

# State of Oregon Evidence-based Clinical Guidelines Project

## Evaluation and Management of Low Back Pain

A Clinical Practice Guideline Based on the Joint Practice Guideline of  
the American College of Physicians and the American Pain Society  
(Diagnosis and Treatment of Low Back Pain)

October 2011



## Guideline Development Group

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<http://www.oregon.gov/OHA/OHPR/HERC/Evidence-Based-Guidelines.shtml>

This document was prepared by the Center for Evidence-based Policy at Oregon Health & Science University (the Center) on behalf of the Guideline Development Group and the Office for Oregon Health Policy & Research. This document is intended to help providers, consumers and purchasers of health care in Oregon make informed decisions about health care services. The document is intended as a reference and is provided with the understanding that neither the Center nor the Guideline Development Group are engaged in rendering any clinical, legal, business or other professional advice.

These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

The statements in this document do not represent official policy positions of the Center, the Guideline Development Group, or the Office for Oregon Health Policy and Research. Researchers and authors involved in preparing this document have no affiliations or financial involvement that conflict with material presented in this document.

## Objective

This guideline was developed by a collaborative group of public and private partners to provide up-to-date evidence-based guidance on the evaluation and management of low back pain. The purpose of this guideline is to assist licensed clinicians, working within their scope of practice in the State of Oregon, in the assessment and management of low back pain among non-pregnant adults. Implementation of recommendations in this guideline will be determined by individual health plans and providers.

## Background

In June 2009, the Oregon legislature passed health reform legislation, HB 2009, which created the Oregon Health Policy Board and charged it with creating a comprehensive health reform plan for our state. In December 2010, the Board released *Oregon's Action Plan for Health*, which lays out “strategies that reflect the urgency of the health care crisis and a timeline for actions that will lead Oregon to a more affordable, world-class health care system.” They outlined eight foundational strategies, one of which is to “set standards for safe and effective care.” To accomplish this, the plan directs the state to “Identify and develop 10 sets of Oregon-based best practice guidelines and standards that can be uniformly applied across public and private health care to drive down costs and reduce unnecessary care. This work will be conducted by the Health Services Commission and Health Resources Commission in close collaboration with providers, the Center for Evidence-Based Practice, and other key stakeholders.”<sup>1</sup>

During the same time period when this guideline was under development by the State of Oregon, the Oregon Healthcare Leadership Council and the Oregon Health Care Quality Corporation both independently began pursuing the development of practice guidelines that could be used across the state, and the value of collaboration became apparent. The three entities agreed to develop the first guideline together, and in the fall of 2010, selected Evaluation and Management of Low Back Pain as their first guideline topic. Representatives from the three organizations formed the Guideline Development Group (GDG), while clinical evidence specialists from the Center for Evidence-based Policy provided expertise and research to support guideline development.

## Methods

The GDG was guided in developing this guideline by the ADAPTE<sup>2</sup> framework which is a systematic approach to the endorsement or modification of guideline(s) produced in one cultural context or organization setting for application in another context. Guideline adaptation is used as an alternative to wholly new guideline development, which is time consuming, expensive and an inefficient use of resources, when quality guidelines are available.

The process for developing this guideline began by searching 17 different databases and other sources for guidelines related to Acute Low Back Pain (see appendix A). Candidate guidelines were required to be evidence-based (recommendations based on a systematic review of the literature), address the comprehensive clinical management of adults with an acute episode of low back pain, be published in English and be widely available. By “comprehensive,” the GDG meant that the guideline would include recommendations on the initial assessment of a patient with a new episode of low back pain, the use of both pharmacologic and nonpharmacologic therapies and the appropriate ongoing management of

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<sup>1</sup> Effective January 1, 2012, House Bill 2100 (2011) terminates the Health Services Commission and Health Resources Commission and transfers their duties related to evidence-based guideline development to a new Health Evidence Review Commission.

<sup>2</sup> <http://www.adapte.org/www/>

people who experience continuing low back pain. The GDG required that evidence-based recommendations be made on the basis of both the quality and strength of the underlying data from the guideline's systematic reviews.

Thirteen candidate guidelines were identified, of which 10 were sufficiently comprehensive to address most management issues (Appendix B). Those 10 guidelines were then assessed for methodologic quality using a modified AGREE (Appraisal of Guidelines Research and Evaluation) II<sup>3</sup> instrument (Appendix C) by two different guideline quality assessors from the Center for Evidence-based Policy. Five of those guidelines were rated either Good quality, or Fair quality with Good rigor of development according to the modified AGREE rating tool. These five guidelines were then examined further for scope and clarity of presentation.

