



Learning Objectives

After reading this *CME Bulletin*, you should be able to:

- Understand common misconceptions about the diagnosis and management of acute and subacute low back pain.
- Conduct a focused, evidence-based medical history and physical examination to help place patients in appropriate diagnostic categories.
- Help patients choose appropriate treatment options.
- Determine when referral for interventional or surgical therapy is warranted.
- Provide follow-up care for patients who have been referred for interventional or surgical therapy.

Caring for Patients Who Have Acute and Subacute Low Back Pain

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Disclosure statements: Dr. Herring returned a disclosure form indicating that he is on the Spine Scientific Advisory Board for UnitedHealth Group. His disclosure information was reviewed for potential conflict of interest and this was resolved prior to confirmation of his participation. Dr. O'Connor, Dr. Bagley and Ms. Gaunt returned disclosure forms indicating that they have no financial interest in or affiliation with any commercial supporter or providers of any commercial services discussed in this educational material.

Introduction

Low back pain (LBP), defined as pain in the lumbar segment of the spine, affects one in five adults each year.^{1,2} It is the most frequent cause of activity limitation in people younger than 45 years of age,^{2,3} and the most common reason for work-related disability in the United States.⁴

Acute LBP (pain that lasts six weeks or fewer) and subacute LBP (pain that lasts six to 12 weeks) account for 90 percent of cases.¹ Although acute and subacute episodes of LBP rank among the five most common reasons for all visits to physicians in the United States,^{5,6} a specific pathoanatomical cause cannot be determined in at least 85 percent of patients.^{1,4} While it may be difficult to establish a clear diagnosis, the prognosis for acute and subacute episodes of LBP is favorable,⁶ and, although some recurrent or residual pain is not uncommon, most patients can function well. Patients who have acute or subacute LBP usually do not need specific treatment,¹ and pain and disability generally resolve or show significant improvement within four to 12 weeks. In approximately 5 percent to 15 percent of cases, however, a specific cause of LBP can be identified and treated accordingly.¹ A careful medical history and physical examination and proper use of diagnostic imaging can identify or exclude serious pathologies such as infections, tumors, fractures and surgical emergencies.

Acute and subacute LBP are the focus of this *Bulletin*. LBP that persists for longer than 12 weeks is considered chronic.¹ More information about the evaluation and management of chronic LBP is available at <http://www.aafp.org/cmebulletin/lbp>.

Diagnosis

Evaluation of the patient who has acute or subacute LBP should consist of a careful medical history and physical examination, including assessment of "red flag" signs and symptoms (see *Table 1*). The

goal should be to place the patient in one of the following three broad diagnostic categories:

- nonspecific LBP, or pain with no specific pathoanatomical diagnosis;
- back pain potentially associated with radicular symptoms (pain or tingling in a spinal nerve distribution), radiculopathy (sensory loss, weakness, reflex change) or spinal stenosis (neurogenic claudication); or
- back pain potentially associated with another specific spinal cause, which might include patients who have higher risk factors for cancer, infection or cauda equina syndrome.⁶

These diagnostic categories are helpful in determining the need for further investigation and the most appropriate course of treatment.

Medical History

A focused medical history of the patient who has acute or subacute LBP can help identify the presence of red flags, which should prompt further investigation or referral for surgical evaluation (see *Table 1*). In addition to basic information such as age, gender, comorbidities and family history, information about the patient's social and occupational history should be included. Questions about the onset, location, duration, intensity and frequency of pain, any past episodes of LBP, and, if applicable, response to past treatments should be covered. Bladder or bowel dysfunction may indicate neurologic deficits. Pain that is caused or exacerbated by specific activities, such as sitting, lifting, twisting or bending, could be a sign of disk herniation, which may require further evaluation.⁷

Because the primary goals in treating LBP include not only pain relief, but also restoration of mobility and function, it is important to inquire about the patient's ability to perform daily activities. For

