

Lower Back Pain?

Back pain is a common problem, which affects many people at some point. It's often caused by a simple muscle, tendon or ligament strain and not usually by a serious problem.

Spinal anatomy

The spine is made up of 33 bony vertebrae. These vertebrae are connected by facet joints. Between each vertebra there is a cartilaginous disc that acts as a shock absorber. The spinal cord is protected by both of these structures. The peripheral spinal nerves which supply sensation and muscle power to the arms (from the neck) and to the legs (from the lower back), emerge from the spinal cord. The majority of back pain (85%) can be described as nonspecific, where there may be an inflammatory or muscular cause rather than a structural injury. This is not serious. The remainder is often described as specific back pain where there is a particular pathology or structure (such as a disc bulge or vertebral fracture). It is not uncommon to experience back pain at some point in your life.

What are the causes of lower back pain?

- Mechanical or Functional Injury (97%)
- Inflammation
- Fracture
- Active Infection
- Neoplastic
- Referred Pain

Mechanical low back pain:

- Muscle strain
- Spondylolisthesis (slippage of one vertebral body on the next)
- Herniated disc (the discs, or pads, that act as shock absorbers between the vertebrae can bulge into the space containing the spinal cord or a nerve root and cause pain)
- Osteoarthritis (a common form of arthritis in which the cartilage that cushions the joints breaks down and bony spurs form in the joint, causing pain and swelling.)
- Spinal stenosis (caused by a narrowing of the bony canal and predisposes some people to pain related to pressure on the spinal nerves or the spinal cord itself.)

- Low back pain that gets worse with sitting may indicate a herniated lumbar disc (one of the discs in the lower part of the back). Acute onset, that is, pain that comes on suddenly, may suggest a herniated disc or a muscle strain, as opposed to a more gradual onset of pain, which fits with osteoarthritis, spinal stenosis, or spondylolisthesis.

Inflammatory Lower Back Pain

Although comparatively few patients have low back pain due to inflammation, the problem can be life-long and can cause severe damage to the spine. The good news is that treatments can help essentially all patients, and can lead to major improvements.

Seronegative spondyloarthropathies are a group of inflammatory diseases that begin at a young age, with gradual onset. Like other inflammatory joint diseases, they are associated with morning stiffness that gets better with movement and exercise.

When Are Certain Diagnostic Tests Necessary?

There is concern within the medical community that high-tech imaging methods, such as CT scan and MRI, are overused for acute low back pain.

X-ray

The Agency for Health Care Policy and Research established guidelines for acute low back pain in 1994. The federal agency suggests there are eight red flags in low back pain that indicate the need for an X-ray:

- Age is over 50
- History of malignancy/cancer
- Fever or weight loss or elevated ESR
- Trauma
- Loss of motor function
- Litigation/compensation
- Corticosteroid use
- Drug abuse

These red flags identify patients who are more likely to get infection, cancer or who have a fracture, i.e., the patients are less likely to have a simple muscle strain. (Litigation compensation was included because Worker's Compensation cases generally require X-ray.)

If none of these red flags exists, an X-ray and other studies may be delayed for one month, during which time 90% of patients with acute back pain will feel better.

MRI or CT Scan

The presence of red flags for infection, fracture, or more serious disease will likely require an MRI or CT scan. Also, if symptoms last longer than a month and surgery is being considered, imaging is necessary. When a patient has had prior back surgery, imaging beyond X-ray is reasonable.

If a patient has signs of cauda equina syndrome, a serious injury to the spinal cord, causing symptoms such as leg weakness, perineal numbness (numbness between the inner thighs) and difficulty urinating), permanent neurological damage may result if this syndrome is left untreated. If clues to this syndrome are present, an MRI, or at minimum, a CT scan, is urgently needed.

Blood Tests

When tumor or infection are suspected, blood tests may be ordered, including a CBC (complete blood count especially looking for anemia) and sedimentation rate (an elevated sedimentation rate indicates inflammation).

Treatment Options for Acute Lower Back Pain

Simple painkillers such as paracetamol (Panado) may help. You should use them as and when you need them but it's best to take them before the pain becomes very bad. It's important that you take them regularly and at the recommended dose, especially when you're having a flare-up of your back pain but you shouldn't take them more often than every four hours up to a maximum of eight tablets in 24 hours. Non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, which you can buy at chemists and supermarkets, can also help. You can use painkillers and NSAIDs for a short course of treatment of about a week to 10 days. If they've not helped after this time then they're unlikely to. However, if they do help but the pain returns when you stop taking them you could try another short course. You can also try rubbing anti-inflammatory creams or gels onto affected areas. Physical activity is good for everybody and too much rest can lead to stiffness in your muscles and joints. Research shows that bed rest for more than a couple of days doesn't help back pain and in the long term actually makes it worse. Exercise is the most important way that you can help yourself if you have back pain. If you stop being active for a long time, the muscles in your back become weak and you become less fit, and this can make your back pain worse. Research shows that regular exercise leads to shorter and less frequent episodes of back pain. Exercise also releases endorphins (your body's natural painkillers) which improve pain and make you feel happier. Exercise might make your back feel a bit sore at first but it doesn't cause any harm – so don't let it put you off! Start off slowly and gradually increase the amount of exercise you do. Try taking some painkillers beforehand too. Over time, your back will get stronger and more flexible and this should reduce pain. It's better to choose a form of exercise that you enjoy as you're more likely to stick to it.

Any regular exercise that helps to make you flexible and stronger and increases your stamina is good, for example: • swimming • walking • yoga or Pilates • going to the gym. If standard painkillers or NSAIDs aren't providing adequate pain relief, your doctor may suggest some additional treatments.

Amitriptyline

Amitriptyline acts to relax muscles and improve sleep. You'll usually be prescribed the lowest possible dose to control your symptoms

Gabapentin/Pregabalin

Gabapentin and pregabalin aren't usually given as a first-line treatment for 'ordinary' back pain. Although they don't help back pain, they may help sciatica by reducing irritation of the nerves. They may need to be taken for six weeks to begin with, and sometimes longer. As with all drugs there can be side-effects, so they won't be suitable for everyone. You should discuss this with your doctor.

Steroid injections

Sometimes injections are useful for back pain or sciatica which is more severe or if the usual treatments like physiotherapy and painkillers aren't working well enough. The injections are usually cortisone and may be placed around the nerve roots or into the facet joints.

Surgery

Very few people with back pain (less than 2%) need an operation. Sometimes an operation is needed for spinal stenosis or for severe sciatica to free the nerve, although most doctors would recommend trying other measures first, including medication, physiotherapy or injections. Urgent surgery may be needed if you lose bladder or bowel control or the use of your legs, but this is extremely rare.

Useful websites:

www.arthritis.org.za
www.uptodate.com
www.mayoclinic.com
www.rheuminfo.com