After considering guideline age, source, specific treatment elements addressed and presentation, the GDG selected the two guidelines of highest quality that were most comprehensive. The two selected were both good quality and completed in the last five years, whereas the other three were more than 5 years old and were rated fair quality. Of the two selected, the American College of Physicians/ American Pain Society (ACP/APS) guideline was preferred as the base guideline, primarily because it had recommendations concerning the early care of acute low back pain and contained algorithms that were felt to be useful implementation tools.

The ACP/APS guideline in its entirety can be found at the following link: <http://www.annals.org/content/147/7/478.long>. The ACP/APS guideline is accompanied by full systematic reviews on nonpharmacologic therapies for low back pain (<http://www.annals.org/content/147/7/492.full.pdf+html>) and the use of medications for low back pain (<http://www.annals.org/content/147/7/505.full.pdf+html>). Comparison was then made to the other high quality, comprehensive guideline, which was produced by the National Institute for Health and Clinical Excellence (NICE). The full NICE guideline and reviews of the evidence are available at the following link: <http://www.nice.org.uk/CG88>. There were two significant areas of difference. First, the NICE guideline does not address treatment in the first six weeks. Second, the NICE guideline excludes patients with leg pain or radiculopathy. However, there were no significant differences in other assessment or treatment recommendations between the two guidelines.

The GDG found no guidelines that focused exclusively on acute low back pain during the first 12 weeks of the episode of back pain. This is primarily because many of the studies in the field include people with back pain of longer duration. The GDG felt that the ACP/APS guideline concentrated on acute low back pain and was also able to contribute guidance toward those patients experiencing more persistent or recurrent back pain. For this reason, the GDG decided to change the focus of the guideline to the evaluation and management of low back pain, regardless of duration. Figure 1 & 2 of the guideline are an algorithm that addresses the initial assessment and management of low back pain, as well as provides management options including both pharmacologic and nonpharmacologic interventions.

The ACP/APS guideline used the ACP's guideline grading system that was adapted from the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) working group. Guideline recommendations were rated as either strong or weak. Strong recommendations were required to have clear evidence of benefit or harm. Weak recommendations were based on finely balanced benefits, risks and burdens. The overall strength of evidence for each intervention was rated based on factors such as

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<sup>3</sup> <http://www.agreecollaboration.org/>

the quality, quantity, consistency, generalizability and directness of the evidence. The ACP/APS guideline panel considered interventions to have “proven” benefit if there was at least fair quality evidence of moderate or substantial benefit (or of small benefit with no significant harms, costs or burdens).

### Updating

The ACP/APS guideline was published in 2007. The authors of the guideline were contacted in March 2011 and stated that there had been no new published evidence which would change the recommendations of the guideline and that it was considered current. The GDG recommends that this guideline be reevaluated if the ACP/APS issues an updated guideline and at least every two years for currency if the original guideline is not updated.

## Recommendations

Below are the recommendations of the ACP/APS clinical practice guideline. The GDG found that all of these recommendations apply to the objectives and purposes stated above. The recommendations relate to the algorithm which follows (Figure 1 and Figure 2 from the guideline publication) and the algorithm makes reference to the specific numbered guideline recommendations below. Recommendations 2, 3 and 4 are further supported by a systematic review and meta-analysis of imaging strategies published in 2009<sup>4</sup>, as well as Best Practice Advice from the American College of Physicians published in 2011<sup>5</sup>.

**Table A: State of Oregon Evidence-based Clinical Guideline Recommendations for the Management of Low Back Pain**

Recommendations		
Recommendation	Content	Strength of Recommendation & Evidence Grade
1. Focused History & Physical	Clinicians should conduct a focused history and physical examination, including a neurological exam, to help place patients with low back pain into 1 of 3 broad categories: nonspecific 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. <i>Appropriate referrals for management of potentially serious conditions (see Table B) could be considered at this time.</i> <sup>6</sup>	Recommendation: Strong Grade: Moderate-quality evidence

