

Consumers' Guide
Practice Guidelines
For Low Back Pain



American Chronic Pain Association

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Why Develop Practice Guidelines?

The human body is complex and what works for one person may have no positive effect on someone else. Yet research and experience show that some treatments and approaches are likely to be more effective than others.

Today doctors rely on the current research to determine sound therapies for individual patients. Doctors make the best decisions when they are based on the best evidence and tailored according to individual patient factors, patient preferences, and other considerations such as the availability of therapies and costs. This is called Evidence Based Medicine or EBM. EBM provides a balanced way to explore the best treatment for a patient by looking at all the factors that can provide relief.

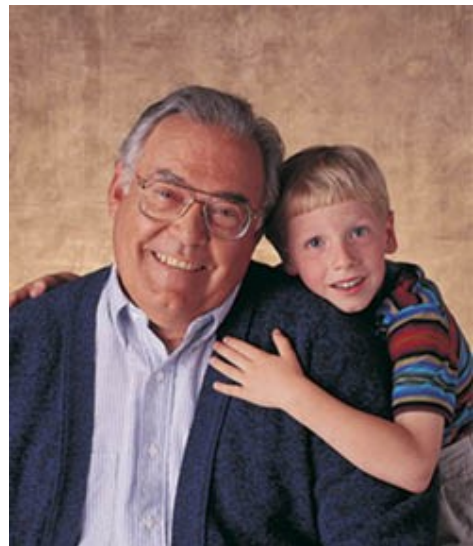
Because there is so much research being produced, it is difficult for most practicing doctors to remain current on all of the research evidence. Practice Guidelines use EBM to offer physicians a balanced summary of knowledge and research from a broad base of experts in the field. This helps them identify the most effective diagnostic and treatment options for individual patients.

Medical Research + Clinical Expertise + Patient Factors = Evidence Based Medicine (EBM)

How the Guidelines Were Developed

The American Pain Society (APS), in partnership with the American College of Physicians (ACP), started this project to review the current state of our knowledge and develop updated recommendations for the evaluation and management of acute and chronic low back pain in primary care settings. The project was completed in October 2007.

This guideline is based on a review of published research as of April 2005. This review was updated in November 2006. Investigators reviewed 651 abstracts gathered through systematic searches of multiple electronic databases, hand searches of relevant journals, and reference lists of relevant articles to identify systematic reviews (a special kind of article that uses systematic methods to review all of the literature on a topic). Investigators also reviewed a total of 7,506 abstracts from 34 searches for primary studies (such as randomized controlled trials). A total of 130 systematic reviews and 170 primary studies (not included in systematic reviews) were included in the evidence report used to develop these guidelines.



Your Role as a Consumer

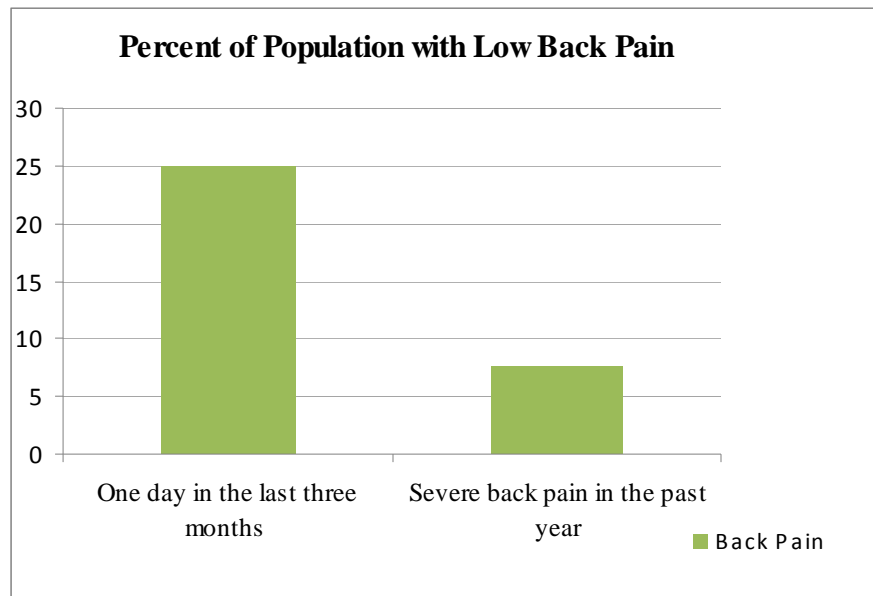
Pain is frightening and it can affect our work, family relationships, and ability to function. It is important that people with pain take an active role in the treatment of their pain from the beginning. The way to do this is to learn about your condition and treatment options so you can work with your health care team productively.

