

## Federal Low Back Pain Guidelines Released

AHCPR GUIDELINES RECOMMEND MANIPULATION, DISCOURAGE SURGERY

Editorial Staff

The long awaited low back pain guidelines were officially released by the Agency for Health Care Policy and Research (AHCPR) at a December 8, 1994 press conference attended by all of the major media, despite rumors of a surgical company threatening a lawsuit if the guidelines were released.

For chiropractors, the most important finding of the multidisciplinary panel was that "manipulation can be helpful for patients with acute low back problems without radiculopathy when used within the first month of symptoms." The panel recommended that if no symptomatic improvement results (i.e., increased function) after one month of manipulative treatments, manipulation should be stopped and the patient re-evaluated.

The clinical guidelines were produced by a 23-member panel chaired by Stanley Bigos, MD. Representing chiropractic were Scott Haldeman, DC, MD, PhD, and John Triano, MA, DC. The panel also included: 10 MDs; two members each from the osteopathy, physical therapy, and nursing professions; two PhDs; an occupational therapist, and a consumer representative.

The guidelines are restricted in scope to the assessment and treatment of adults with acute low back problems. Acute is defined as back pain or discomfort lasting a few days to several weeks. An episode lasting longer than three months is no longer acute, but chronic.

The panel made these principal conclusions:

- The initial assessment of patients with acute low back problems focuses on the detection of "red flags" (indicators of potentially serious spinal pathology or other nonspinal pathology).
- In the absence of red flags, imaging studies and further testing of patients are not usually helpful during the first four weeks of low back symptoms.
- Relief of discomfort can be accomplished most safely with nonprescription medication and/or spinal manipulation.
- While some activity modification may be necessary during the acute phase, bed rest longer than four days is not helpful and may further debilitate the patient.
- Low-stress aerobic activities can be safely started in the first two weeks of symptoms to help avoid debilitation; exercises to condition trunk muscles are commonly delayed at least two weeks.
- Patients recovering from acute low back problems are encouraged to return to work or their

normal daily activities as soon as possible.

- If low back symptoms persist, further evaluation may be indicated.
- Patients with sciatica may recover more slowly, but further evaluation can also be safely delayed.
- Within the first three months of low back symptoms, only patients with evidence of serious spinal pathology or severe, debilitating symptoms of sciatica, and physiologic evidence of specific nerve root compromise corroborated on imaging studies can be expected to benefit from surgery.
- With or without surgery, 80 percent of patients with sciatica eventually recover.
- Nonphysical factors (i.e., psychological or socioeconomic) may be addressed in the context of discussing reasonable expectations for recovery.

According to the AHCPR, the guidelines are "systematically developed statements to assist practitioner and patient decisions about appropriate health care." The guidelines were developed with a critical and extensive literature review and evaluation of the empirical evidence. Peer and field review evaluated the validity, reliability, and utility of the guidelines in clinical practice. The panel's recommendations are primarily based on the published scientific literature, and where the scientific literature was incomplete or inconsistent, the "recommendations reflect the professional judgment of panel members and consultants."

The Agency for Health Care Policy and Research was born with the Omnibus Budget Reconciliation Act of 1989. Its mission: to enhance the quality, appropriateness, and effectiveness of health care services and access to them. The AHCPR guidelines will likely be considered the highest authority by third-party payers and the courts.

The need for low back guidelines is clear, with nearly 50 percent of all working age people experiencing low back symptoms. It is the most common disability for persons under age 45, and the most common reason for primary care office visits. Estimates of the cost of back problems ranges between \$20 and \$50 billion.

There is increasing evidence that inappropriate treatment is given to low back pain sufferers. Rates for surgery and hospitalization for low back problems vary greatly regionally, and some patients are more disabled after treatment than before. The guidelines say surgery is the "most obvious example":

"Despite an extensive medical literature on 'failed back surgery' and evidence that repeat surgical procedures for low back problems rarely lead to improved outcome, there are documented examples of patients who have had as many as 20 spine operations."

The guidelines rate treatment and diagnostic procedures on three different cost levels:

1. Low cost: under \$200
2. Moderate cost: \$200 to \$1,000
3. High cost: over \$1,000

#### Panel Ratings

The panel rated available evidence supporting guideline statements on a grade-scale A to D:

A = Strong research-based evidence (multiple relevant and high-quality scientific studies).

B = Moderate research-based evidence (one relevant, high-quality scientific study or multiple adequate scientific studies\*).