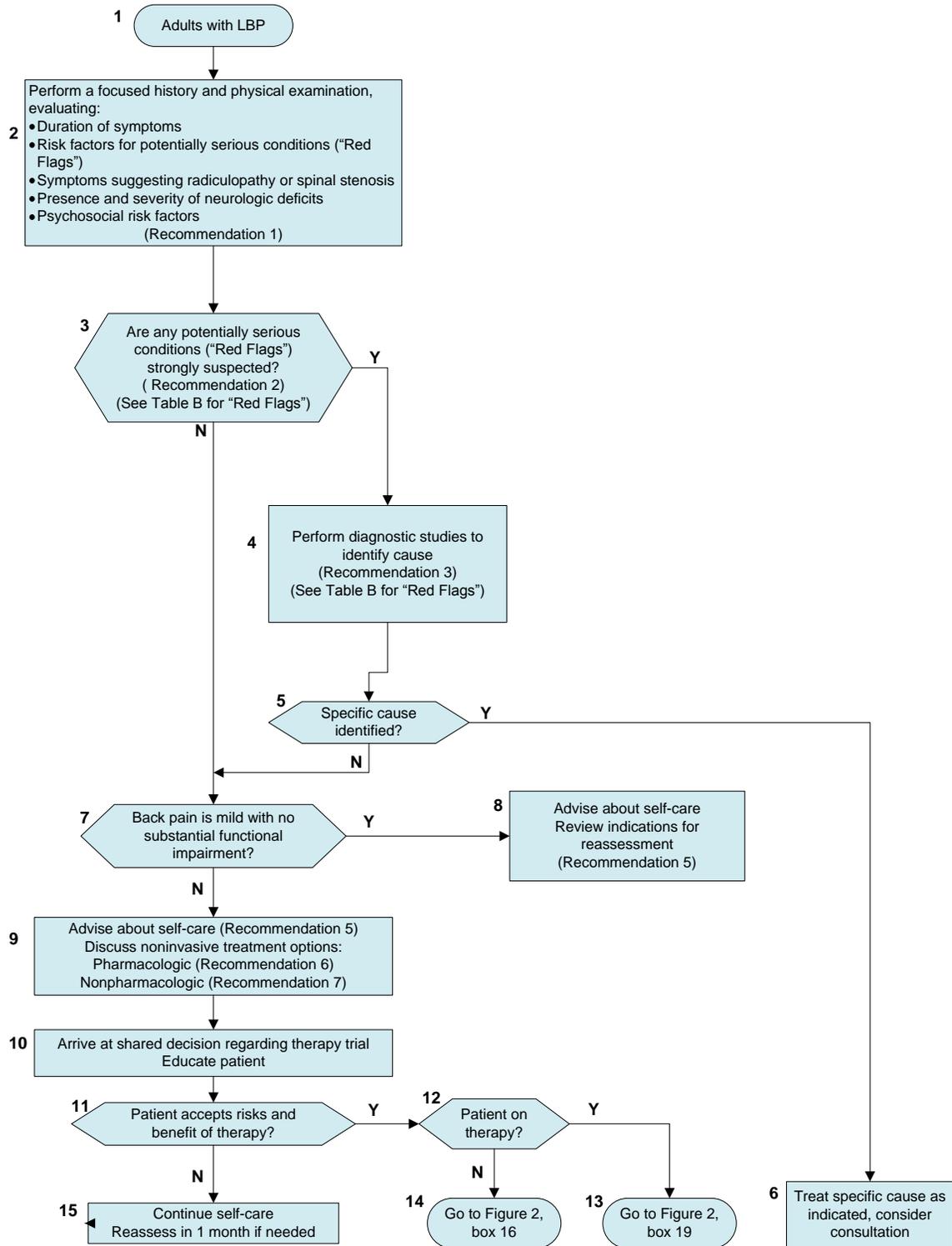
<sup>4</sup> Chou, R, Fu, R, Carrino, J & Deyo, R. (2009). Imaging strategies for low-back pain: systematic review and meta-analysis. *The Lancet*, 373(9662): 463-72.

<sup>5</sup> Chou, R, Qaseem, A, Owens, D, Shekelle, P for the Clinical Guidelines Committee of the American College of Physicians. (2011). Diagnostic imaging for low back pain: Advice for high-value health care from the American College of Physicians. *Annals of Internal Medicine*, 154(3), 181-189.

<sup>6</sup> Making referrals for management of psychosocial risk factors predictive of chronic disabling back pain are not supported by evidence at this time.

Recommendations		
Recommendation	Content	Strength of Recommendation & Evidence Grade
2. Routine Imaging for non-specific pain (X-ray, CT, MRI)	Clinicians <b>should not</b> routinely obtain imaging or other diagnostic tests in patients with nonspecific low back pain.	Recommendation: Strong Grade: Moderate-quality evidence
3. Imaging for underlying conditions present or suspected (X-ray, CT, MRI)	Clinicians should perform diagnostic imaging and testing for patients with 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.  (See Table B for a list of potentially serious conditions)	Recommendation: Strong Grade: Moderate-quality evidence
4. Advanced Imaging (CT, MRI)	Clinicians should evaluate patients with persistent low back pain and signs or symptoms of radiculopathy or spinal stenosis with magnetic resonance imaging (preferred) or computed tomography only if they are potential candidates for surgery or epidural steroid injection (for suspected radiculopathy).	Recommendation: Strong Grade: Moderate-quality evidence
5. Patient Education	Clinicians should provide patients with evidence-based information on low back pain with regard to their expected course, advise patients to remain active, and provide information about effective self-care options.	Recommendation: Strong Grade: Moderate-quality evidence
6. Pharmacologic therapy	For patients with low back pain, clinicians should consider the use of medications with proven benefits in conjunction with back care information and self-care. Clinicians 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.  Note: For most patients, first-line medication options are acetaminophen or non-steroidal anti-inflammatory drugs	Recommendation: Strong Grade: Moderate-quality evidence
7. Non-pharmacologic therapy	For patients who do not improve with self-care options, clinicians should consider the addition of nonpharmacologic therapy with proven benefits—for acute low back pain, spinal manipulation; for chronic or subacute low back pain, intensive interdisciplinary rehabilitation, exercise therapy, acupuncture, massage therapy, spinal manipulation, yoga, cognitive-behavioral therapy, or progressive relaxation.	Recommendation: Weak Grade: Moderate-quality evidence