This consumer guide has been developed to help you make sense of some of the choices you have and why they are being recommended. It is also important for you to understand why some tests and treatments are not recommended for you.

Understanding the Problem

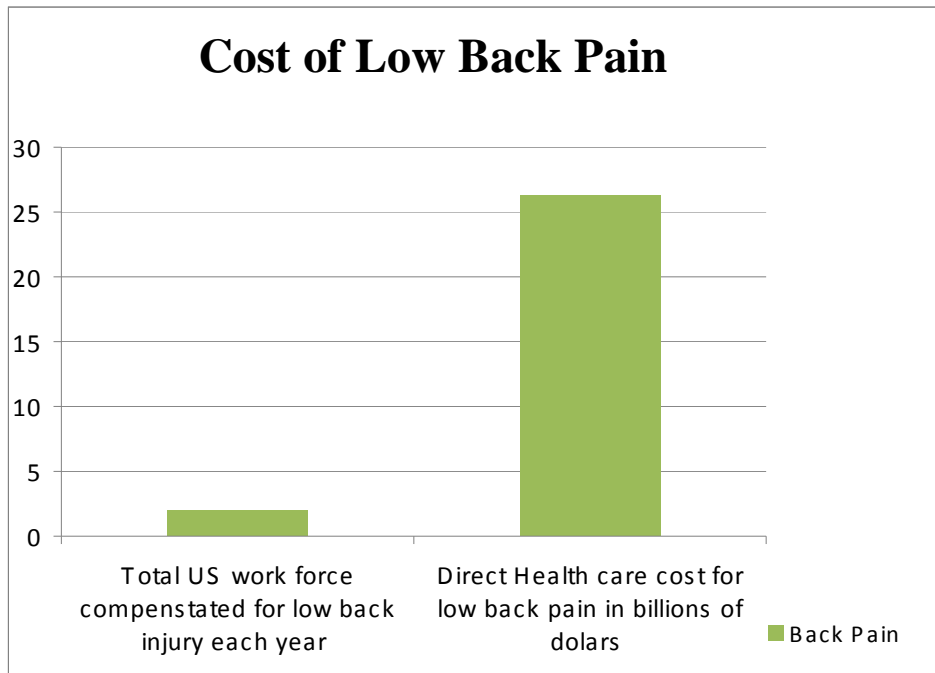
How Common Is Low Back Pain?

Low back pain is the **fifth** most common reason for all doctor visits in the United States