C = Limited research-based evidence (at least one adequate scientific study\* in patients with low back pain).

D = Panel interpretation of information that did not meet inclusion criteria as research-based evidence.

- Met minimal formal criteria for scientific methodology and relevance to population and specific method addressed in guideline statement.

#### Summary of Conclusions

The guidelines represent the panel's assessment of a method's potential to achieve the intended assessment or treatment goals, balanced against its potential harms and costs. This is a summary of the particular guideline conclusions:

#### Patient History

- Information about the patient's age, the duration and description of symptoms, the impact of symptoms on activity, and the response to previous therapy are important in the care of back problems. (Strength of Evidence = B)
- Inquiries about history of cancer, unexplained weight loss, immunosuppression, intravenous drug use, history of urinary infection, pain increased by rest, and presence of fever are recommended to elicit red flags for possible cancer or infection. Such inquiries are especially important in patients over age 50. (Strength of Evidence = B)
- Inquiries about signs and symptoms of cauda equina syndrome, such as a bladder dysfunction and saddle anesthesia in addition to major limb motor weakness, are recommended to elicit red flags for severe neurologic risk to the patient. (Strength of Evidence = C)
- Inquiries about history of significant trauma relative to age (for example, a fall from height or motor vehicle accident in a young adult or a minor fall or heavy lift in a potentially osteoporotic or older patient) are recommended to avoid delays in diagnosing fracture. (Strength of Evidence = C)
- Attention to psychological and socioeconomic problems in the individual's life is

recommended since such nonphysical factors can complicate both assessment and treatment. (Strength of Evidence = C)

- Use of instruments such as a pain drawing or visual analog scale is an option to augment the history. (Strength of Evidence = D)
- Recording the result of straight leg raising (SLR) is recommended in the assessment of sciatica in young adults. In older patients with spinal stenosis, SLR may be normal. (Strength of Evidence = B)
- A neurologic examination emphasizing ankle and knee reflexes, ankle and great toe dorsiflexion strength, and distribution of sensory complaints is recommended to document the presence of neurologic deficits. (Strength of Evidence = B)

#### Patient Education about Low Back Symptoms

Patients with acute low back problems should be given accurate information about the following (Strength of Evidence = B):

- Expectations for both rapid recovery and recurrence of symptoms based on natural history of low back symptoms.
- Safe and effective methods of symptom control.
- Safe and reasonable activity modifications.
- Best means of limiting recurrent low back problems.
- The lack of need for special investigations unless red flags are present
- Effectiveness and risks of commonly available diagnostic and further treatment measures to be considered should symptoms persist.

#### Structured Patient Education: Back School

- In the workplace, back schools with worksite-specific education may be effective adjuncts to individual education efforts by the clinician in the treatment of patients with acute low back problems. (Strength of Evidence = C)
- The efficacy of back schools in nonoccupational settings has yet to be demonstrated. (Strength of Evidence = C)

## Symptom Control: Medications

### Acetaminophen and NSAIDs

- Acetaminophen is reasonably safe and is acceptable for treating patients with acute low back problems. (Strength of Evidence = C)
- Nonsteroidal anti-inflammatory drugs (NSAIDs) including aspirin, are acceptable for treating patients with acute low back problems. (Strength of Evidence = B). NSAIDs have a number of potential side effects. The most frequent complication is gastrointestinal irritation. The decision to use these medications can be guided by comorbidity, side effects, cost, and patient and provider preference. (Strength of Evidence = C). Phenylbutazone is not recommended, based on an increased risk for bone marrow suppression. (Strength of Evidence = C)

### Muscle Relaxants

- Muscle relaxants are an option in the treatment of patients with acute low back problems. While probably more effective than placebo, muscle relaxants have not been shown to be more effective than NSAIDs. (Strength of Evidence = C)
- No additional benefit is gained by using muscle relaxants in combination with NSAIDs over using NSAIDs alone. (Strength of Evidence = C)
- Muscle relaxants have potential side effects, including drowsiness in up to 30 percent of patients. When considering the optional use of muscle relaxants, the clinician should balance the potential for drowsiness against a patient's intolerance of other agents. (Strength of Evidence = C)

