

Common Lumbar Back Pain: What to Look for in the Office Setting

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Presented at McGill University's E-Learning Series in Montréal, Québec, on September 26, 2012.

Riley's Case

Riley, a 32-year-old construction worker, presents to your office one day after injuring his lower back lifting bricks at a work site. Initially, he felt a mild pain in his left lower back, but he continued working. He awoke the next morning with more pain and stiffness in the lower lumbar area. He has no worrisome features on history, and his examination is normal except for pain over the bilateral lumbar region, which is made worse with forward flexion of the spine.

[Read on for more on Riley.](#)

Patients presenting with lumbar back pain is a common occurrence for general practitioners, and the vast majority of these patients have a nonlife-threatening condition that can be managed from the office with no imaging. Physicians should use back pain “red flags” discovered on history and physical examination to determine whether a patient is at risk for more serious causes of back pain, which may include cancer, infection, spinal cord compression syndromes, aortic aneurysms, and aortic dissection.¹

When examining a low risk patient with lumbar back pain, the assessment can be simplified by asking the question, “does the pain get worse with flexion or extension?” While some patients will

have pain with both movements, usually one movement (either flexion or extension of the lumbar spine) will cause more discomfort.

Lumbar Pain Made Worse with Flexion

There are two main entities that comprise this group: lumbar disc herniation and back strains.

Lumbar Disc Herniations

These patients usually present with back pain and radiation of the pain down the leg, classically below the knee. The pain in the leg will be exacerbated by forward flexion of the lumbar spine, which is most often evident with sitting. The flexion of the lumbar spine at the hip causes traction of the nerve roots, which are then compressed against the herniated disc. Subtle disc herniations will cause pain or numbness down the leg only with prolonged sitting and will be worse when sitting in a car, due to the more forward flexed position of a car seat as compared to a regular chair.

The vast majority of lumbar disc herniations occur at the L5-S1 disc and usually cause compression of the S1 nerve root.² Examination of the S1 nerve root is vital in suspected disc herniations due to its frequent involvement.

Back Strains

This group is the largest of all back pain patients. Most often, the pain is described as an ache or tightness over the lower lumbar area that is difficult to localize precisely. The pain is often bilateral and should have no radiation down below the hip. The timing of the pain can sometimes be confusing, as it may begin sometime after the precipitant event. The initial injury commonly results in a strain (*i.e.*, a small tear) of one of the supporting lumbar muscles. While there may be some pain at the time of the event, the injury process causes inflammation over the next several hours. Any swollen muscle will attempt to shorten or spasm. As there is very little flexion of the lumbar spine at night, the injured muscle(s) can spasm overnight, resulting in more pain and stiffness in the morning.

Lumbar Pain Made Worse with Extension

There are three main entities that comprise this group: facet joint irritation, spondylolysis, and spinal stenosis.

Facet Joint Irritation

While facet joint injury or inflammation can present in any age group, this is more common in the

older population due to degenerative changes in the spine.

Facet joint injury or inflammation will cause pain with extension of the lumbar spine as the facet joints are compressed. These patients will have little or no pain with sitting for hours, but they will usually have pain with prolonged standing, as most of us stand in more of a lordotic or extended position of the lumbar spine. The pain may be bilateral or may be more localized to one side.

Spondylolysis

Spondylolysis will most commonly occur insidiously in younger athletes whose sports require repetitive hyperextension of the lumbar spine. It is more common in females aged 11 to 16 due to the sports they are involved in (gymnastics, figure skating, diving, cheerleading), which require repetitive extension of the lumbar spine.³ These defects or fractures in the pars interarticularis are basically stress fractures of the lumbar spine and may allow forward slipping of one vertebral body on another (*i.e.*, spondylolisthesis). The pain may be bilateral or may be more localized to one side. Holding the patient's hands and having them extend their spine while standing on one leg ("stork test"), may allow you to identify the affected side, as more pain may be present when extending on the leg of the affected side.

Table 1

Questions & Answers

1. What if the patient has back pain that is getting worse despite treatment?

Back pain present for more than six weeks, or requiring stronger pain medication, is a red flag and should be investigated more thoroughly.

2. Why can't I prescribe muscle relaxants?

Muscle relaxants can cause significant drowsiness, and this side effect may outweigh any benefit they may provide.

3. Are there any back braces that can help my patient with back pain?

There are specific braces for spondylolysis and spondylolisthesis that are proven, but there are none for the common back strain patient.

Back to Riley

Riley was advised to avoid bed rest and place heat over the lower lumbar area three times a day for 15 to 20 minutes each time. He was given a prescription for a short course of oxycodone and a prescription for 10 days of regular NSAIDs and acetaminophen. He was given a note to be off work for three days and then return to light duties with no lifting for two weeks. He was asked to return to the office at that time to be re-evaluated for return to full work.

Spinal Stenosis

Spinal stenosis is most common in patients over the age of 50 due to degeneration in the spine.⁴ Most patients will present with back pain and leg pain. The leg pain, sometimes referred to as neurogenic claudication, is usually bilateral. Spinal stenosis can be misdiagnosed as vascular claudication due to the fact that sitting (*i.e.*, flexion of the lumbar spine) or recumbence (*i.e.*, decreasing the extension of the lumbar spine) will relieve the neurogenic symptoms. Unlike vascular claudication, these patients can walk up hills with little or no symptoms due to the fact that their lumbar spine is relatively forward flexed.

The diagnosis can usually be confirmed by performing a “stoop test.” This test consists of asking a patient to walk around until their symptoms are present, then having them bend forward at the lumbar spine. This movement should result in resolution of pain and symptoms.

Treatment and Advice

Making the correct diagnosis will allow you to counsel the patient on the position of comfort. Patients who have pain in flexion (usually bending forward or prolonged sitting) are usually more comfortable in extension (or standing). Patients who have more pain in extension (or standing) will be more comfortable in flexion (or sitting).

Take-home Messages

- In low-risk lumbar back pain patients who have no red flags on history or physical examination, the diagnosis can be simplified by determining whether the pain is made worse by flexion or extension.
- Most lumbar back pain patients can be managed with advice regarding position of comfort, analgesia, topical heat, and early mobilization; imaging is not necessary.

Most lumbar back pain can be treated with a short course of narcotics, as needed, and a course of regular NSAIDs and acetaminophen. For back strain patients, who comprise the largest group of patients presenting to the office, two treatments that have been proven to be effective are early mobilization (no bed rest) and applying superficial heat three times a day for 15 to 20 minutes each time.⁵ The heat may be applied in the form of hot water bottles, soft heated packs, hot towels, electric heat pads, or infrared heat lamps.

Other treatments, such as ice, muscle relaxants, corticosteroids, spinal manipulation, physiotherapy, massage therapy, transcutaneous electric nerve stimulation (TENS), lumbar braces, and acupuncture, have not been proven to be effective in acute back strain or, as in the case of muscle relaxants, have side effects that likely outweigh any beneficial effects. **Dx**

References

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