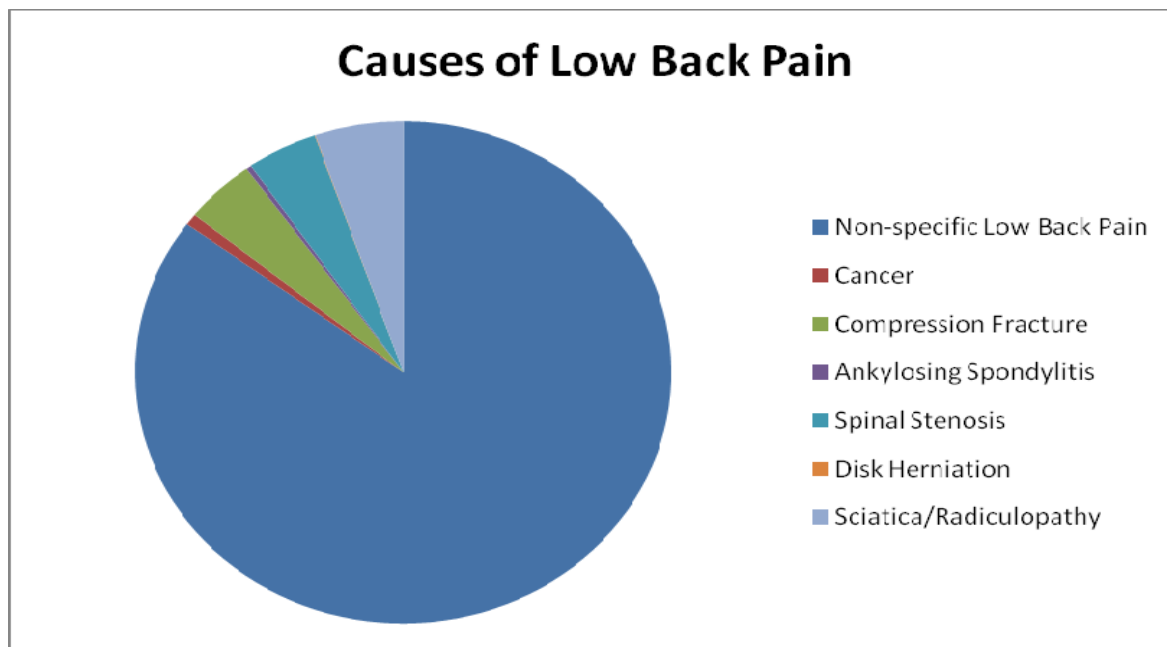


- ¼ of US adults report low back pain lasting at least one day in the last three months.
- 7.6% had severe low back pain in the past year.

- In 1998, low back pain cost \$26.3 billion in health care costs.



- 2% of the work force is compensated for back injuries each year.
- Many people who experience minor episodes of low back pain do not seek medical care.
- Those with low back pain who see their doctor typically return to work within one month of injury.
- 1/3 report still having back pain one year after the pain began
- 1 in 5 are limited in their activity due to their low back pain
- The 5% of people who are disabled by their back pain account for 75% of the total cost associated with low back pain.



Non-specific Low Back Pain: can develop due to many causes, including muscle strain, back injury, overuse, muscle disorders, pressure on a nerve root, poor posture, and many others.

Pregnant women, smokers, construction workers, and people who do repetitive lifting all have increased risk of back pain.¹ Although arthritis in the back or degenerated discs are often seen in persons with low back pain, this is also considered non-specific low back pain because these conditions are common in persons with low back pain.

Back pain due to cancer is uncommon, occurring in less than 1% of patients. Spinal stenosis (narrowing of the spinal canal) and herniated disc with a pinched nerve (which can cause back pain with leg pain, also referred to as sciatica or radiculopathy) occur in about 5% of patients with low back pain.

Ankylosing spondylitis is an inflammatory condition that occurs in less than 5% of persons with low back pain and is more commonly diagnosed in younger persons. Compression fractures are more likely in older persons and those with osteoporosis or taking corticosteroids.

¹ Medline Plus, a service of the National Library of Medicine and the National Institute of Health.

What the Guidelines Recommend

Assessing Low Back Pain

To determine what type of tests and treatments might be helpful to you, your health care provider will do the following:

- Take a Medical History, to learn about these important things:
 - Location of the pain
 - How often you have symptoms
 - How long the pain lasts
 - Your previous history of back pain
 - Whether you also have leg pain
 - Your risk factors for cancer, such as:
 - History of cancer
 - Unexplained weight loss
 - Failure to improve after one month
 - Age over 50
 - What you did for the pain before and if it was helpful
 - Changes in bowel or bladder habits
 - Risk factors for other conditions, such as a history of osteoporosis, use of steroids, intravenous drug use, or morning stiffness
- Do a physical examination to find out what type of pain you are experiencing. This may include:
 - Straight leg-raise testing (raising a straightened leg while lying flat on the back to see if this causes sciatica-type symptoms)
 - Assessing the ability to move/bend/turn
 - Evaluating knee, ankle, and toe strength
 - Checking reflexes

Diagnosing Back Pain

You may expect your doctor to order x-rays and other imaging procedures right away. But recent research shows that this is not always a good idea.

X-raying the spine is not recommended for the first visit for back pain because the radiation you are exposed to during a single plain x-ray (two views) of the lumbar spine is high. It is equivalent to being exposed to a



daily chest radiograph for more than a year.² In addition, many people have abnormalities in the spine that are not related to pain and many people with pain have normal spines.

The Guidelines recommend that your doctor try effective treatments first, before ordering x-rays, since about 90% of patients will substantially improve in the first month. But for those at a higher risk, such as people with a history of osteoporosis or steroid use, an x-ray is recommended at the initial evaluation.

What's more, the evidence also shows that more complicated imaging tests such as CTs and MRIs do not improve overall outcomes and should not be routinely ordered. Because abnormalities on CT or MRI are often poorly linked to symptoms, these tests could lead to unnecessary surgery or other treatments.

