Low back pain: Living with ambiguity

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AMBIGUITY IS A FACT OF LIFE in treating acute low back pain, frustrating physicians and patients alike. In fact, the precise anatomic source of low back pain cannot be identified in up to 80% of cases.[1] Further complicating matters are differences among physicians in what to call back pain,[2] what tests if any are indicated,[3] and how to treat it.[4,5]

Fortunately, low back pain usually resolves within 14 days no matter what we do. However, physicians should be alert for psychosocial barriers to improvement and for rare, serious causes of back pain, especially if the pain does not resolve as expected.

INITIAL ASSESSMENT: RULE OUT RARE, SERIOUS CONDITIONS

In the early stages, the evaluation of low back pain is fairly simple. Physicians should look for evidence of radiculopathy, malignant diseases, infection, benign and treatable syndromes such as trochanteric bursitis, and psychosocial issues.

Radiculopathy has characteristic symptoms

Fewer than 5% of patients presenting to primary care physicians with back pain have true radiculopathy or sciatica—pain and paresthesias running down the back of the leg, reflecting disk herniation. The leg pain is characteristically greater than the back pain. To confirm the diagnosis, hold the supine patient's leg straight and gradually elevate it; symptoms of radiculopathy should occur at angles greater than 60°.

Because most patients with radiculopathy improve without surgery, a trial of nonoperative care is almost always indicated. Therefore, imaging studies do not affect the initial management and should not be performed routinely at the initial evaluation. Rare exceptions are in patients with cauda equina syndrome (compression of the spinal roots causing dull aching pain in the perineum, bladder, or sacrum, leg weakness, and bowel or bladder dysfunction) or progressive, significant motor weakness.

Malignancy and infection are rare

Serious causes of low back pain are rare: malignant diseases were noted in only 0.66% of cases in one series; infections are identified in fewer than 0.01%, spondyloarthropathy in 0.1% to 0.3%, and compression fractures in 4.0%.

"Red flags" for malignancy are:

- Age greater than 50 years.
- Previous cancer.
- Weight loss.
- Lack of positional relief.
- Lack of improvement.

If the history suggests a malignant disease, the erythrocyte sedimentation rate is the best screening test; if the suspicion of malignancy is high, a magnetic resonance imaging study should be performed.

The erythrocyte sedimentation rate is also a useful screening test when infection is suspected. Compression fracture should be suspected in older patients with risk factors for osteoporosis who develop acute thoracic or lumbar pain. If plain roentgenograms are inconclusive, a bone scan or computed tomographic scan should be performed.

Psychosocial issues are underrecognized

Psychosocial issues can hinder a patient's recovery from low back pain and are underrecognized. For example, one study of 200 patients with chronic back pain found that 77% had a history of a psychiatric disorder such as depression, substance abuse, anxiety disorder, or personality disorder, and 59% met the criteria for one of these diagnoses at the time of the study. Usually, the psychiatric disorder preceded the back problems.[6]

Issues of litigation and workers' compensation may also be present. Even if the patient is not planning to sue anybody, he or she may

TAKE-HOME points from educational presentations by Cleveland Clinic faculty and visiting professors

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TABLE 1

HOW TO DETECT PSYCHOSOCIAL BARRIERS TO RECOVERY: WADDELL'S NONORGANIC PHYSICAL SIGNS

Test	What to do	Inappropriate response*
Tenderness	**Superficial:** Lightly pinch the lumbar area in different locations	Tenderness over a wide area
	Nonanatomic: Palpate the back deeply in different locations	Deep tenderness over a wide area, not localized to one structure
Simulation	**Axial loading:** With the patient standing, stand behind the patient and press down on his or her head with both hands	Maneuver produces low back pain
	Rotation: With the patient standing, hold the patient's arms at his or her hips and passively rotate the shoulders and pelvis in the same plane	Maneuver produces low back pain
Distraction	With the patient supine, hold the patient's knee straight and passively raise the leg to 60° or until the patient reports the pain; repeat the test with patient sitting; pretend to test Babinski's reflex while surreptitiously elevating the leg	Discrepancy between findings when supine and sitting; improvement during a distracting maneuver
Regional disturbances	**Weakness:** Ask the seated patient to dorsiflex his feet or flex his hip and to hold that position against your resistance	Cogwheel (sudden giving-way) weakness that cannot be explained on a neurologic basis
	Sensory: Use a pin or tuning fork to test senses in legs and feet	Sensory loss that does not correspond to neural dermatomes
Overreaction	Observe the patient's demeanor during the physical examination	Disproportionate facial expression, verbalization, or tremor