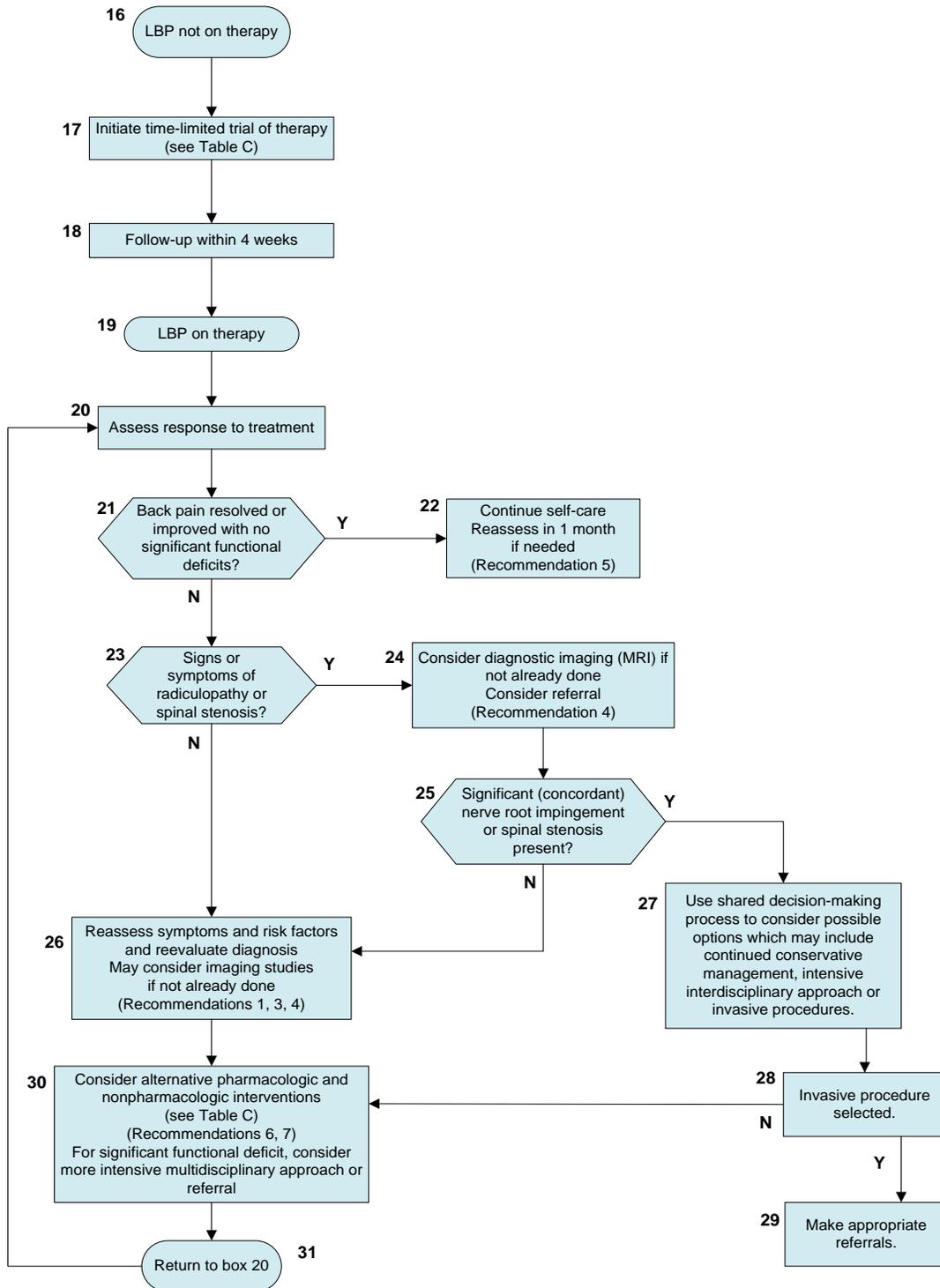
Figure 1. Initial evaluation & management of low back pain (LBP).