If your back pain continues past four weeks and you are also experiencing leg pain, your doctor may then recommend an MRI or CT scan to look for spinal stenosis or a herniated disc. However, even in this situation, most people improve in the first month.

When there is concern of a serious neurological problem, MRIs and CTs are recommended.

Treatment Options

Most of the time your doctor will take a careful, slow approach to treating your back pain. Most people with low back pain and sciatica will experience substantial improvements in the first month, with or without specific treatments. But there are things you can do to help yourself.

Remaining active is better for low back pain than bed rest. This helps keep the back conditioned and may help prevent you from experiencing a relapse of back pain. If bed rest is needed for control of severe symptoms, returning to normal activity as soon as possible is highly recommended. Before returning to work with low back pain, consider your age, general health, and the physical demands of your job.

You may also find that applying a heating pad can be beneficial for acute low back pain.

Learning information on back care from self-care books based on evidence-based guidelines can be valuable to help a person with low back pain improve and may be more cost-effective than alternative therapies.



² Jarvik JG. Imaging of adults with low back pain in the primary care setting. *Neuroimag Clin N Am.* 2003;13:293-305.

It is important that you and your doctor select a treatment plan that you have confidence in. Recent studies show that your expectations of a treatment may well influence outcomes. In other words, if you believe that it will help, it is more likely to do so.

Medications

Your doctor may also recommend medications to help with your pain. Your individual medical history will be a determining factor in selecting any medication for low back pain. Here are some options you and your doctor may consider:

- **Acetaminophen** (Tylenol) is a reasonable over-the-counter medication which is low in cost and has few side effects.
- Some non-selective **non-steroidal anti-inflammatory drugs** (NSAIDs) are also available over the counter. They are more effective than acetaminophen for pain relief, but are associated with an increased risk of stomach ulcers, particularly with higher prescription doses and longer duration of use. The FDA also recently required warnings for all NSAIDs about potential risk of heart attacks.
- **COX-2s** are another type of NSAIDs that may be safer on the stomach, but there is a risk of heart attack. You should talk with your doctor about the risks and benefits of these and all other medications.
- **Opioids** are powerful pain pills, but carry significant risks and should be considered only after your physician has evaluated the risks and benefits to you based on your medical history. If there is no improvement after a limited time with opioids, reevaluation is needed.
- **Muscle relaxants** are another option for short term relief but the individual risks and benefits should be discussed with your physician. They are frequently associated with sedation and fatigue.
- Some types of **antidepressants** have also been found to help with pain management for some with low back pain, but only when back pain has been present for more than 3 months. In addition, benefits are probably small, so antidepressants are not recommended as a first-line option. However, depression is common in people with chronic back pain and should be treated appropriately.
- **Herbal therapies** such as willow bark, devil's claw, and cayenne may provide some benefit and do not appear to be harmful.
- **Gabapentin**, an anticonvulsant, has been shown to provide short-term relief for patients with nerve pain (radiculopathy), but has only been evaluated in a few small studies.
- **Corticosteroid pills and injections** are **not** recommended for treatment of low back pain because they have not been shown to be effective.

Other Treatment Options

There a number of other therapies that have shown to have some benefit in improving pain or function. Nearly all of these therapies have been shown to be effective only in persons with chronic low back pain (back pain longer than 3 months). The exception is spinal manipulation, which may be effective even in persons with back pain for less than 3 months.

The therapies that are supported by evidence include:

- spinal manipulation
- acupuncture
- exercise therapy (exercise programs that incorporate individual tailoring, supervision, stretching, and strengthening are associated with the best outcomes)
- massage therapy
- yoga
- behavioral therapy
- intensive interdisciplinary rehabilitation

Intensive interdisciplinary rehabilitation is found to have some benefit with back pain lasting longer than eight weeks, but is expensive and requires a very big time commitment (often at least 2 hours several times a week). In most cases, it is reasonable to try some of the other options before trying interdisciplinary rehabilitation.

Several types of injection therapies have also been used for low back pain. In people with sciatica due to a herniated disc, an injection of corticosteroids into the epidural space (the space around the spinal cord) may help decrease swelling and relieve symptoms. However, benefits are generally only short-term. Epidural steroids are probably most useful in people who aren't interested in surgery or who are at higher risk for complications or poor surgery outcomes.

