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Managing lower back pain: You may be doing too much

New guidelines call for a measured approach to imaging and medication, while emphasizing psychosocial evaluation.

A 32-year-old construction worker seeks treatment for the lower back pain (LBP) he's been experiencing since painting his house a few days ago.

A 48-year-old man with a history of LBP comes in because he needs a refill of his hydrocodone prescription.

Both patients are probably pretty typical of the back pain patients you see on a regular basis. But how would you care for each of these patients, and how does your care compare to the latest evidence? This review will help you to find out. In this article we take a look at guidelines from the American College of Physicians (ACP) and the American Pain Society (APS),¹ as well as findings from other recent studies, and apply them to these 2 patient cases.

But first, a word about the ACP/APS guidelines.

What's new?

ACP/APS conducted a systematic review of studies of LBP epidemiology, clinical diagnosis, utility of imaging, and outcomes of pharmacologic² and nonpharmacologic interventions.³ Whereas previous guidelines dealt with either acute or chronic pain, the ACP/APS guidelines synthesized the literature to apply to both.

Moreover, rather than focusing mostly on pain reduction, the ACP/APS panel was interested in functional outcomes such as back-specific functioning, general health status, disability, and patient satisfaction.

Finally, the panel's recommendations (**TABLE**) considered the unique environment of primary care (including presentations typically seen in this setting), the ability of primary care physicians to advise and counsel patients, continuity of care, and the role of the physician in coordinating care.

CASE 1 Patient with acute nonspecific LBP

While painting his home, a 32-year-old construction worker felt a twinge in his lower back as he stepped off a ladder. He remained active, relying on over-the-counter ibuprofen and heat packs to relieve soreness. Two days later he visits his physician because the soreness has not abated. He reports no bowel or bladder complaints, worsening of pain, radiation of symptoms, nausea, vomiting, abdominal pain, or fever. He tells his doctor that he strained his back before and that this "feels the same way it did before." The last time this happened he received physical therapy (PT), which helped. He thinks he may need PT again, but wants to

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discuss it with his physician.

Physical exam reveals mild tenderness to palpation over the right lumbar paraspinal muscle, but no spasms are apparent. Otherwise, his musculoskeletal exam—including range-of-motion testing—is within normal limits. The neurologic exam also is within normal limits, including normal deep tendon reflexes of the lower extremities and negative straight-leg-raise testing. His gait is normal, with no sign of discomfort.

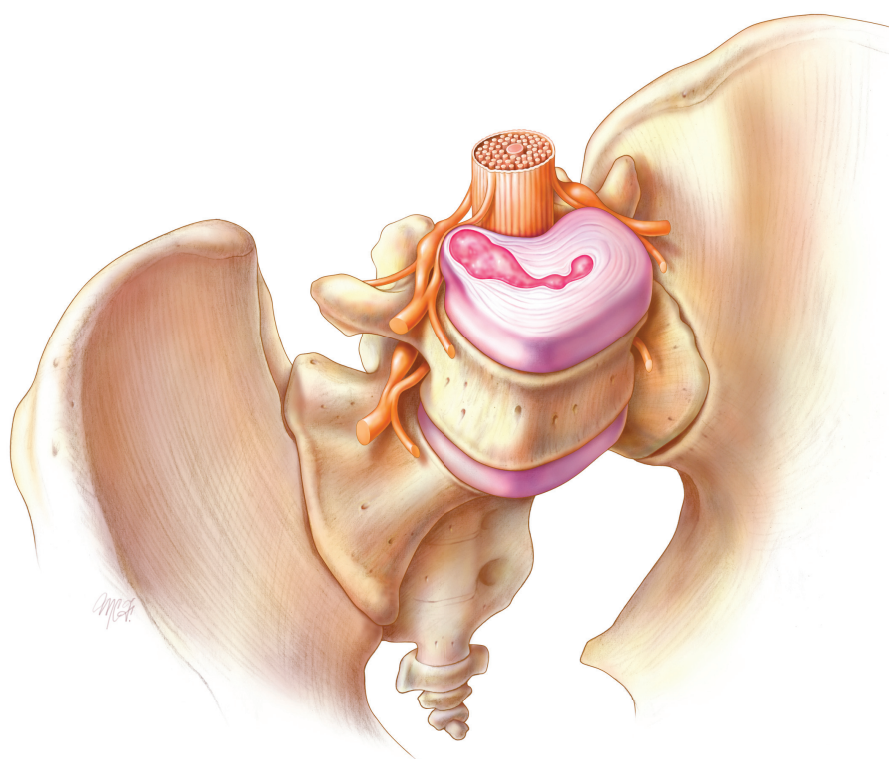
Specific anatomic diagnoses are elusive.