*The presence of three or more inappropriate responses suggests complicating psychosocial issues in patients with low back pain

SOURCE: ADAPTED FROM WADDELL ET AL, REFERENCE 9

have problems at work. A study of aircraft workers found that people who did not like their jobs were 2.5 times more likely to report low back pain.[7]

Some simple tests and observations can help identify psychosocial issues at the first visit.

The "pain diagram." We ask the patient to mark the location and nature of the pain on a standard outline of the human body.[8] Certain patterns (markings outside the figure, patterns that no anatomic defect could possibly explain) indicate that psychosocial issues could be present (FIGURE 1).

Waddell's nonorganic physical signs. In this test, the physician performs five maneuvers or observations and subjectively assesses the patient's response to each of them (TABLE 1).[8,9] If the patient shows abnormal or exaggerated responses to three or more of the five maneuvers, he or she may have psychosocial barriers to recovery.

Disproportionate pain. Does the patient report an inordinate amount of pain for the amount of disability you can observe?

The possibility of litigation. Ask the patient, "Who caused your back pain? How did this happen?" Does the patient have an attorney? If so, the likelihood of secondary gain from persistent back symptoms may frustrate all therapeutic efforts.

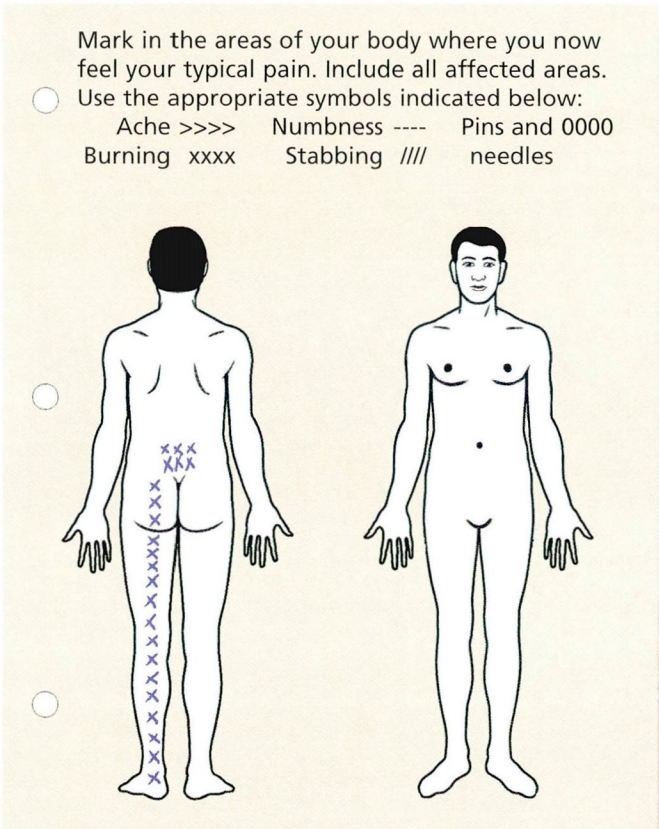
TREATING BACK PAIN

Treatments for low back pain vary across the world and even across the United States. In the state of Washington, there was a 15-fold variability across the state's counties in the rate of spinal surgeries. The US rate of spinal