### Opioid Analgesics

- When used only for a time-limited course, opioid analgesics are an option in the management of patients with acute low back problems. The decision to use opioids should be guided by consideration of their potential complications relative to other options. (Strength of Evidence = C)
- Opioids appear to be no more effective in relieving low back symptoms than safer analgesics, such as acetaminophen or aspirin or other NSAIDs. (Strength of Evidence = C)
- Clinicians should be aware of the side effects of opioids, such as decreased reaction time, clouded judgment, and drowsiness, which lead to early discontinuation by as many as 35 percent of patients. (Strength of Evidence = C)
- Patients should be warned about potential physical dependence and the danger associated with the use of opioids while operating heavy equipment or driving. (Strength of Evidence = C)

## Oral Steroids

- Oral steroids are not recommended for the treatment of acute low back problems. (Strength of Evidence = C)
- A potential for severe side effects is associated with the extended use of oral steroids or the short-term use of steroids in high doses. (Strength of Evidence = D)

## Colchicine

Based on conflicting evidence of effectiveness as well as the potential for serious side effects, colchicine is not recommended for treating patients with acute low back problems. (Strength of Evidence = B)

## Symptom Control: Physical Treatments

### Spinal Manipulation

- Manipulation can be helpful for patients with acute low back problems without radiculopathy when used within the first month of symptoms. (Strength of Evidence = B)
- When findings suggest progressive or severe neurologic deficits, an appropriate diagnostic assessment to rule out serious neurologic conditions is indicated before beginning manipulation therapy. (Strength of Evidence = D)
- There is insufficient evidence to recommend manipulation for patients with radiculopathy. (Strength of Evidence = C)
- A trial of manipulation in patients without radiculopathy with symptoms longer than a month is probably safe, but efficacy is unproven. (Strength of Evidence = C)
- If manipulation has not resulted in symptomatic improvement that allows increased function after one month of treatments, manipulation therapy should be stopped and the patient reevaluated. (Strength of Evidence = D)

### Antidepressant Medications

Antidepressant medications are not recommended for the treatment of acute low back problems. (Strength of Evidence = C)

### Physical Agents and Modalities

The use of physical agents and modalities in the treatment of acute low back problems is of insufficiently proven benefit to justify their cost. As an option, patients may be taught self-application of heat or cold to the back at home. (Strength of Evidence = C)

### Transcutaneous Electrical Nerve Stimulation

Transcutaneous electrical nerve stimulation (TENS) is not recommended in the treatment of patients with acute low back problems. (Strength of Evidence = C)

## Shoe Insoles and Shoe Lifts

- Shoe insoles may be effective for patients with acute low back problems who stand for prolonged periods of time. Given the low cost and low potential for harms, shoe insoles are a treatment option. (Strength of Evidence = C)
- Shoe lifts are not recommended for treatment of acute low back problems when lower limb length difference is <2 cm. (Strength of Evidence = D)

## Lumbar Corsets and Back Belts

- Lumbar corsets and support belts have not been proven beneficial for treating patients with acute low back problems. (Strength of Evidence = D)
- Lumbar corsets, used preventively, may reduce time lost from work due to low back problems in individuals required to do frequent lifting at work. (Strength of Evidence = C)

## Traction

Spinal traction is not recommended in the treatment of patients with acute low back problems. (Strength of Evidence = B)

## Biofeedback

Biofeedback is not recommended for treatment of patients with acute low back problems. (Strength of Evidence = C)

## Symptom Control: Injection Therapy

### Trigger Point and Ligamentous Injections

- Trigger point injections are invasive and not recommended in the treatment of patients with acute back problems (Strength of Evidence = C)
- Ligamentous and sclerosant injections are invasive and not recommended in the treatment of patients with acute low back problems. (Strength of Evidence = C)

### Facet Joint Injections

Facet joint injections are invasive and not recommended for use in the treatment of patients with acute low back problems. (Strength of Evidence = C)

### Epidural Injections (Steroids, Lidocaine, Opioids)

- There is no evidence to support the use of invasive epidural injections of steroids, local anesthetics, and/or opioids as a treatment for acute low back pain without radiculopathy. (Strength of Evidence = D)
- Epidural steroid injections are an option for short-term relief of radicular pain after failure of

conservative treatment and as a means of avoiding surgery. (Strength of Evidence = C)

## Acupuncture

Invasive needle acupuncture and other dry needling techniques are not recommended for treating patients with acute low back problems. (Strength of Evidence = D)