In the primary care setting, fewer than 15% of LBP cases have an identifiable underlying disease or spinal abnormality.⁴ An exhaustive search for a specific anatomic diagnosis lacks utility in selecting initial therapy or affecting patient outcomes. Instead, when caring for a patient like the one in our case, it's important to focus on a thorough medical history and examination that assess the location and duration of symptoms, as well as uncover symptoms suggestive of radiculopathy or spinal stenosis.

Of course, you'll need to rule out potentially serious conditions, such as cancer, vertebral infection, cauda equina syndrome, compression fracture, and ankylosing spondylitis. You'll also need to check for rapidly progressing or severe neurologic deficits, such as motor deficits at more than one level or a patient's report of incontinence or bladder dysfunction.

Straight-leg-raise testing and neurologic assessment of the lower extremity—specifically strength and reflex testing of the knee, ankle, foot, and great toe to assess nerve root level involvement—are key. With this assessment, you should categorize a patient's LBP as nonspecific, as potentially associated with radiculopathy or spinal stenosis, or as potentially associated with another specific cause (ACP/APS recommendation; strength of recommendation [SOR]: B).¹

Pursue imaging—or not? While plain radiography is certainly an option if you suspect a vertebral compression fracture in a high-risk patient, it would not



be necessary for a patient like the one in our case. This patient has a classic presentation of acute nonspecific LBP, for which neither routine plain radiography nor advanced imaging (CT or MRI) improves patient outcomes. Given this lack of proven benefit and the unnecessary radiation exposure with certain tests, routine imaging is not recommended for nonspecific LBP (ACP/APS recommendation; SOR: B).^{1,4-6}

Action steps. The evidence supports a number of steps when caring for a patient like the one in our case. Some steps are targeted to patients with nonspecific LBP—and we've labeled them as such. Others more broadly apply to patients with LBP.

Explore the possible contribution of psychosocial factors and emotional distress to back pain (ACP/APS recommendation; SOR: B).¹ These factors are stronger predictors of low back pain outcomes, including chronic back pain disability, than physical exam findings and duration or severity of pain.^{7,8} Predictors of poorer outcomes include depression, passive coping strategies, job dissatisfaction,

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For many patients with herniated discs, symptoms can improve within 4 weeks. Thus, the evidence does not support routine imaging.

IMAGE © MAURA FLYNN

FAST TRACK

Evidence does not show that long-term opioid use improves functioning in patients with chronic lower back pain.

somatization, higher disability levels, and disputed compensation claims. The effectiveness of specific tools for gathering such information has not been demonstrated in the primary care setting. Therefore, fully investigate psychosocial information in the patient interview.

Provide patients with nonspecific LBP with evidence-based information regarding its expected course; advise them to remain active and suggest effective self-care options (ACP/APS recommendation; SOR: B).¹ This recommendation is based on findings that the typical course and prognosis of LBP are generally favorable, on studies comparing bed rest versus remaining active, and on outcome studies for self-care interventions.

Self-care includes a variety of interventions patients can implement without a clinical visit—patient education, including self-care books, and patient-structured physical activities. This approach is much less expensive than—and has equivalent or nearly equivalent effectiveness to—costlier interventions such as physical therapy, massage, spinal manipulation, or acupuncture.

Regarding work limitations, there is insufficient evidence for specific guidance. Routinely assess patient age, health, and physical demands and job tasks, and recommend restrictions based on clinical judgment.

Try nonpharmacologic therapies that have proven benefits in the event that self-care fails (ACP/APS recommendation; SOR: B).¹ These include spinal manipulation, defined as manual therapy in which loads are applied to the spine by using short- or long-lever methods and high-velocity thrusts are applied to a spinal joint beyond its restricted range of motion. Serious adverse events are extremely rare.³

If medication is needed for acute LBP, first-line drugs include nonopioids with proven benefits, such as acetaminophen, nonsteroidal anti-inflammatory agents, or skeletal muscle relaxants (ACP/APS recommendation; SOR: B).²

CASE 1 The patient's course

The physician carefully reviews the 32-year-old patient's psychosocial factors and finds that he is positive about his job, enjoys his work, and is not seeking compensation. He uses exercise and prayer to manage stress and is in a stable relationship. He does not smoke, use recreational drugs, or have a history of psychiatric disorders, including depression. He says he drinks 2 to 3 beers on the weekends.

In discussing treatment, the patient considers PT as the optimal intervention. His doctor does not recommend it, and instead encourages him to remain active, gives him a self-care booklet on stretching and exercises, and advises him to check in again as needed, reassuring him that most cases of nonspecific acute low back pain resolve spontaneously.