Table 1. Red Flag Findings and Indications for Further Evaluation

Red flag findings in medical history or physical exam	Possible cause	Imaging and referral
<ul style="list-style-type: none"> ■ History of cancer ■ Unexplained weight loss ■ Multiple risk factors ■ Age greater than 50 years ■ Resting or night pain 	Cancer	Lumbosacral plain radiography, advanced imaging, such as MRI or CT scan, and proper referral as indicated
<ul style="list-style-type: none"> ■ Fever ■ Intravenous drug use ■ Recent infection 	Spinal (vertebral or disk) infection	Advanced imaging, such as MRI or CT scan, and referral for surgical evaluation as indicated
<ul style="list-style-type: none"> ■ Urinary retention ■ Motor deficits at multiple levels ■ Fecal incontinence ■ Saddle anesthesia 	Cauda equina syndrome	Emergent surgical consultation
<ul style="list-style-type: none"> ■ History of osteoporosis ■ Use of corticosteroids ■ Age greater than 50 years ■ Recent trauma 	Vertebral compression fracture	Lumbosacral plain radiography and advanced imaging, such as MRI or CT scan, as indicated
<ul style="list-style-type: none"> ■ Abdominal pulsating mass 	Abdominal aneurysm	Abdominal ultrasound and emergent surgical consultation
<ul style="list-style-type: none"> ■ Significant weakness (grade 3/5 or less) on presentation ■ Progressive muscle weakness (e.g., muscle grading from 4/5 to 3/5). 	Significant herniated disk	Advanced imaging, such as MRI or CT scan, as indicated and prompt surgical consultation

MRI = magnetic resonance imaging; CT = computed tomography.

Information from references A and B.

instance, asking the patient if he or she is able to perform his or her job duties or regular exercise routine, or whether LBP prevents him or her from sleeping at night might help to identify red flags and guide the treatment plan.

Physical Examination

The physical examination of the patient who has acute or subacute LBP should help confirm pain generators already suspected based on the patient's medical history. A thorough physical examination includes observation, palpation and range of motion evaluation.

Observation of the patient's posture, gait and muscle symmetry might help identify signs of scoliosis, leg length asymmetry, pelvic obliquity or neurologic deficits. Inspection of the skin might reveal signs of infection, such as herpes zoster.³ Palpation of the area of the spine may help identify possible fractures or muscle spasm; palpation of the sciatic notch might be helpful in the identification of tenderness with radiation to the leg, which could point to nerve irritation.^{8,9}

In order to identify the region of dysfunction, evaluation of the patient's range of motion should take into consideration both the quality and quantity of movement.¹⁰ Range of motion evaluation includes forward and backward flexion and extension, lateral flexion and lateral rotation of the upper torso. Normal lumbosacral rhythm is demonstrated when, upon flexion, the normal lumbar lordosis gently straightens or reverses with progressive flexion. In an abnormal lumbosacral rhythm pattern, fixed lordosis with flexion is observed, suggesting possible underlying spinal pathology.

The physical examination should also include evaluation of the lower extremities to look for signs of neurologic impairment, which

can be assessed by testing strength, sensation and reflexes. Functional tests such as heel walking, single-leg toe rises, and getting down into and rising from a squatted position can be very helpful in the identification of neurologic impairment.^{8,9} Straight leg raise (SLR) testing, or passive flexion of a straight leg, can be performed in a seated or supine position and should be included in the assessment of all patients who have LBP. Radicular pain that is produced below the popliteal fossa when the leg is raised at an angle of 30 degrees to 60 degrees between the bed and the leg is considered positive for possible disk herniation. Pain that is generated or increased by the full extension of the knee or dorsiflexion of the ankle in a SLR test may also be a sign of nerve irritation.^{8,9} If a patient's medical history suggests a red flag diagnosis, additional physical examination components (e.g., abdominal exam, digital rectal exam or assessment for saddle anesthesia) may be helpful.

Psychosocial Factors

Table 2 lists "yellow flags" that may be identified in the medical history and physical examination. Yellow flags are psychosocial factors that, when more than one is present, are strong predictors of chronicity and poor patient outcomes in terms of pain and disability.^{6,8,11} During the physical examination of a patient who has LBP, the physician may observe nonorganic physical signs, commonly referred to as Waddell's signs (see Table 2). These signs suggest significant psychosocial distress; they

should not necessarily be interpreted as signs of malingering.⁸

Recognizing and dealing with psychosocial factors early in the treatment of patients who have acute or subacute LBP may give family physicians a better chance of targeting interventions that might improve patient outcomes and decrease the risk of disability. Identifying factors that may result in poor patient adherence might help the family physician plan treatment that is most likely to succeed. One trial found that an interdisciplinary approach, which might include pharmacologic and nonpharmacologic therapies, has been shown to be more effective than usual care in the treatment of patients who are at higher risk for chronic LBP and disability.⁶

A brief psychosocial screening might consist of questions asked during the patient's visit or a questionnaire provided prior to the patient's exam. For evaluative tools on psychological risk factors, visit <http://www.aafp.org/cmebulletin/lbp/yellowflags>.