This algorithm should not be used for back pain associated with major trauma, nonspinal back pain, or back pain due to systemic illness.

Extracted and modified from Chou R, Qaseem A, Snow V, et al: *Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society.* Ann Intern Med. 2007;147:478-491.

Figure 2. Management of low back pain (LBP).



Extracted and modified from Chou R, Qaseem A, Snow V, et al: *Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society.* Ann Intern Med. 2007;147:478-491.

**Table B: Potentially Serious Conditions (“Red Flags”) and Recommendations for Initial Diagnostic Work-up (Addresses Recommendations 1-4)**

Possible cause	Key features on history or physical examination	Imaging*	Additional studies*
Cancer	History of cancer with new onset of LBP	MRI	ESR
	<ul style="list-style-type: none"> <li>• Unexplained weight loss</li> <li>• Failure to improve after 1 month</li> <li>• Age &gt;50 years</li> </ul>	Lumbosacral plain radiography	
	Multiple risk factors present	Plain radiography or MRI	
Spinal column infection	<ul style="list-style-type: none"> <li>• Fever</li> <li>• Intravenous drug use</li> <li>• Recent infection</li> </ul>	MRI	ESR and/or CRP
Cauda equina syndrome	<ul style="list-style-type: none"> <li>• Urinary retention</li> <li>• Motor deficits at multiple levels</li> <li>• Fecal incontinence</li> <li>• Saddle anesthesia</li> </ul>	MRI	None
Vertebral compression fracture	<ul style="list-style-type: none"> <li>• History of osteoporosis</li> <li>• Use of corticosteroids</li> <li>• Older age</li> </ul>	Lumbosacral plain radiography	None
Ankylosing spondylitis	<ul style="list-style-type: none"> <li>• Morning stiffness</li> <li>• Improvement with exercise</li> <li>• Alternating buttock pain</li> <li>• Awakening due to back pain during the second part of the night</li> <li>• Younger age</li> </ul>	Anterior-posterior pelvis plain radiography	ESR and/or CRP, HLA-B27
Nerve compression /disorders (e.g. herniated disc with radiculopathy)  (Recommendation 4)	<ul style="list-style-type: none"> <li>• Back pain with leg pain in an L4, L5, or S1 nerve root distribution</li> <li>• Positive straight-leg-raise test or crossed straight-leg-raise test</li> </ul>	None	None
	<ul style="list-style-type: none"> <li>• Radiculopathic symptoms present &gt;1 month</li> <li>• Severe/progressive neurologic deficits, progressive motor weakness</li> </ul>	MRI**	Consider EMG/NCV
Spinal stenosis  (Recommendation 4)	<ul style="list-style-type: none"> <li>• Radiating leg pain</li> <li>• Older age</li> <li>• Pain usually relieved with sitting</li> <li>• (Pseudoclaudication a weak predictor)</li> </ul>	None	None
	Spinal stenosis symptoms present >1 month	MRI**	Consider EMG/NCV

\* Level of evidence for diagnostic evaluation is variable

\*\* Only if patient is a potential candidate for surgery or epidural steroid injection

Red Flag: Red flags are findings from the history and physical examination that may be associated with a higher risk of serious disorders. CRP = C-reactive protein; EMG = electromyography; ESR = erythrocyte sedimentation rate; MRI = magnetic resonance imaging; NCV = nerve conduction velocity.

Extracted and modified from Chou R, Qaseem A, Snow V, et al: *Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society.* Ann Intern Med. 2007; 147:478-491.

**Table C: Interventions (Addresses Recommendations 5-7)**

Intervention Category*	Intervention	Acute < 4 Weeks	Subacute & Chronic > 4 Weeks
Self-care	Advice to remain active	●	●
	Books, handout	●	●
	Application of superficial heat	●	
Nonpharmacologic therapy	Spinal manipulation	●	●
	Exercise therapy		●
	Massage		●
	Acupuncture		●
	Yoga		●
	Cognitive-behavioral therapy		●
	Progressive relaxation		●
Pharmacologic therapy (Carefully consider risks/harms)	Acetaminophen	●	●
	NSAIDs	●(▲)	●(▲)
	Skeletal muscle relaxants	●	
	Antidepressants (TCA)		●
	<i>Benzodiazepines**</i>	●(▲)	●(▲)
	<i>Tramadol, opioids**</i>	●(▲)	●(▲)
Interdisciplinary therapy	Intensive interdisciplinary rehabilitation		●
<p>● Interventions supported by grade B evidence (at least fair-quality evidence of moderate benefit, or small benefit but no significant harms, costs, or burdens). No intervention was supported by grade “A” evidence (good-quality evidence of substantial benefit).</p> <p>▲ Carries greater risk of harms than other agents in table.</p>			

NSAIDs = nonsteroidal anti-inflammatory drugs; TCA = tricyclic antidepressants.

