak bones caused by loss of bone mass). Osteoporosis is a growing health problem that now affects about 20 million people in the United States. Demineralization of the bone mass leads to spinal curvature and compression fractures of the vertebrae. Women are at the greatest risk after the menopause with the loss of the hormone, estrogen (see Osteoporosis section in the Bone Disease chapter).

SIGNS AND SYMPTOMS	Low back pain; loss of height over time with an associated stooped posture; fractures of the vertebrae.
TREATMENT	Over the counter analgesics can be used. Bed rest and application of ice to the painful area may be helpful. A back brace may provide comfort and decrease the time required for bed rest by preventing painful movements of the spine when moving about.
DRUG TREATMENT	Prescribed pain medications are required when symptoms are severe.
SURGICAL TREATMENT	Surgery is usually not done unless nerve compression leads to neurological problems.

LESS FREQUENT CAUSES OF BACK PAIN

■ ARTHRITIS

Arthritis can result in joint surfaces being worn away and the development of bone spurs. Both can result in back pain. This is discussed in detail in the Arthritis chapter.

■ CANCER

The pain is usually caused by destruction of normal bone by the tumors or cancer and may cause chronic unrelenting and increasing pain. Fracturing of the bones may occur. This is discussed further in the Cancer chapter.

■ REFERRED PAIN

This is pain that originates in other organs, such as the pancreas or kidney, but is felt in the back.

■ SPINAL DEFORMITY

Most deformity in adults, particularly those over age 50, can be helped with flexibility exercises, posture maintenance, and general fitness and back stretching exercises. Mild anti-inflammatory medications and occasionally, a rigid brace may be necessary. Because most older people do not tolerate braces well, it is suggested trying “a loaner” before investing in expensive medical equipment.



THE ROLE OF REHABILITATION IN BACK TREATMENT

After diagnosis and care from your primary care physician and/or other specialists, a rehabilitation team may be prescribed.

Physical Therapist This is a licensed physiotherapist who uses physical forces to treat illnesses. The physical therapists may use exercise techniques, massage, heat, cold, and diathermy to improve physical function. Services of a physical therapist are usually prescribed by the attending physician.

Massage Therapist A licensed massage therapist manipulates the muscles using a number of different styles (eg, Swedish, rolfing, deep tissue). The value of a massage usually results in relaxation and relief of a muscle spasm. Massage therapy is often done at the request of the patient and except in the case of acute or chronic pain in a programmed rehabilitation formula, the services may not be reimbursed by insurance plans.

Orthotist An orthotist is a technician who designs and fits braces that are usually recommended by the medical provider.

Occupational Therapist This is an educator who specializes in retraining or introducing new training to a person who is disabled from a disease or condition, to continue the same or a new job after the disease is treated or cured.




CONCLUSION

Keeping your back healthy is something to work on every day, not just when pain strikes. Aerobic exercise is an important part of any conditioning program and walking or swimming is an excellent choice for someone who has low back pain.

Remember — people who are most aerobically fit have the least back pain.



WHAT TO DO

SEVERITY LEVEL	SYMPTOM	POSSIBLE DIAGNOSIS
 <p>Seek Medical Help Immediately!</p>	<p>Mild to severe pain in neck with weakness of arm and hand with pain in extremity; mild to severe pain in lower back with numbness, weakness in the buttock, legs, or feet; shooting pain when coughing, sneezing, straining, or sitting for long periods</p> <p>Low back pain with gradual loss of height; stooped posture with low back pain</p> <p>Numbness in groin and both legs</p>	<p>Prolapsed disks</p> <p>Vertebral compression fracture</p> <p>Cauda equina syndrome or tumor growth</p>
 <p>Make an appointment to see your doctor</p>	<p>Pain in buttock, thigh and calf with walking or standing</p> <p>Back pain, tenderness and difficulty in moving the back; pain in back of thighs</p> <p>Fever or chills with back pain</p> <p>Intense pain after fall or accident</p> <p>Pain radiating down the leg from buttock or back of thigh</p>	<p>Lumbar stenosis</p> <p>Spondylosis</p> <p>Infection</p> <p>Spinal fracture</p> <p>Prolapsed disk, tumor, or blood clot</p>
 <p>Try the home treatment outlined in this chapter</p>	<p>Back pain and stiffness</p> <p>Pain aggravated by movement</p>	<p>Strains/spasms of back muscles, arthritis</p> <p>Strains/spasms of back muscles, arthritis</p>