Case Presentation 1: Ted, a 35-year-old man who works at the local home and garden center, strained his back three days ago while loading some plants. He tells his physician that he has been using a local heat wrap and ibuprofen (Motrin, Advil) 800 mg four times a day without relief. Ted denies any history of LBP, bowel or bladder dysfunction, radicular pain or weakness. A careful physical examination reveals limited flexibility and range of motion, with an abnormal lumbosacral rhythm. Ted is locally tender over the right (R) paraspinal muscles; there is no lumbar shift. The lower extremity neurologic examination is otherwise within normal limits and shows a negative SLR test. Ted asks his physician whether he should initiate disability paperwork at this time.

Table 2. Yellow Flag Findings in the Medical History and Physical Examination**Belief Systems**

- Fear avoidance behavior (avoidance of activities caused by fear of increased pain)
- Expectation of increased pain with return to work or normal activity
- Catastrophizing (excessive focus on pain and feeling of helplessness to control pain)
- Passive attitude to rehabilitation

Affective Factors

- Poor work history or unsupportive work environment
- Poor adherence to exercise
- Withdrawal from activities of daily living
- History of substance abuse
- Depression
- Irritability
- Anxiety
- Disinterest in social activity
- History of physical or sexual abuse

Comorbidities

- Impaired sleep because of pain
- History of other disabling injuries or conditions

Waddell's Signs (Nonorganic Signs of LBP)

- Pain on simulated tests for axial loading
- Nonanatomical tenderness/superficial tenderness
- Overreaction during physical examination
- Straight leg raise (SLR) that improves with distraction
- Regional weakness or sensory changes

Information from references C and D.

Evaluative tool available at <http://www.aafp.org/cmebulletin/lbp/yellowflags>.

Fact or Fallacy: Ted's family physician should encourage Ted to work with his employer to initiate a disability claim.

Fallacy: Ted's medical history and physical examination do not indicate any risk factors for serious pathology, and his LBP appears to be a straightforward case of musculoskeletal pain. Ted's physician knows that the risk of reinjury does not increase when patients who have LBP return to work and that advising patients to remain at work can help decrease missed workdays, chronic pain and disability.¹² He encourages Ted to remain active and advises that any work absence should be brief. He also agrees to contact Ted's employer to recommend a short period of modified duty, if necessary.

Ted's favorable medical history, the work-related injury and his inquiry about disability papers alert his physician to the possible presence of yellow flags. Ted's physician conducts a brief psychosocial screening and then develops a comprehensive treatment plan with the goal of keeping Ted active and functioning while managing his pain.

Diagnostic Imaging

Diagnostic imaging tests frequently serve to reassure patients who have LBP and their physicians that serious pathology is absent. However, while randomized studies have shown that lumbar radiography is associated with greater patient satisfaction,^{13,14} evidence shows that routine plain radiography in patients who have nonspecific LBP does not lead to greater improvement in outcomes than selective imaging.⁶ Additionally, as previously noted, the etiology of LBP cannot be determined in most patients. Even if it were possible to reach a specific pathoanatomical diagnosis in these cases, evidence suggests that it would not

necessarily lead to improved outcomes.⁶ A randomized controlled trial with 421 patients who had LBP for an average duration of 10 weeks revealed that 80 percent of the participants would have preferred to have lumbar radiography if given the choice. However, no significant difference in outcomes was noted when the group of participants who did not receive lumbar radiography was compared with the group of participants who received radiography and in whom abnormal findings were identified.¹⁵