Other injection therapies include injections directly into the discs or joints of the back, using corticosteroids or various types of electrothermal or radiofrequency energy targeted at the part of the back thought to be the source of pain. However, none of these therapies have been proven to be beneficial in well-conducted clinical trials and are not recommended in most cases.

Surgery for non-specific low back pain should be considered only after several noninvasive therapies have not worked. In fact, only a small proportion of people with non-specific low back pain should ever require surgery. For back pain associated with a herniated disc or back pain associated with spinal stenosis (both conditions are characterized by the presence of back pain and leg pain), surgery may be considered in patients with symptoms who are not getting better after 4-6 weeks. However, most of the benefits seen with surgery occur in the first year or two, after which people treated with surgery and without surgery do about the same. Because of this, surgery is not required even when a herniated disc or spinal stenosis cause persistent symptoms.

In the past, the single most important problem with treating low back pain was that the medical community was not able to agree on how to best treat low back pain. It seems that no matter what treatments they receive, many people have similar outcomes. This is one reason it has been so difficult to treat low back pain; there is not one treatment that has proven effective for everyone. But the evidence also shows that there a number of options that are effective. Working with your health care provider, and considering your medical history and your treatment outcomes, it is possible to identify a way to manage your low back pain that is likely to help you get better.

Preparing for Your Doctor Visit:

- Before you go to the doctor, write down exactly what you think is wrong. Also include the following:
 - A list of only the **new** symptoms
 - Over-the-counter medicines taken
 - Methods of relief tried, i.e. heat, message, exercise
 - Changes in your daily level of functioning
 - Changes in mood, appetite, and sleep
 - Questions you have

- If possible, take someone with you

- Use the Quality of Life Scale to help you explain how much your pain is interfering with your ability to function.

- The Pain Log, which follows, will help you to explain to your doctor how your back pain is interfering with each aspect of your life.

- People with low back pain generally improve in the first month; a follow up visit should be planned in one month to reevaluate if there is no improvement.



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Quality Of Life Scale

A Measure Of Function
For People With Pain

0 Non-functioning	Stay in bed all day Feel hopeless and helpless about life
1	Stay in bed at least half the day Have no contact with outside world
2	Get out of bed but don't get dressed Stay at home all day
3	Get dressed in the morning Minimal activities at home Contact with friends via phone, email
4	Struggle but fulfill daily home responsibilities No outside activity Not able to work/volunteer
5	Do simple chores around the house Minimal activities outside of home two days a week
6	Work/volunteer limited hours Take part in limited social activities on weekends
7	Work/volunteer for a few hours daily. Can be active at least five hours a day. Can make plans to do simple activities on weekends
8	Work/volunteer for at least six hours daily Have energy to make plans for one evening social activity during the week Active on weekends
9	Work/volunteer/be active eight hours daily Take part in family life Outside social activities limited
10 Normal Quality of Life	Go to work/volunteer each day Normal daily activities each day Have a social life outside of work Take an active part in family life

Communication Tools






Many things can affect your pain. These can include stress, sleep, money worries, and even the weather. When you and your doctor both understand what makes your pain worse, you can begin to work together on ways to reduce or deal with your pain "triggers."

On this page, mark the number that most closely matches your experience with each item over the last several weeks.

Live Better with Pain Log

Date _____
Name _____






Pain Level

No Pain
Worst Pain

1 2 3 4 5 6 7 8 9 10






Stress

No stress
Very Stressed

1 2 3 4 5 6 7 8 9 10





Exercise

Exercise daily
No exercise

1 2 3 4 5 6 7 8 9 10






Activity

Normally active
No activity

1 2 3 4 5 6 7 8 9 10

Sleep

Fully rested
Poor-quality sleep

1 2 3 4 5 6 7 8 9 10

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Appetite



Normal appetite

1 2 3 4 5 6 7 8 9 10

No appetite

Mood



Cheerful & calm

1 2 3 4 5 6 7 8 9 10

Depressed, anxious

Interaction/isolation



Lots of interaction with family & friends

1 2 3 4 5 6 7 8 9 10

Always alone

Alcohol Use (drinks each day)



