



# Diagnosis & Treatment of Low Back Pain

**Diagnosis can often be based on history and physical examination alone:**

**Low back pain alone**  
(~93% of patients)

**Lumbosacral radiculopathy**

Low back pain with associated radicular pain  
(4% of patients)

**Possible spinal stenosis**

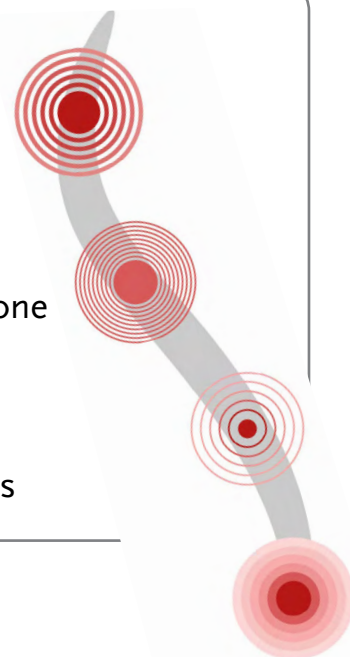
Pain relieved by sitting;  
usually in older adults  
(3% of patients)

**Certain patients exhibit red flags or risk factors requiring urgent evaluation and management:**

- Major or progressive motor or sensory deficit
- New-onset bowel or bladder incontinence or urinary retention
- Saddle anesthesia
- Bilateral radiculopathic symptoms
- Pain increased by rest
- Unexplained weight loss, fever, or night sweats
- History of osteoporosis, spine surgery, or cancer that can metastasize to bone
- Significant trauma
- Prolonged history of glucocorticoid use or immunosuppression
- Intravenous drug use
- Suspected lumbar stenosis with intolerable symptoms or neurologic deficits



**Consider urgent consultation or imaging, especially if findings are consistent with cauda equina syndrome or cord compression.**



## For nonurgent cases:

**Simple low back pain**

**Unilateral radiculopathy**  
without bladder involvement

**Spinal stenosis**  
Tolerable symptoms  
without neurologic deficit

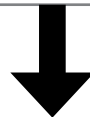
✗ **Testing / imaging is not needed initially**

✓ **Counsel the patient to try conservative therapy for 4 to 6 weeks:**

- Stay active, avoid bed rest, and avoid twisting and bending
- Try nonpharmacologic treatment (e.g., heat, massage, acupuncture, yoga, spinal manipulation)
- Consider a short trial of an NSAID (unless contraindicated)
- If NSAIDs are ineffective, consider nonbenzodiazepine skeletal muscle relaxants (e.g., cyclobenzaprine, metaxalone, and tizanidine)
- Consider acetaminophen (although efficacy has not been demonstrated in clinical trials)
- Consider referral for PT (although studies have not shown benefit from early PT)

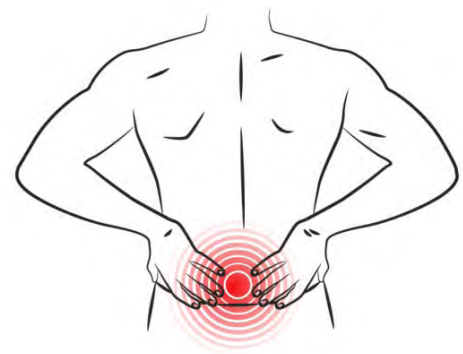
✓ **Educate the patient:**

- Set reasonable expectations: most patients' pain will improve in one month
- Provide resources (e.g., [medlineplus.gov/backpain.html](https://medlineplus.gov/backpain.html))



**If the pain does not improve in 4 to 6 weeks:**

- Refer for PT
- Continue noninvasive nonpharmacologic treatments: exercise, multidisciplinary rehabilitation, acupuncture, cognitive behavioral therapy
- Consider switching to a different NSAID
- Consider nonbenzodiazepine skeletal muscle relaxants if not already prescribed

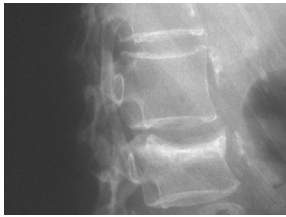


# When to consider diagnostic imaging

Consider diagnostic imaging if the pain is:

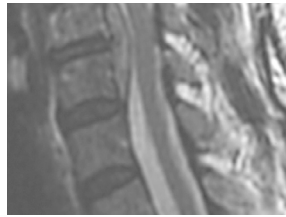
- Worsening or severe
- Not improving after 12 weeks of conservative therapy

## RADIOGRAPH



if you suspect fracture or degenerative joint disease

## MRI



if you suspect infection, malignancy, or nerve compression

## CT



if MRI is contraindicated, such as in the presence of metallic implants

## Imaging normal or shows only degenerative joint disease:

### ✓ Consider the following additional treatments:

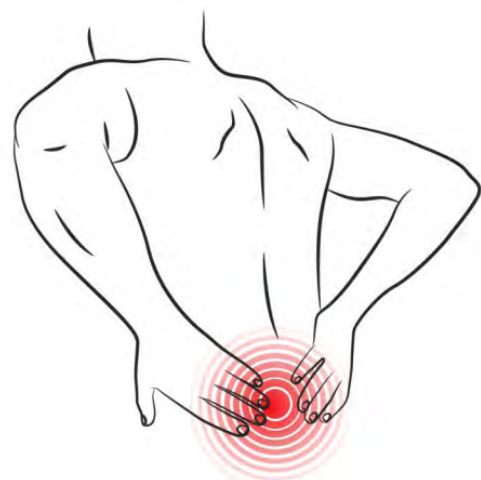
- Continue a supervised or independent exercise program
- Focus on nonpharmacologic interventions such as multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction, tai chi, yoga, cognitive behavioral therapy, or spinal manipulation
- Continue first-line pharmacologic treatment with NSAIDs
- Second-line pharmacologic treatments: duloxetine, tricyclic antidepressants, and cyclobenzaprine
- Refer for consideration of glucocorticoid injection (MRI required)

*Note:* Opioids should be considered only if the above-mentioned therapies fail and the potential benefits of opioid therapy outweigh the risks. A 2018 randomized controlled trial compared the effect of opioid and nonopioid medication regimens in patients with chronic back, hip, and knee pain. Treatment with opioids was not superior to treatment with nonopioids for pain-related function, further supporting the avoidance of opioids in the treatment of chronic back and musculoskeletal pain.

## Findings other than degenerative joint disease identified:

### ✓ Treat underlying cause:

- **Disk herniation:** consider glucocorticoid injection or discectomy
- **Spinal stenosis:** consider glucocorticoid injection or laminectomy
- **Infection, malignancy, fracture:** treat accordingly



**References:**

1. Qaseem A et al. Noninvasive treatments for acute, subacute, and chronic low back pain: a clinical practice guideline from the American College of Physicians. *Ann Intern Med* 2017 Apr 4; 166:514.
2. VA/DoD clinical practice guideline: diagnosis and treatment of low back pain. 2022.  
<https://www.healthquality.va.gov/guidelines/pain/lbp/>

---

*Last reviewed Oct 2025. Last modified Oct 2025. The information included here is provided for educational purposes only. It is not intended as a sole source on the subject matter or as a substitute for the professional judgment of qualified health care professionals. Users are advised, whenever possible, to confirm the information through additional sources.*



© 2025 Massachusetts Medical Society. All rights reserved.