## Activity Modification

### Activity Recommendations

- Patients with acute low back problems, may be more comfortable if they temporarily limit or avoid specific activities known to increase mechanical stress on the spine, especially prolonged unsupported sitting, heavy lifting, and bending or twisting the back while lifting. (Strength of Evidence = D)
- Activity recommendations for the employed patient with acute low back symptoms need to consider the patient's age and general health, and the physical demands of required job tasks. (Strength of Evidence = D)

## Bed Rest

- A gradual return to normal activities is more effective than prolonged bed rest for treating acute low back problems. (Strength of Evidence = B)
- Prolonged bed rest for more than 4 days may lead to debilitation and is not recommended for treating acute low back problems. (Strength of Evidence = B)
- The majority of low back patients will not require bed rest. Bed rest for 2 to 4 days may be an option for patients with severe initial symptoms of primarily leg pain. (Strength of Evidence = D)

## Exercise

- Low-stress aerobic exercise can prevent debilitation due to inactivity during the first month of symptoms and thereafter may help to return patients to the highest level of functioning appropriate to their circumstances. (Strength of Evidence = C)
- Aerobic (endurance) exercise programs, which minimally stress the back (walking, biking, or swimming), can be started during the first 2 week for most patients with acute low back problems. (Strength of Evidence = D)
- Conditioning exercises for trunk muscles (especially back extensors), gradually increased, are helpful for patients with acute low back problems, especially if symptoms persist. During the first 2 weeks, these exercises may aggravate symptoms since they mechanically stress the back more than endurance exercises. (Strength of Evidence = C)



- Back-specific exercise machines provide no apparent benefit over traditional exercise in the treatment of patients with acute low back problems. (Strength of Evidence = D)
- Recommended exercise quotas that are gradually increased result in better outcomes than telling patients to stop exercising if pain occurs. (Strength of Evidence = C)

## Special Studies: Tests for Evidence of Physiologic Dysfunction

### Electrophysiologic Tests (EMG and SEP)

- Needle EMG and H-reflex tests of the lower limb may be useful in assessing questionable nerve root dysfunction in patients with leg symptoms lasting longer than 4 weeks (regardless of whether patients also have back pain). (Strength of Evidence = C)
- If the diagnosis of radiculopathy is obvious and specific on clinical examination, electrophysiologic testing is not recommended. (Strength of Evidence = D)
- Surface EMG and F-wave tests are not recommended for assessing patients with acute low back symptoms. (Strength of Evidence = C)
- SEPs may be useful in assessing suspected spinal stenosis and spinal cord myelopathy. (Strength of Evidence = C)

### Bone Scan

A bone scan is recommended to evaluate acute low back problems when spinal tumor, infection, or occult fracture is suspected from "red flags" on medical history, physical examination, or collaborative lab test or plain x-ray findings. Bone scans are contraindicated during pregnancy. (Strength of Evidence = C)

### Thermography

Thermography is not recommended for assessing patients with acute low back problems. (Strength of Evidence = C)

### Plain X-rays

- Plain x-rays are not recommended for routine evaluation of patients with acute low back problems within the first month of symptoms unless a red flag is noted on clinical examination (such as specified below). (Strength of Evidence = B)
- Plain x-rays of the lumbar spine are recommended for ruling out fractures in patients with acute low back problems when any of the following red flags are present: recent significant trauma (any age), recent mild trauma (patient over age 50), history of prolonged steroid use, osteoporosis, patient over age 70. (Strength of Evidence = C)
- Plain x-rays in combination with CBC and ESR may be useful for ruling out tumor or infection

in patients with acute low back problems when any of the following red flags are present: prior cancer or recent infection, fever over 100oF, IV drug abuse, prolonged steroid use, low back pain worse with rest, unexplained weight loss. (Strength of Evidence = C)

- In the presence of red flags, especially for tumor or infection, the use of other imaging studies such as bone scan, CT, or MRI may be clinically indicated even if plain x-rays are negative. (Strength of Evidence = C)
- The routine use of oblique views on plain lumbar x-rays is not recommended for adults in light of the increased radiation exposure. (Strength of Evidence = B)