Studies of asymptomatic subjects who have undergone diagnostic imaging have shown that disk herniations, bulging disks and disk degeneration are common findings.^{3,16} One study that involved performing magnetic resonance imaging (MRI) examinations on 98 asymptomatic individuals revealed that 38 percent of the subjects had some type of abnormality of more than one intervertebral disk. The MRI scans also identified bulging disks (52 percent of subjects), disk protrusions (27 percent of subjects) and disk extrusions (1 percent of subjects).¹⁷ Another study performed MRI examinations on 67 individuals who had never experienced LBP. The findings revealed that 57 percent of subjects had some kind of abnormality, including disk herniation (36 percent of subjects) and spinal stenosis (21 percent of subjects).¹⁸ The high incidence of these findings in subjects who do not have LBP indicates that such abnormalities do not always cause pain. Given that the anomalies found may be coincidental and unrelated to pain, the decision to order early diagnostic imaging tests could result in misleading conclusions and lead to unnecessary interventions, potentially resulting in poor patient outcomes.^{16,19}

Additionally, unnecessary exposure to ionizing radiation should be avoided, especially in young female patients for whom the gonadal radiation effects of a single plain lumbar radiograph (two views) are equivalent to the effects of having a daily chest radiograph for several years.⁴

Therefore, in most cases, a reasonable approach is to educate the patient who has acute or subacute LBP about the appropriate role of diagnostic imaging tests, while managing expectations regarding the use of such tests. The physician should also provide reassurance about the generally favorable prognosis for patients who experience acute and subacute LBP.

In cases in which there is reason to believe a serious underlying condition is likely, it is appropriate to refer the patient who has acute or subacute LBP for radiographs, other advanced diagnostic imaging tests or surgical evaluation. Plain radiographs are a reasonable diagnostic option in:

- patients who have a history of osteoporosis or steroid use and whose initial evaluation shows signs of possible fractures,
- patients who have experienced recent trauma, or
- patients who have nonspecific LBP that lasts longer than six weeks and does not show improvement with conservative care.^{6,20}

Referral for surgical evaluation and advanced imaging is recommended if signs or symptoms of severe or progressive neurologic deficits are present, or if a serious condition such as vertebral or disk infection, abdominal aneurysm, cauda equina syndrome or malignancy with neurologic symptoms is suspected. MRI is usually the preferred diagnostic option if available, but computed tomography (CT) scan is also acceptable. These imaging modalities are more accurate than radiography in the detection of tumors and infection.^{4,6,20}

Patients who have radicular pain or radiculopathy do not need to be referred for surgical evaluation or undergo diagnostic imaging on an emergent basis unless signs or symptoms of cauda equina syndrome are present (see *Table 1*). Radicular pain and

radiculopathy tend to improve with conservative care within four to six weeks in most patients. Advanced diagnostic imaging is appropriate in patients who have radicular pain or painful radiculopathy that has not resolved or shown improvement after four to six weeks of conservative therapy. In patients who are 50 years of age or older and who have radicular pain and signs of neurologic deficits, a diagnosis of spinal stenosis should be considered⁴; the same imaging guidelines used for patients younger than 50 years of age should be followed.

Fact or Fallacy: In Case Presentation 1, Ted's physician should order lumbar radiologic imaging to identify the etiology of his LBP in order to provide an accurate diagnosis and determine an appropriate course of treatment.

Fallacy: Ted's medical history and physical examination indicate that his LBP is probably of a musculoskeletal nature. There are no indications of neurologic deficits or a serious underlying cause. For patients who have nonspecific LBP and for whom red flags are absent, routine imaging or other diagnostic tests are not recommended upon the initial visit.⁶

Management

Several treatments are available for patients who have acute or subacute LBP. In patients who do not have any risk factors for serious pathology or any indications of psychosocial factors, treatment should focus on relieving pain and improving function so that normal daily activities can be resumed as soon as possible. Prompt management, including further diagnostic tests and possible referral for surgical consultation, is recommended for patients whose medical history and physical exam indicate the presence of red flags (see *Table 1*). In such cases, delays in diagnosis and treatment are associated with poorer patient outcomes.⁶ If yellow flags (see *Table 2*) are identified, prompt management is also warranted as it may help limit the development of chronic LBP and disability.