FIGURE 1

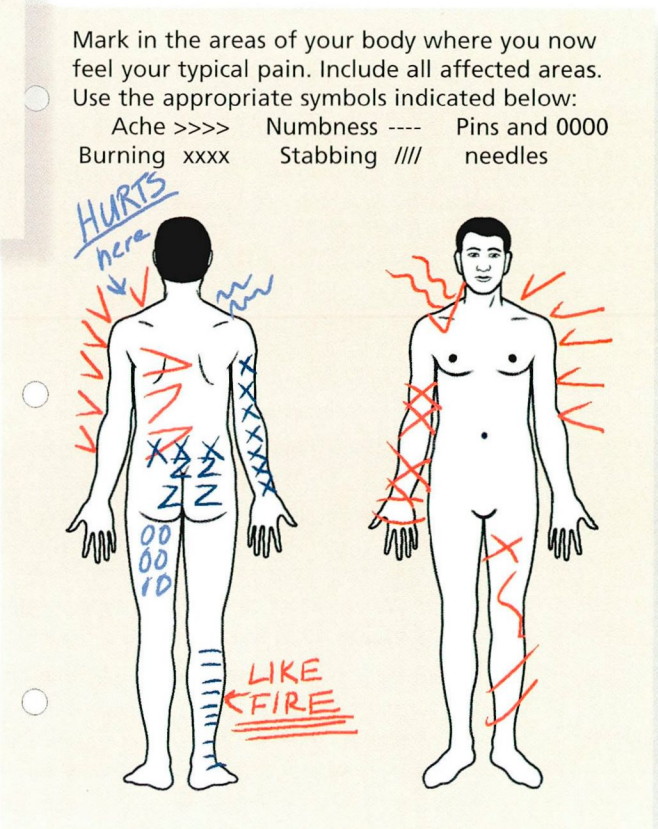
Using the pain drawing to detect nonorganic back pain

By asking patients with back pain to mark a simple form, physicians can learn not only the location and nature of the pain, but also whether the pain is primarily organic (ie, caused by an actual anatomic abnormality) or complicated by significant nonorganic (psychosocial) issues.



Organic back pain

(**LEFT**) has an anatomically plausible distribution. The pattern shown is typical of radiculopathy. Note that the patient used only one type of mark and confined the marks to the inside of the drawing.



Nonorganic back pain

(**RIGHT**) is suggested by several clues:

- Widespread pain
- Nonanatomic pattern of distribution
- Pain extending to the front of the body
- Multiple symbols used
- Marking outside the drawing
- Annotations, arrows, explanatory notes

surgeries is five times higher than in the United Kingdom and three times higher than in Sweden.

Once radiculopathy and serious causes of acute back pain have been ruled out, there are four general principles to follow.

Prolonged rest does not improve outcome and promotes deconditioning

Get the patient out of bed. Prolonged rest does not improve outcome and promotes deconditioning.[4,5]

Encourage physical activity, instead of passive therapies such as massage or ultrasound treatments. Exercise programs are available, but patients may fare just as well by continuing their normal activities, with appropriate caution.

Give nonnarcotic analgesics as needed so that patients can resume their physical activities. The role of muscle relaxants is at best marginal and short-term.

Educate the patient as to what is appropriate in the diagnostic approach (eg, that magnetic resonance imaging does not show the cause of the pain in most cases) and what he or she can expect from treatment. Explain that the source of the pain is often not clear and that imaging findings have questionable significance.

WHAT IF THE PATIENT DOESN'T GET BETTER?

If a patient does not get better within 1 month, it is time to ask oneself:

- Was the initial diagnosis correct?
- Are additional diagnostic studies now appropriate?
- Was therapy appropriate, or was it too passive?
- Are there previously unrecognized psychosocial barriers to recovery? If the patient has been in bed for 4 to 6 weeks and has not gone back to work, there may be some underlying psychosocial or secondary gain issues. Whatever the reason, such passivity can clearly delay recovery and needs to be addressed.

Rehabilitation should be considered in persons who do not make progress as you would expect in 4 to 6 weeks. Also make an effort to sort out the psychosocial issues. Some patients may benefit from a sports-medicine approach, with aerobic exercise and weight training.

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Is intensive glycemic control worth the expense?

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IN 1993 THE LANDMARK Diabetes Control and Complications Trial (DCCT) demonstrated that patients with type I diabetes could delay the onset of complications by carefully controlling their serum glucose levels.[1]

However, such a regimen is expensive, since it requires more physician visits, patient education, and health status monitoring than