None

1 2 3 4 5 6 7 8 9 10

1 or 2

3 or 4

5 or 6

7 or more

Finances



No money worries

1 2 3 4 5 6 7 8 9 10

Serious money worries

Glossary

Acupressure	An intervention consisting of manipulation with the fingers instead of needles at specific acupuncture points.
Acupuncture	An intervention consisting of the insertion of needles at specific acupuncture points. Low back pain of less than four weeks' duration (sometimes grouped with subacute low back pain as symptoms present for less than 3 months).
Acute low back pain	
Biofeedback	The use of auditory and visual signals reflecting muscle tension or activity to learn how to inhibit or reduce the muscle activity.
Cauda equina syndrome	Compression (usually due to a massive, centrally herniated disc) on nerve roots from the lower cord segments, which can result in urinary retention or incontinence from loss of sphincter function, bilateral motor weakness of the lower extremities, and saddle anesthesia.
Chronic low back pain	Low back pain present for more than 3 months.
Exercise	A supervised exercise program or formal home exercise regimen, ranging from programs aimed at general physical fitness or aerobic exercise to programs aimed at muscle strengthening, flexibility, stretching, or different combinations of these elements.
Functional restoration (also referred to as physical conditioning, work hardening, or work conditioning)	An intervention that involves simulated or actual work tests in a supervised environment to enhance job performance skills and improve strength, endurance, flexibility, and cardiovascular fitness in injured workers.
Herniated disc	Herniation of the nucleus pulposus of an intervertebral disc through its fibrous outer covering, which can result in compression of adjacent nerve roots or other structures.
Interdisciplinary therapy (also referred to as multidisciplinary therapy)	An intervention that combines and coordinates physical, vocational, and behavioral components and is provided by multiple health care professionals with different clinical backgrounds. The intensity and content of interdisciplinary therapy varies widely
Massage	Soft tissue manipulation using the hands or a mechanical device through a variety of specific methods. The pressure and intensity employed by different massage techniques vary widely.
Neurogenic claudication	Symptoms of leg pain (and occasionally weakness) on walking or standing, relieved by sitting or spinal flexion, associated with spinal stenosis.
Nonspecific back pain	Pain occurring primarily in the back with no signs of a serious underlying condition (such as cancer, infection, or cauda equina syndrome), spinal stenosis or radiculopathy, or another specific spinal cause (such as vertebral compression fracture or ankylosing spondylitis). Degenerative changes on lumbar imaging are usually considered non-specific as they correlate poorly with symptoms.
Radiculopathy	Dysfunction of a nerve root associated with pain, sensory impairment, weakness, or diminished deep tendon reflexes in a nerve root distribution.

Sciatica Pain radiating down the leg below the knee in the distribution of the sciatic nerve, suggesting nerve root compromise due to mechanical pressure or inflammation. Sciatica is the most common symptom of lumbar radiculopathy.

Spinal stenosis Narrowing of the spinal canal that may result in bony constriction of the cauda equina and the emerging nerve roots.

Spondylolisthesis Forward subluxation (one or more of your bones move out of place) of the body of a lumbar vertebra on the vertebra below.



The Guidelines Summarized

Recommendation 1: Conduct a focused history and physical examination to help place patients with low back pain into one of three broad categories: non-specific low back pain, back pain potentially associated with 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.

Recommendation 2: Do not routinely obtain imaging or other diagnostic tests in patients with non-specific low back pain.

Recommendation 3: Perform diagnostic testing in patients with low back pain when severe or progressive neurologic deficits are present, or when serious underlying conditions are suspected based on history and physical examination.

Recommendation 4: Evaluate patients with persistent low back pain and signs or symptoms of radiculopathy or spinal stenosis with MRI (preferred) or CT only if they are potential candidates for surgery or epidural steroid injection (for suspected radiculopathy).

Recommendation 5: Provide patients with low back pain evidence-based information about their expected course, advise patients to remain active, and provide information about effective self-care options.

Recommendation 6: For patients with low back pain, consider the use of medications with proven benefits in conjunction with back care information and self-care. Assess severity of baseline pain and functional deficits and discuss potential benefits and risks before initiating therapy. Bear in mind the relative lack of long-term efficacy and safety data for extended courses of pharmacologic therapy. First-line medication options for most patients are acetaminophen or non-steroidal anti-inflammatory drugs.

Recommendation 7: For patients who do not respond to self-care, consider the addition of non-pharmacologic therapy with proven benefits.

- For acute LBP: spinal manipulation.
- For chronic or subacute LBP: intensive interdisciplinary rehabilitation, exercise therapy, acupuncture, massage therapy, spinal manipulation, yoga, cognitive-behavioral therapy or progressive relaxation.