Case Presentation 2: Mike is a 29-year-old man who works as a luggage handler at the airport and has a long history of LBP. He tells his physician that, while working during the past weekend, he developed acute pain and tingling that radiates down his right leg to the lateral border of his foot. A physical examination reveals that Mike has limited flexibility and range of motion with an abnormal lumbosacral rhythm. Mike is locally tender over bilateral paraspinal muscles; lumbar shift is present. The lower extremity examination demonstrates diminished (R) Achilles reflex and difficulty with repetitive (R) toe rises. Mike's SLR test in supine and seated positions is positive on the (R) side. Mike tells his physician that his pain is severe and is preventing him from performing his job duties.

Mike's medical history does not indicate any risk factors for serious pathology. His physical examination reveals signs of radiculopathy; however, Mike's physician knows that even patients who have mild, nonprogressive motor weakness or loss of reflex (e.g., Achilles reflex) are likely to show improvement over time with conservative therapy⁴ and that sensory changes in a radicular distribution do not necessarily warrant early referral or immediate advanced imaging. Although his pain is severe, Mike does not show signs of bilateral radiculopathy, saddle anesthesia, bladder or bowel dysfunction, progressive neurologic deficit or significant muscle weakness.

Practice Recommendation: Physicians should conduct a focused history and physical examination to help place patients who have low back pain into one of three broad categories: nonspecific low back pain, back pain potentially associated with radicular pain, radiculopathy or spinal stenosis, or back pain potentially associated with another specific spinal cause. The history should include assessment of psychosocial risk factors, which predict risk for chronic disabling back pain.⁶



Practice Recommendation: Physicians should not routinely obtain imaging or other diagnostic tests in patients who have acute nonspecific back pain.⁶

Practice Recommendation: Physicians should perform diagnostic imaging and testing for patients who have low back pain when severe or progressive neurologic deficits are present or when serious underlying conditions are suspected on the basis of history and physical examination.⁶

Practice Recommendation: For patients who have low back pain, physicians should consider the use of medications with proven benefits in conjunction with back care information and self-care. Physicians should assess severity of baseline pain and functional deficits, potential benefits, risks, and relative lack of long-term efficacy and safety data before initiating therapy.⁶

Available at: <http://www.annals.org/cgi/content/full/147/7/478>

Strength of evidence: Strong recommendation, moderate-quality evidence

Pharmacologic Therapy

Acetaminophen and oral nonsteroidal anti-inflammatory drugs (NSAIDs) are recommended as first-line treatment to help relieve pain in patients who have acute or subacute radicular symptoms and nonspecific LBP.^{3,6,21} Acetaminophen has been shown to provide slightly weaker analgesia when compared with NSAIDs, but it is a low-cost alternative with fewer side effects.⁶ Nonselective NSAIDs are associated with gastrointestinal, renal and hepatic side effects, but provide greater pain relief. Cyclooxygenase-2 inhibitors, or COX-2 inhibitors, which have also been recommended in the initial treatment for acute and subacute LBP,³ have fewer gastrointestinal side effects when compared with certain nonselective NSAIDs.²² However, recent evidence suggests that selective COX-2 inhibitors can increase a patient's risk for cardiovascular events. More studies are necessary to determine whether the findings for selective COX-2 inhibitors are also relevant for nonselective NSAIDs. The benefits, side effects and risks for each individual patient must be carefully evaluated; the safest strategy is to employ NSAIDs and COX-2 inhibitors in the lowest possible dosage, for as short a period of time as possible.^{6,23,24} While anecdotal case reports suggest that systemic corticosteroids may be helpful for patients who have acute radicular pain, evidence to support their use is inconclusive.^{6,25}

Muscle relaxants have been shown to be beneficial in the treatment of nonspecific LBP, particularly when used during the first two weeks of treatment; effectiveness of these agents in patients who have radicular pain is less clear. There is some evidence that the benefits of muscle relaxants may be improved when these agents are used in conjunction with NSAIDs. The sedative side effects of muscle relaxants must be weighed against possible benefits.^{3,6,25}

Although a short course of treatment with a benzodiazepine can be helpful in cases of severe pain and muscle spasm associated with acute LBP,²¹ these medications can produce significant physical and psychological dependence, and their long-term use

is discouraged.²⁶ Benzodiazepines are not approved by the U.S. Food and Drug Administration (FDA) for the treatment of LBP with or without radiculopathy.⁶

Short-term opioid therapy has been shown to be effective in the treatment of moderate to severe back pain in selected patients, including those who have radicular pain, but this therapy should be discontinued if pain is unresponsive to treatment or if the patient's function does not improve. Dosages should be tailored to each patient individually, and opioid therapy should be administered on a time-limited basis for one to two weeks. Potential risks of abuse, addiction and other adverse effects must be weighed against possible benefits.^{3,6,21} In patients who have subacute LBP, and particularly in those who present with radicular components, a tricyclic antidepressant or an anticonvulsant (i.e., gabapentin [Neurontin]) may be of benefit to relieve neuropathic pain and to improve sleep.^{3,6} However, gabapentin is not approved by the FDA for the treatment of LBP with or without radiculopathy.