Initially the patient does well with self-care and he returns to activity. However, 6 weeks after his office visit, the patient returns with pain that has worsened over the last 2 weeks. He has also begun experiencing tingling sensations down his right leg, trouble standing for short intervals because of pain, and weakness in his back. On physical exam, he still has minimal tenderness to palpation over the right lumbar region. The right straight-leg-raise test yields a positive result, and the right patellar reflex is diminished compared with the left. His rectal tone is normal. His gait is antalgic.

When the patient requests imaging, the physician advises him of the risks associated with imaging and the unlikely prospect that it will change management—despite the change in neurologic symptoms. After considering such evidence-based options as massage therapy, yoga, and spinal manipulation, they agree on a trial of PT. The patient's current level of function is reviewed, and work limitations are set.

After 8 weeks of PT, the patient experiences an improvement in overall function, pain level, and weakness. His straight-leg-raise test—the physical exam

TABLE

Recommendations from the ACP/APS guidelines for low back pain¹

Conduct a focused history and exam to place patients into 1 of 3 broad categories: nonspecific LBP, LBP potentially associated with radiculopathy or spinal stenosis, or LBP associated with another specific cause (strength of recommendation [SOR]: **B**).

Assess for psychosocial factors and emotional distress, as they are stronger predictors of LBP outcomes, including disability, than physical exam findings and severity of pain (SOR: **B**).

Do not routinely obtain imaging for patients with nonspecific LBP. MRI or CT is recommended for patients with LBP associated with a specific cause, for those with severe or progressive neurologic deficits or persistent radiculopathy/spinal stenosis symptoms, and for those who are candidates for surgical interventions (SOR: **B**).

Advise patients with nonspecific LBP to remain active and provide information on LBP's expected course and effective self-care options (SOR: **B**).

Consider the addition of nonpharmacologic treatments, including selective alternative modalities, when self-care fails. These treatments include spinal manipulation for acute LBP and acupuncture for chronic LBP (SOR: **B**).

Consider acetaminophen or nonsteroidal anti-inflammatory drugs as first-line medication options for most patients. Keep in mind the limited effectiveness and potential harm of others, including opioids (SOR: **B**).

Strength of recommendation (SOR)

A Good-quality patient-oriented evidence

B Inconsistent or limited-quality patient-oriented evidence

C Consensus, usual practice, opinion, disease-oriented evidence, case series

finding with the most sensitivity for disc herniation—returns to normal, as does his patellar reflex. Although frustrated with the length of recovery time, he is appreciative of his physician and therapists.

Follow this physician's lead: Be prudent with imaging. Many primary care physicians caring for a patient like this one would consider imaging studies to assess the worsening signs and symptoms. The evidence, however, does not clearly support that decision. Given the potential harm of testing and varying benefit in outcomes, the ACP/APS offers different recommendations on imaging and other diagnostic tests, depending on the category of LBP. Prompt evaluation with advanced imaging (MRI or CT) is recommended for severe or progressive neurologic deficits, and with suspicion of a serious underlying condition, such as vertebral infection, cauda equine syndrome, or cancer with spinal cord compression, given that delayed treatment may lead to

poor outcomes (ACP/APS recommendation; SOR: **B**).¹

For many patients with herniated lumbar discs, symptoms can improve within 4 weeks.^{9,10} Thus, there is no compelling evidence that routine imaging changes treatment decisions or outcomes.¹¹ For patients with persistent symptoms of radiculopathy or spinal stenosis who have not responded to conservative therapy, invasive procedures (surgery or epidural injections) become potential treatment options, and thus imaging with MRI (preferred) or CT may be warranted.

CASE 2 Patient with chronic LBP

A 48-year-old man new to the practice comes in complaining of persistent pain in the lower back, which he ranks at 6 on a scale of 1 to 10. Approximately 5 years ago he underwent an L4-L5 laminectomy/fusion for herniated nucleus pulposus. The surgery relieved shooting pains

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Acupuncture, cognitive-behavioral therapy, physical therapy, exercise therapy, and therapeutic massage all help patients with chronic lower back pain.

down his left leg, but he has since had progressive problems with lumbar pain and stiffness. Two courses of PT and a series of facet joint injections over the years have provided only temporary relief. The patient had been followed by a pain management clinic, but was discharged after exhausting his insurance benefit. A recent MRI ordered by the pain management clinic showed mild to moderate degenerative changes in L2 to S1 with a healed fusion.