\*These are general categories only. Individual care plans need to be developed on a case by case basis. For more detailed information please see: <http://www.annals.org/content/147/7/478.full.pdf>

\*\*Associated with significant risks related to potential for abuse, addiction and tolerance. This evidence evaluates effectiveness of these agents with relatively short term use studies. Chronic use of these agents may result in significant harms.

*Extracted and modified from Chou R, Qaseem A, Snow V, et al: Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society. Ann Intern Med. 2007; 147:478-491.*

## **Appendix A. Sources Searched for Low Back Pain Guidelines**

1. British Medical Journal – Clinical Evidence
2. Cochrane Library
3. Agency for Healthcare Research and Quality
4. ECRI
5. Hayes, Inc
6. Veterans Administration – Technology Assessment Program (VA TAP)
7. Blue Cross Blue Shield HTA
8. Centers for Medicare and Medicaid
9. CADTH
10. Washington HTA Program
11. US Preventive Services Task Force
12. ICSI
13. Guidelines.gov
14. American College of Physicians AND American Pain Society
15. American Physical Therapy Association
16. PEDro.org.au (evidence-based physiotherapy database)
17. GIN Guidelines Database

## Appendix B. Low Back Pain Guidelines Identified

### Methods Summary:

Initially, 17 databases and other sources for guidelines related to Acute Low Back Pain were searched. Candidate guidelines were required to:

- be evidence-based (recommendations based on a full systematic review)
- be comprehensive
- be published in English
- be freely available to the public

Thirteen pertinent guidelines were identified, of which 10 were sufficiently comprehensive and were assessed by two clinical epidemiologists for methodologic quality using a modified AGREE (Appraisal of Guidelines Research and Evaluation) II<sup>7</sup> instrument.

Candidate guidelines were then assessed considering:

- age
- source
- specific treatment elements addressed
- presentation

The GDG selected the two guidelines of highest quality that were most comprehensive. (See guideline text for comprehensive Methods discussion)

### Low Back Pain Guidelines Identified in Search – Selected for Quality Assessment

American College of Occupational and Environmental Medicine (ACOEM). (2007). Low back disorders.

Occupational medicine practice guidelines: Evaluation and management of common health problems and functional recovery in workers. 2<sup>nd</sup> ed. Elk Grove Village, IL: ACOEM.

**Overall guideline quality rating: Fair**

Chou, R., Qaseem, A., Snow, V., Casey, D., Cross, J.T. Jr., Shekelle, P., Owens, D.K., Clinical Efficacy Assessment Subcommittee of the American College of Physicians, American College of Physicians, American Pain Society Low Back Pain Guidelines Panel. (2007). Diagnosis and treatment of low back pain: A joint clinical practice guideline from the American College of Physicians and the American Pain Society. *Ann Intern Med*, 147(7), 478-91.

**Overall guideline quality rating: Good**

Institute for Clinical Systems Improvement (ICSI). (2010). Adult low back pain. Fourteenth edition. Bloomington, MN: ICSI.

**Overall guideline quality rating: Poor**

Michigan Quality Improvement Consortium. (2008). Management of acute low back pain. Southfield, MI: Michigan Quality Improvement Consortium.

**Overall guideline quality rating: Poor**

National Health and Medical Research Council. Australian Acute Musculoskeletal Pain Guidelines Group. (2003). Evidence-based management of acute musculoskeletal pain. (Website states that status is “current”). [Chapter 4 of document is on Acute Low Back Pain.]

[http://www.nhmrc.gov.au/files\\_nhmrc/file/publications/synopses/cp94.pdf](http://www.nhmrc.gov.au/files_nhmrc/file/publications/synopses/cp94.pdf)

**Overall guideline quality rating: Fair**

National Institute for Health and Clinical Excellence (NICE). (2009). Low back pain: Early management of persistent non-specific low back pain. London, UK: National Institute for Health and Clinical Excellence. Retrieved September 30, 2010, from <http://www.nice.org.uk/nicemedia/live/11887/44343/44343.pdf>

**Overall guideline quality rating: Good**

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<sup>7</sup> <http://www.agreecollaboration.org/>

New Zealand Guidelines Group. (2004). New Zealand acute low back pain guide. Wellington, NZ: New Zealand Guidelines Group. Retrieved December 13, 2010, from [http://www.nzgg.org.nz/guidelines/0072/acc1038\\_col.pdf](http://www.nzgg.org.nz/guidelines/0072/acc1038_col.pdf)

**Overall guideline quality rating: Fair**

Philadelphia Panel. (2001). Philadelphia Panel evidence-based clinical practice guidelines on selected rehabilitation interventions for low back pain. *Physical Therapy, 81*(10), 1641-74.