In Case Presentation 2, Mike tried an over-the-counter analgesic, like most patients who have LBP do, before scheduling an appointment with his physician. When asked about medications taken for his LBP, Mike says he has taken acetaminophen 500 mg four times a day for the last four days but has not had any relief. After reviewing the results from Mike's medical history and physical examination, and after performing a brief psychosocial screening, his physician decides to prescribe a short-acting opioid as a component of treatment, given the disabling nature and severity of the pain. A follow-up visit is scheduled in one week. If Mike's pain is still severe or if his function has not shown improvement by then, his physician will reassess Mike's course of therapy and decide whether watchful waiting, an MRI, physical therapy, or referral to a specialist for epidural steroid injections or surgical evaluation is warranted.

Nonpharmacologic Therapy

Fact or Fallacy: Along with pharmacologic therapy, one to two weeks of bed rest would help promote relief for Mike's LBP.
Fallacy. While two to three days of limited bed rest may

promote improvement of symptoms in patients who have acute radiculopathy, several studies have shown that long periods of bed rest are not beneficial for acute or subacute LBP.²⁷ Activity modification allows the patient who has nonspecific LBP or radicular symptoms to remain active without performing activities that might aggravate pain. This is the preferred recommendation, as it has been shown to lead to a more rapid recovery than bed rest.^{5,11}

Several nonpharmacologic therapies have been used in the treatment of acute and subacute LBP, although there is limited evidence to support their effectiveness. Superficial heat and cold are commonly used in the treatment of LBP. While there is good evidence to support the use of superficial heat to provide muscle relaxation and analgesia with moderate effects for acute LBP,^{5,28} evidence to support the use of ice in the treatment of LBP is inconclusive.²⁹ There is fair evidence to indicate that a short course of spinal manipulation can have minor to moderate effects on acute and subacute nonspecific LBP.²⁸ In patients who have subacute LBP, two to six sessions of physical therapy may be helpful for pain control, patient education and initiation of an activating exercise program. Other therapies, such as cognitive behavioral therapy and intensive exercise therapy, have also been shown to be associated with moderate effects in patients who have subacute LBP.²⁸

So-called "back schools," interferential therapy, low-level laser therapy, lumbar supports, traction and ultrasound have not been shown to be effective in the treatment of acute or subacute LBP.²⁸ Evidence to support the use of acupuncture in the treatment of acute or subacute LBP is inconclusive.²⁸

In Case Presentation 2, Mike's physician instructs him on activities of daily living (e.g., best positions for getting in and out of bed), as well as home use of modalities such as heat or ice. While Mike's physician tells him that he may rest for comfort as necessary, he also advises Mike that strict bed rest is not recommended.

Interventional and Surgical Therapy

Referral to a subspecialist for a series of one to three fluoroscopically guided epidural steroid injections may benefit patients who have radicular pain or painful radiculopathy that has not

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resolved or shown improvement after four to six weeks of conservative therapy. A series of three epidural steroid injections may not be necessary; individual patient needs should be evaluated on a case-by-case basis. Epidural steroid injections should be preceded by advanced diagnostic imaging, such as MRI or CT scan, and are most effective when used as a part of a comprehensive treatment plan that might include physical therapy and medication.²³

Despite the high rates of spinal surgery in the United States, evidence shows that only a small number of patients who have acute or subacute LBP will benefit from surgical therapy. Emergent referral for surgical evaluation is appropriate for the following:

- Patients whose medical history and physical examination reveal possible signs of cauda equina syndrome or abdominal aneurysm, as described earlier in this *Bulletin*.
- Patients who show significant progressive neurologic deficits.⁵ Prompt referral for surgical evaluation is appropriate, but not necessarily emergent, for the following:
- Patients whose medical history and physical examination reveal possible signs of spinal (vertebral or disk) infection or malignancy, as described earlier in this *Bulletin*.