The reason for his visit this day is to request a refill of his hydrocodone, initiated by the pain clinic. He is worried that he will not get better and is afraid of injuring himself and has, as a result, been avoiding activities. He denies depressive symptoms except for decreased self-worth and pain-related sleep disturbance. He says that he was once more vigorous and felt competent, but is now passive and feels helpless about his pain. He is concerned that his physical capabilities will worsen even more and asks if there are any other therapies that might be helpful.

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Psychosocial factors are better predictors of treatment outcomes than physical findings.

No easy answers. Patients with chronic LBP—pain lasting for longer than 2 months—present unique challenges. They have often seen several clinicians, including pain management specialists, have undergone repeated imaging, and are frustrated by their persistent symptoms. Many have had 1 or more surgeries, and most have tried numerous medications to gain relief.

This patient is seeking a refill of his opioid. Before agreeing to such a request, weigh the risks and benefits of opioids and the potential benefits of alternative therapies (SOR: B).¹ Although the chronic use of opioids is an option for a select group of patients with chronic LBP,¹² these agents can be expensive, lead to habituation and addiction, be easily redirected for monetary gain, and have untoward side effects. Evidence does not show that long-term opioid use improves functioning in patients with chronic LBP.

Nonpharmacologic therapies that have proven beneficial for such patients include acupuncture, cognitive-behavioral therapy, PT, exercise therapy (defined as any supervised or formal exercise program), and therapeutic massage (SOR: B).¹ It would be preferable to start a therapeutic plan incorporating 1 or more of these modalities, based on a patient's psychosocial history, insurance status, and preferences. Suggesting these therapies with guarded optimism can lead to a decreased need for opioids and increased functioning.

Again, psychosocial evaluation is important. When initially assessing a patient with chronic LBP, it is imperative to evaluate psychosocial factors. As noted earlier, psychosocial factors are better predictors of treatment outcomes than physical findings. Identifying factors related to poor outcomes (eg, anxiety, poor work history, passive attitude toward rehabilitation) can direct therapy and avoid polypharmacy.

Cognitive-behavioral and educational interventions will be more effective when targeting specific psychological and social factors (SOR: C).^{13,14} Fear-avoidance beliefs, distress, somatization, and pain catastrophizing place patients at the highest risk for poor outcomes. Primary objectives in psychosocial intervention are providing encouragement for overcoming demoralization; helping the patient make the connection between thoughts, feelings, and behaviors; and teaching the patient coping strategies and techniques to adapt to pain and resultant problems.

The ultimate goal for a patient like the one in this second case is to change his perception of chronic pain from overwhelming to manageable and to get him to see himself as resourceful and competent.¹⁵ Physician counseling has produced small positive effects in undifferentiated primary care patients with LBP, and it may therefore be more powerful when targeted to patients with specific psychosocial issues such as fear avoidance.¹⁶

Provide patients with a realistic outlook. Another key element is to direct patients' expectations. Most people with chronic LBP will not become pain free, and patients need to know this fact. Aim treatment at improving function as well as reducing pain. You can assess functional status and improvement using patient questionnaires such as the Roland-Morris Disability Questionnaire (<http://www.rmdq.org/>) or the Oswestry Disability Index 2.0 (ODI, http://www.cpta.ab.ca/resources/Measurement%20Tools/Evaluative_Oswestry%20Disability%20Index.doc).^{17,18} Although these measures have not demonstrated utility in primary care practice, they have sufficient scale width to reliably detect change in most patients, and serial use can measure change clinically. These measures are used in research examining LBP functional outcomes in primary care; they are easy to use and score (SOR: C).¹⁹

What role for medications? Because of complex trade-offs between benefits and harms, evidence is insufficient to say one medication offers a clear net advantage over others in the treatment of patients with LBP. ACP/APS has identified good evidence for tricyclic antidepressants in chronic LBP (ACP/APS recommendation; SOR: B).² Chronic LBP may exhibit periods of relative quiescence alternating with episodes of exacerbation.²⁰ You can assist your patients in preparing for these occurrences. As with exacerbations in other conditions (eg, chronic obstructive pulmonary disease), you may want to prescribe short-term use of nonpharmacologic or pharmacologic therapies that can be tapered and discontinued after the exacerbation subsides. Patients are likely to differ in how they weigh potential benefits, harms, and cost of various medications. Such a strategy should limit financial burden and potential negative side effects of chronic therapy.

CASE 2 The patient's course

The physician offers to partner with the

patient in working toward a goal of improved functioning. The patient's spouse accompanies him on 1 visit to discuss steps the family can take to improve fitness. With the ODI, the physician establishes the patient's baseline function and tracks improvement over the period of care. The patient receives clinical massage therapy once a week, and his hydrocodone is tapered over the course of 6 visits. At the end of the period of care, the patient reports decreased pain and improved hopefulness. ■

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