

Back Pain

Back pain is a general term for any type of uncomfortable condition occurring throughout the back of the body. Back pain has several causes, but often it is due to overwork, repetitive motion, or trauma of the back. Generally, back pain is thought of as affecting three areas, the upper, mid or lower back.

Types

Any condition that involves pain is categorized according to the pain duration: Acute (recent start and short-term) or chronic (persistent). Acute low back pain generally lasts from a few days to a few weeks. Chronic back pain lasts for more than three months. The back is made of many muscles and bones. The vertebrae are the bones that run down the center of the back. Inside of the vertebrae is the spinal cord. The spinal cord connects nerves from the rest of the body to the brain. Most back pain is caused by injury or strain of muscles and related structures, or nerve compression or injury.

Muscle related back pain

- Sprains and strains of a back muscle in either the upper back or lower back
- Spasm of a muscle of the back, or cramp like pain
- Myofascial type pain, which is deep muscle pain transmitted to other parts of the body

Bone related back pain

- Fracture or compression of any of the bones of the back; more common with trauma or in the elderly, but can also happen when someone has an underlying disease that affects the bone
- Joint irritation between two bones of the back
- Abnormalities of the bone structure such as scoliosis, spina bifida, excessive kyphosis (hump-back), or others.
- Disruption of the discs (cushions) between the bones of the back

Nerve related back pain

- A pinched nerve due to a disrupted disc, deterioration of a vertebra or other cause
- Irritation to the spinal column
- Spinal cord injury

Symptoms

Back pain has a wide range of symptoms and is usually an indication of an underlying problem. Acute pain symptoms include the following:

- A traumatic injury or action to the back
- A feeling of discomfort in any area of the back that came about suddenly
- A decrease in the amount of motion in the back
- Tightness or cramping in the muscles surrounding the area of pain
- Shift in standing posture to one side
- Pin-point pain

Below are some chronic pain symptoms:

- Any of the acute pain symptoms that have persisted for **greater than three months**
- Scattered pain in many areas of the back
- Changing locations of the pain
- Pain that comes and goes
- Depression or other emotional problems

Causes

The causes of back pain are as wide spread as the types and symptoms. Any type of trauma to the back can cause pain. This can be from a major accident, or just simple house work. Back pain can also be caused by poor posture, or from years of over use, such as in occupations that require hard physical labor. Unfortunately, some people are born with structural abnormalities that cause back pain. An example is severe scoliosis if left uncorrected. Other causes unrelated to poor lifestyle habits include poor health or problems with internal organs.

Diagnosis

Diagnosing back pain depends on the type of pain. The symptoms and how the pain began are considered. Physical exams are necessary and sometimes imaging by X-rays, magnetic resonance imaging, or computerized tomography is used. These scans help determine if bones are in the right place, or if the discs or nerves are

affected.

Treatment

Most low back pain can be treated without surgery. Treatment involves over-the-counter pain relievers to reduce discomfort and anti-inflammatory drugs to reduce inflammation. The goal of treatment is to restore proper function and strength to the back and to prevent recurrence of the injury. Effective pain relief may involve a combination of prescription drugs and over-the-counter remedies. Although the use of cold and hot compresses has never been scientifically proven to quickly resolve low back injury, compresses may help reduce pain and inflammation. For some people, compresses may allow greater mobility. Bed rest reduces muscle cramping is recommended for only one to two days at most. Activity reduces muscle cramps and weakening, which decreases the risk of future back pain. Physical therapists prescribe exercises to help keep a person moving. Exercise may be the most effective way to speed recovery from low back pain and help strengthen back and abdominal muscles.^[1] In the most serious cases, when the condition does not respond to other therapies, surgery may relieve pain caused by back problems or serious injuries to the muscles and bones.

Therapies

Physical therapy is often used in addition to pain relievers and anti-inflammatory drugs. Physical therapists have many techniques to help people cope with back pain: manipulation, and exercise are the treatment most supported by evidence. Personalized exercise plans are developed to address specific back problems.^[2]

Outcome

Most people with back pain recover without long term functional loss. Self-care usually resolves pain within 72 hours. Recurring back pain resulting from improper body mechanics or other non-traumatic causes is often preventable. Engaging in exercises that do not jolt or strain the back, maintaining correct posture, and lifting objects properly can help prevent injuries. Many work-related injuries are caused or aggravated by stressors such as heavy lifting, vibration, repetitive motion, and awkward posture. Applying ergonomic principles — designing furniture and tools to protect the body from injury — at home and in the workplace can greatly reduce the risk of back injury and help maintain a healthy back.

Impact

Estimates suggest that the cost of low back pain in the United States exceeds \$100 billion per year.^[3] More than half of these costs is due to lost wages and productivity. The U.S. National Health Interview Survey of adults found that 34 million people had experienced low back pain in the previous 3 months, and 31% of participants had low back and/or neck pain.^[4] Participants with low back pain or neck pain were more likely to have psychological distress and other illnesses than were participants who had no pain.

Research

The National Institute of Neurological Disorders and Stroke (NINDS) and other institutes of the National Institutes of Health (NIH) conduct pain research in laboratories at the NIH. They also support pain research through grants to major medical institutions across the country. Currently, researchers are examining the use of different drugs to effectively treat back pain. In particular, they are looking at chronic pain that has lasted at least six months. Some studies are comparing different health care approaches to the management of acute low back pain (standard care versus chiropractic, acupuncture, or massage therapy). These studies are measuring symptom relief, restoration of function, and patient satisfaction. Other research is comparing standard surgical treatments to the most commonly used non-surgical treatments to compare quality of life among patients suffering from spinal stenosis (a narrowing of the vertebral column). To date, the studies assessing the effectiveness of acupuncture for the control of back pain have been poorly designed. One of the best studies of acupuncture was performed at several medical centers in Germany.^[5] In the study, patients with chronic low back pain were given either acupuncture or conventional treatment, which consisted of drugs and physical therapy. The study found that 47% and 27% of patients given acupuncture or conventional treatment, respectively, responded to treatment. Patients given a sham-acupuncture, designed to assess the placebo effect, had a response rate similar to that of the acupuncture group. Thus, the effects of acupuncture on low back pain control may have a large psychological component and relief may not be the result of acupuncture itself. Data suggest that any benefit of acupuncture in the short-term control of back pain is lost during the long-term.^[6] In the study, patients who received either acupuncture or conventional treatment for back pain reported similar amounts of back pain and a similar quality of life more than five years after the interventions. Therefore, acupuncture does not appear to have advantages over conventional treatment of back pain in the long-term.

References

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