Patients who have persistent radicular pain that is unresponsive to conservative therapy⁵ after six to 12 weeks and patients who have uncontrollable radicular pain that is associated with a herniated disk may also need to be referred for surgical consultation.

Follow-up Care

Whether referring patients for nonoperative, interventional or surgical therapy, it is advisable to choose health care providers who practice comprehensive care, which may help improve outcomes. Additionally, ongoing communication with the specialist and others involved and interested in the patient's health and well-being (e.g., physical therapists, family members) is recommended to define specific roles in the patient's follow-up care. These discussions, which may include management of medications and additional therapies, as well as return-to-work issues and disability, may help decrease the likelihood of chronicity.

Communication with the patient's employer can also help promote a good employee-employer relationship and give the physician access to information about the patient's job duties. On the basis of this knowledge, the physician may decide whether requesting short-term duty modification is necessary to decrease missed workdays.⁸ Scheduling follow-up visits to check on the patient's progress, answer any lingering questions and provide patient support may also help promote better patient outcomes.

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Next Issue: Chronic Back Pain

CMEBulletin

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CME Bulletin is published by the American Academy of Family Physicians, 11400 Tomahawk Creek Parkway, Leawood, Kansas 66211-2672 www.aafp.org

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Self-Assessment Quiz

- Which one of the following statements about low back pain (LBP) is true?
 - A specific pathoanatomical cause cannot be determined in at least 85 percent of patients who have LBP.
 - Acute LBP (pain that lasts six weeks or fewer) and subacute LBP (pain that lasts six to 12 weeks) account for fewer than 50 percent of cases of LBP.
 - In most cases, the prognosis for a patient who has acute LBP is not favorable unless he or she receives specific treatment.
 - Activity limitation due to LBP is primarily a concern among older adults.
- Which one of the following statements about the evaluation of acute and subacute LBP is true?
 - Routine diagnostic imaging is recommended for all patients who have acute and subacute LBP.
 - In patients who have LBP, "yellow flag" findings, such as pain on simulated tests for axial loading and nonanatomical or superficial tenderness, are definitive signs of malingering.
 - A straight leg raise (SLR) test, which is recommended in the evaluation of all patients who have LBP, can be performed in a seated or supine position.
 - Waddell's signs can help the family physician identify the presence of "red flags" that may require further diagnostic evaluation.
- Which one of the following statements regarding the management of acute and subacute LBP is true?
 - Immediate referral for fluoroscopically guided epidural injections is warranted in patients who have radicular pain.

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- Nonpharmacologic therapies such as "back schools," interferential therapy, lumbar supports and ultrasound have been shown to be effective in the treatment of acute and subacute LBP.
 - Because of potential risks of abuse, addiction and adverse side effects, short-term opioid therapy is never recommended in the treatment of patients who have acute or subacute LBP.
 - Emergent referral for surgical evaluation is warranted in patients whose medical history and physical examination indicate possible signs of cauda equina syndrome.
- Which one of the following red flags requires emergent referral for surgical evaluation when identified in the medical history or physical examination of a patient who has acute or subacute LBP?
 - Urinary retention
 - History of osteoporosis
 - Decreased Achilles reflex
 - Recent trauma
 - Acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs) are recommended as first-line treatment for pain relief in patients who have acute or subacute radicular symptoms and nonspecific LBP.
 - True
 - False

Answers: 1.A, 2.C, 3.D, 4.A, 5.A

Vol. 7/No. 2 • February 2008 • Caring for Patients Who Have Acute and Subacute Low Back Pain • Web site: <http://www.aafp.org/cmebulletin>

CME Bulletin Evaluation / Self-Assessment Quiz Answer Sheet

Note: On this scale, 5 is the highest rating, 1 is the lowest.

Relevance of topic to my practice	5	4	3	2	1
Currency of clinical information	5	4	3	2	1
Usefulness of clinical information	5	4	3	2	1
Overall rating	5	4	3	2	1
What changes will you make to your practice based on this information?					

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- | | |
|------------|------------|
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| 2. A B C D | 5. A B |
| 3. A B C D | |

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