**Overall guideline quality rating: Fair**

Towards Optimized Practice. (2009). Management of low back pain. Edmonton, AB: Towards Optimized Practice Program.

**Overall guideline quality rating: Fair**

University of Michigan Health System. (2010). Acute low back pain. Ann Arbor, MI: University of Michigan Health System.

**Overall guideline quality rating: Poor**

#### Low Back Pain Guidelines Identified in Search– Not Selected for Quality Assessment

Burton, A.K., Müller, G., Balagué, F., Gardon, G., Eriksen, H.R., Hänninen, O., et al. (2004). European guidelines for prevention in low back pain. Retrieved November 22, 2010, from [http://www.backpaineurope.org/web/files/WG3\\_Guidelines.pdf](http://www.backpaineurope.org/web/files/WG3_Guidelines.pdf)

**Reason for exclusion: Age of underlying evidence review**

Davis, P.C., Wippold, F.J. II, Brunberg, J.A., Cornelius, R.S., De La Paz, R.L., Dormont, D., Gray, L, Jordan, J.E., Mukherji, S.K., Seidenwurm, D.J., Turski, P.A., Zimmerman, R.D., Sloan, M.A., Expert Panel on Neurologic Imaging. (2008). ACR Appropriateness Criteria® low back pain. Reston, VA: American College of Radiology (ACR).

**Reason for exclusion: Specific treatment elements not addressed**

Globe, G.A., Morris, C.E., Whalen, W.M., Farabaugh, R.J., Hawk, C, Council on Chiropractic Guidelines and Practice Parameter. (2008) Chiropractic management of low back disorders: Report from a consensus process. *Journal of Manipulative Physiological Therapy, 31*(9), 651-8.

**Reason for exclusion: Specific treatment elements not addressed**

McIntosh, G., & Hall, H. (2007). Low back pain (acute). *BMJ Clinical Evidence, 10*, 1102-1131.

**Reason for exclusion: Not a guideline**

Resnick, D.K., Choudhri, T.F., Dailey, A.T., Groff, M.W., Khoo, L., Matz, P.G., Mummaneni, P., Watters, W.C. 3<sup>rd</sup>, Wang, J., Walters, B.C., Hadley, M.N., American Association of Neurological Surgeons/Congress of Neurological Surgeons. (2005). Guidelines for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 2: Assessment of functional outcome. *Journal of Neurosurgery: Spine, 2*(6), 639-46.

**Reason for exclusion: Specific treatment elements not addressed**

US Preventive Services Task Force (USPSTF). (2004). Primary care interventions to prevent low back pain in adults. Rockville, MD: USPSTF.

**Reason for exclusion: Recommendations pertain to prevention, not diagnosis or management**

Work Loss Data Institute (WLDI). (2008). Low back - lumbar & thoracic (acute & chronic). Corpus Christi, TX: WLDI. Retrieved November 22, 2010, from <http://guidelines.gov/content.aspx?id=12674> [Full version for purchase only]

**Reason for exclusion: Not freely available to the public**

**Appendix C: Methodology Checklist Adapted from the AGREE II materials**

<b>Methodology Checklist: Guidelines</b>			
Guideline citation <i>(Include name of organization, title, year of publication, journal title, pages)</i>			
Guideline Topic:			
Checklist completed by:			Date:
<b>SECTION 1: PRIMARY CRITERIA</b>			
<b>To what extent is there</b>		<b>Assessment/Comments:</b>	
1.1	<b>RIGOR OF DEVELOPMENT: Evidence</b> <ul style="list-style-type: none"> <li>• Systematic literature search</li> <li>• Study selection criteria clearly described</li> <li>• Quality of individual studies and overall strength of the evidence assessed</li> <li>• Explicit link between evidence &amp; recommendations</li> </ul> <i>(If any of the above are missing, rate as poor)</i>	GOOD	FAIR POOR
1.2	<b>RIGOR OF DEVELOPMENT: Recommendations</b> <ul style="list-style-type: none"> <li>• Methods for developing recommendations clearly described</li> <li>• Strengths and limitations of evidence clearly described</li> <li>• Benefits/side effects/risks considered</li> <li>• External review</li> </ul>	GOOD	FAIR POOR
1.3	<b>EDITORIAL INDEPENDENCE<sup>8</sup></b> <ul style="list-style-type: none"> <li>• Views of funding body have not influenced the content of the guideline</li> <li>• Competing interests of members have been recorded and addressed</li> </ul>	GOOD	FAIR POOR
<i>If any of three primary criteria are rated poor, the entire guideline should be rated poor.</i>			
<b>SECTION 2: SECONDARY CRITERIA</b>			
2.1	<b>SCOPE AND PURPOSE</b> <ul style="list-style-type: none"> <li>• Objectives described</li> <li>• Health question(s) specifically described</li> <li>• Population (patients, public, etc.) specified</li> </ul>	GOOD	FAIR POOR