#### CT, MRI, Myelography, and CT-Myelography

- In the presence of red flags suggesting cauda equina syndrome or progressive major motor weakness, the prompt use of CT, MRI, myelography, or CT-myelography is recommended. Because these serious problems may require prompt surgical intervention, planning for use of such imaging studies is best done in consultation with a surgeon. (Strength of Evidence = C)
- CT, MRI, myelography, or CT-myelography and/or consultation with an appropriate specialist is recommended when clinical findings strongly suggesting tumor, infection, fracture, or other space-occupying lesions of the spine. (Strength of Evidence = C)
- Routine spinal imaging tests are not generally recommended in the first month of symptoms except in the presence of red flags for serious conditions. After 1 month of symptoms, an imaging test is acceptable when surgery is being considered (or to rule out a suspected serious condition). (Strength of Evidence = B)
- For patients with acute low back problems who have had prior back surgery, MRI with contrast appears to be the imaging test of choice to distinguish disc herniation from scar tissue associated with prior surgery. (Strength of Evidence = D)
- CT-myelography and myelography are invasive and have an increased risk of complications. These tests are indicated only in special situations for preoperative planning. (Strength of Evidence = D)

The following are minimal quality criteria for imaging studies of the lumbar spine (Strength of Evidence = B):

1. CT and MRI cuts to be made no wider than 0.5 cm and parallel to the vertebral endplates.
2. MRI scanners to have a magnetic field strength no less than 0.5 T (tesla) and to allow a scanning time adequate for optimal image acquisition.

3. Myelography and CT-myelography to use water-based contrast media.
4. The technical protocols for these imaging test to be described on radiologist reports.

### Discography

- Discography is invasive, and its use is not recommended for assessing patients with acute low back pain. Interpretation is equivocal, and complications can be avoided with other noninvasive techniques. (Strength of Evidence = C)
- Due to increased potential risks, CT-discography is not recommended over other imaging studies (MRI, CT) for assessing patients with suspected nerve root compression due to lumbar disc hernia. (Strength of Evidence = C)

### Surgical Information

#### Surgery for Herniated Disc

- It is recommended that the treating clinician discuss further treatment options, with the patient with sciatica after approximately 1 month of conservative therapy. The clinician should consider referral to a specialist when all of the following conditions are met: (1) sciatica is both severe and disabling, (2) symptoms of sciatica persist without improvement or with progression, and (3) there is clinical evidence of nerve root compromise. (Strength of Evidence = B)
- Standard discectomy and microdiscectomy are of similar efficacy and appropriate for selected patients with herniated discs and nerve root dysfunction. (Strength of Evidence = B)
- Chymopapain is an acceptable treatment for such patients, but less efficacious than standard or microdiscectomy. If chymopapain is being considered, testing patients for allergic sensitivity to this substance can reduce incidence of anaphylaxis. (Strength of Evidence = C)
- Percutaneous discectomy is significantly less efficacious than chymopapain in treating patients with lumbar disc herniation. This and other new methods of lumbar disc surgery are not recommended until they can be proven efficacious in controlled trials. (Strength of Evidence = C)
- Patients with acute low back pain alone, who have neither suspicious findings for a significant nerve root compression nor any positive "red flags," do not need surgical consultation for possible herniated lumbar disc. (Strength of Evidence = D)

#### Surgery for Spinal Stenosis

- Elderly patients with spinal stenosis who can adequately function in the activities of daily life can be managed with conservative treatments. Surgery for spinal stenosis should not be usually be considered in the first 3 months of symptoms. Decisions on treatment should take into account the patient's lifestyle, preference, other medical problems, and risks of surgery.

(Strength of Evidence = D)

- Surgical decisions for patients with spinal stenosis should not be based solely on imaging tests, but should also consider the degree of persistent neurogenic claudication symptoms, associated limitations, and detectable neurologic compromise. (Strength of Evidence = D)

### Spinal Fusion

- In the absence of fracture, dislocation, or complications of tumor or infection, the use of spinal fusion is not recommended for the treatment of low back problems during the first 3 months of symptoms. (Strength of Evidence = C)
- Spinal fusion should be considered following decompression at a level of increased motion due to degenerative spondylolisthesis. (Strength of Evidence = C)

### Assessment of Psychosocial Factors

- Social, economic, and psychological factors can significantly alter a patient's response to back symptoms and to the treatment of those symptoms. (Strength of Evidence = D)
- In a patient with acute low back symptoms and no evidence of serious underlying spinal pathology, the inability to regain tolerance of required activities may indicate that unrealistic expectations or psychosocial factors need to be explored before considering referral for a more extensive evaluation or treatment program. (Strength of Evidence = D)

The Agency will be releasing more guidelines in 1995. The process of developing guidelines for chronic headache pain is expected to begin soon.

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