

LOW BACK PAIN

Ashvin I. Patel, M.D. FAAOS

What is the incidence of low back pain?

Low back pain is a very common problem. It ranks as one of the four most common reasons for a patient visit to a physician in the United States. It is estimated that between 50 and 80 percent of the adult population suffers from at least one memorable episode of low back pain per year. Between 2 and 5 percent of adults in the United States will visit a physician or lose time from work because of low back pain.

What are the common causes of low back pain?

There is significant controversy regarding the causes of low back pain. This is due in part because the spine is made up of many joints. Thus, it is difficult to determine exactly where along the spinal column lies the pain generator for an individual patient. This is compounded by the fact that an abnormality in one of the more proximal (upper) joints can cause pain in areas much further down along the spine. This is in contrast to sciatica or lower extremity pain, which is often seen along specific areas depending on the individual nerve root that is compressed. Accordingly, lower extremity pain is usually more predictably treated than low back pain.

Despite the above limitations, researchers feel that there are several potential sources of low back pain. These include the paraspinal muscles of the low back, the facet joints, the ligaments, and the discs. All of these areas are innervated by nerve fibers that can potentially cause low back pain.

Persistent pain from a muscular origin is referred to as *myofascial pain syndrome*. Pain that occurs as a result of a facet joint abnormality is referred to as *facet joint syndrome*. A facet is defined as a bony projection from one vertebra that interlocks with another facet to form the joints of your spine. Pain that results from an abnormal disc is referred to as *discogenic pain*. A disc is a jelly-like soft material that is present between two adjacent vertebrae. The disc and the facet joints allow motion in your spine. Thus, like any other joint in the body, they can be injured after trauma.

How is low back pain treated?

Fortunately, the majority of patients who suffer from low back pain get better on their own. They do not require long-term medications, physical therapy, or any invasive procedures. However, there is a subgroup whose pain does not improve with the above measures. It is these patients who require repeat visits to physicians and other caregivers. Some nonsurgical treatments include magneto-therapy, acupuncture, chiropractic adjustments, anti-inflammatory medications, and an array of physical therapy modalities and methods. These “conservative” treatments may or may not relieve the low back pain.

What are the invasive procedures that are used to treat low back pain?

These invasive procedures are generally reserved for a select group of patients who do not respond to other measures. These patients have chronic daily pain that has been present for months and sometimes years. The treatment is based on what the physician believes is the “pain generator” for that particular patient. Diagnostic injections or tests are performed in an attempt to better define the pain generator. These may include facet injections, facet rhizotomies, and discograms.

Facet injections involve the injection of one or more joints in your spine with a combination of a local anesthetic (such as Novocain) and steroid solution. Facet rhizotomy (also known as radiofrequency facet denervation) refers to a procedure that disrupts the nerve that innervates the facet joint with the use of various techniques (heat, cold, injection of chemical compounds). Discogram refers to the injection of an anesthetic and/or saline into the degenerated disc to determine whether the morphology of the disc is abnormal. More importantly, it is also used to see whether stimulating or injecting the disc reproduces the patient's typical back pain. Facet injections and rhizotomies are considered diagnostic and therapeutic tests, while discograms are considered only diagnostic tests that do not offer any pain relief.

It should be emphasized that all three of the above tests are extremely controversial and are not universally accepted for their diagnostic or therapeutic value.

When is surgery performed for low back pain?

Spinal surgery for low back pain without any associated lower extremity pain (either from nerve root compression or instability, such as from spondylolisthesis) is rarely performed by this author. It is generally considered a last resort when the patient does not respond to other non-operative methods and continues to suffer from severe pain. The patients for surgical intervention are picked very carefully and informed that the surgical results are not always predictable. In general, it has been my experience that patients who have single-level involvement do better than those patients who have multi-level involvement. In addition, patients who have pain-free intervals in between their episodes of severe pain seem to do better than patients who have constant pain.

What is a spinal fusion?

Spinal fusion refers to the surgical procedure that deliberately unites two or more vertebrae to prevent motion between those vertebrae. The theory behind this operation is that, by preventing motion across the pain generators (facets, ligaments, disc), the chronic pain will improve or resolve. Bone grafts, screws, rods, and cages may be used to achieve the fusion. There are many different types of fusions performed currently and it is not yet clear which one is superior. **Thus, the type of surgery is yet another major controversy in the treatment of low back pain.**

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