<sup>8</sup> Editorial Independence is a critical domain. However, it is often very poorly reported in guidelines. The assessor should not rate the domain, but write “unable to assess” in the comment section. If the editorial independence is rated as “poor”, indicating a high likelihood of bias, the entire guideline should be assessed as poor.

SECTION 2: SECONDARY CRITERIA, Cont.				
2.2	<b>STAKEHOLDER INVOLVEMENT</b> <ul style="list-style-type: none"> <li>• Relevant professional groups represented</li> <li>• Views and preferences of target population sought</li> <li>• Target users defined</li> </ul>	GOOD	FAIR	POOR
2.3	<b>CLARITY AND PRESENTATION</b> <ul style="list-style-type: none"> <li>• Recommendations specific, unambiguous</li> <li>• Management options clearly presented</li> <li>• Key recommendations identifiable</li> <li>• Application tools available</li> <li>• Updating procedure specified</li> </ul>	GOOD	FAIR	POOR
2.4	<b>APPLICABILITY</b> <ul style="list-style-type: none"> <li>• Provides advice and/or tools on how the recommendation(s) can be put into practice</li> <li>• Description of facilitators and barriers to its application</li> <li>• Potential resource implications considered</li> <li>• Monitoring/audit/review criteria presented</li> </ul>	GOOD	FAIR	POOR
SECTION 3: OVERALL ASSESSMENT OF THE GUIDELINE				
3.1	How well done is this guideline?	GOOD	FAIR	POOR
3.2	Other reviewer comments:			

**Description of Ratings: Methodology Checklist for Guidelines**

The checklist for rating guidelines is organized to emphasize the use of evidence in developing guidelines and the philosophy that “evidence is global, guidelines are local.” This philosophy recognizes the unique situations (e.g., differences in resources, populations) that different organizations may face in developing guidelines for their constituents. The second area of emphasis is transparency. Guideline developers should be clear about how they arrived at a recommendation and to what extent there was potential for bias in their recommendations. For these reasons, rating descriptions are only provided for the primary criteria in section one. There may be variation in how individuals might apply the good, fair, and poor ratings in section two based on their needs, resources, organizations, etc.

**Section 1. Primary Criteria (rigor of development and editorial independence) ratings:**

**Good:** All items listed are present, well described, and well executed (e.g., key research references are included for each recommendation).

**Fair:** All items are present, but may not be well described or well executed.

**Poor:** One or more items are absent or are poorly conducted

## Appendix D. List of External Reviewers

### **Invited: Accepted & Reviewed**

**Susan Bamberger, PT, DIP MDT**

President

Oregon Physical Therapy Association

**Roger Chou, MD**

Scientific Director

Oregon Evidence-based Practice Center

Oregon Health & Science University

**Rick Deyo, MD, MPH**

Kaiser Permanente Professor of Evidence-Based Family Medicine

Director, KL2 Multidisciplinary Clinical Research Career Development Program

Director, OCTRI Community and Practice-based Research Program

Departments of Family Medicine and Internal Medicine

Oregon Health & Science University

**Dorothy Epstein, DPT, OCS**

Physical Therapist

Legacy Good Samaritan Pain Management Center

Legacy Good Samaritan Outpatient Rehabilitation

**Marc Gosselin, MD**

Associate Professor

Director, Thoracic Imaging

Department of Diagnostic Radiology

Oregon Health & Science University

**Mitch Haas, DC, MA**

Associate Vice President of Research

University of Western States

**Luci Kovacevic, MD, MPH**

Occupational Medicine Physician

Cascade Medical Associates

### **Invited: Declined/Did Not Respond/Did Not Review**

Thirteen additional reviewers were invited but either declined, did not respond, missed the deadline or did not return the review. Areas of professional expertise for invited reviewers included:

Behavioral Health

Complementary and Alternative Medicine

Family Medicine

Internal Medicine

Occupational Medicine

Orthopedic Surgery

Neurosurgery

Pain Advocacy

Physical Therapy

Physical Medicine and Rehabilitation

Sports Medicine

Worker's Compensation