NGC banner

Guideline Summary NGC-7704

Guideline Title

Guideline for the evidence-informed primary care management of low back pain.

Bibliographic Source(s)

Toward Optimized Practice. Guideline for the evidence-informed primary care management of low back pain. Edmonton (AB): Toward Optimized Practice; 2009 Mar 2. 21 p. [19 references]

Guideline Status

This is the current release of the guideline.

FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- May 25, 2010 – Ultram (tramadol hydrochloride) : Ortho-McNeil-Janssen and the U.S. Food and Drug Administration (FDA) notified healthcare professionals of changes to the Warnings section of the prescribing information for tramadol, a centrally acting synthetic opioid analgesic indicated for the management of moderate to moderately severe chronic pain. The strengthened Warnings information emphasizes the risk of suicide for patients who are addiction-prone, taking tranquilizers or antidepressant drugs and also warns of the risk of overdosage.

- December 4, 2009 – Voltaren (diclofenac) : Endo, Novartis and U.S. Food and Drug Administration (FDA) notified healthcare professionals of revisions to the Hepatic Effects section of the Prescribing Information to add new warnings and precautions about the potential for elevation in liver function tests during treatment with all products containing diclofenac sodium.

Scope

Disease/Condition(s)

- Acute and subacute low back pain
- Chronic low back pain
- Acute and subacute sciatica/radiculopathy
- Chronic sciatica/radiculopathy

Guideline Category

Counseling

Diagnosis

Evaluation

Management

Prevention

Risk Assessment

Treatment

Clinical Specialty

Chiropractic

Family Practice

Nursing

Pharmacology

Physical Medicine and Rehabilitation

Preventive Medicine

Psychology

Intended Users

Advanced Practice Nurses

Chiropractors

Nurses

Occupational Therapists

Pharmacists

Physical Therapists

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Guideline Objective(s)

- To increase the use of evidence-informed conservative approaches to the prevention, assessment, diagnosis, and treatment in primary care patients with low back pain
- To promote appropriate specialist referrals and use of diagnostic tests in patients with low back pain
- To encourage patients to engage in appropriate self-care activities

Target Population

Adult patients 18 years or older in primary care settings

Interventions and Practices Considered

Prevention

1. Patient education
2. Physical activity
3. Shoe insoles/orthoses
4. Lumbar supports/back belts
5. Manipulative treatment
6. Mattresses
7. Furniture - chairs
8. Risk factor modification

Management/Treatment

1. Acute and sub-acute low back pain (duration less than 12 weeks)
   - Diagnostic triage
   - Emergent cases
   - Cases requiring further evaluation
   - Referral
   - Psychosocial risk factors
   - Laboratory testing
   - Reassessment of patients whose symptoms fail to resolve
   - Information and reassurance
   - Cold packs or heat
   - Advice to stay active
   - Return to work
   - Analgesia
   - Narcotic analgesics
   - Spinal manipulation
   - Multidisciplinary treatment programs
   - Back schools
   - Traction
   - Massage therapy
   - Transcutaneous electrical nerve stimulation (TENS)
   - Diagnostic imaging
   - Oral and epidural steroids
   - Bed rest
   - Acupuncture
   - Therapeutic exercise

2. Chronic low back pain (duration more than 12 weeks)
    - Diagnostic tests
    - Laboratory testing
    - Self-management programs
    - Physical exercise and therapeutic exercise
    - Active rehabilitation
    - Massage therapy
    - Acupuncture
    - TENS
    - Non-steroidal anti-inflammatory drugs (NSAIDs)
    - Muscle relaxants
    - Antidepressants
    - Opioids
    - Multidisciplinary treatment programs
    - Prolotherapy
    - Epidural steroid injections
    - Behavioural therapy/progressive muscle relaxation
    - Referral
    - Spinal manipulation

Major Outcomes Considered

- Number, duration, and intensity of pain episodes
- Pain recurrence
- Functional status (strength, mobility, endurance)
- Time required to return to work
- Utilization of health care resources
- Diagnostic accuracy of various imaging techniques including lumbar spine computed tomography (CT) and magnetic resonance imaging
- Patient satisfaction

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

A preliminary systematic literature search was conducted to identify relevant guidelines published in English from January 1996 to February 2006. The search was further refined and updates were conducted in April 2006, October 2006, June 2007, and February 2008. The date restriction was applied to ensure that the guidelines collected were current and clinically relevant.

Relevant seed guidelines were identified by searching PubMed, various guideline clearinghouses, and Google.com. In some cases, the Guideline Development Group (GDG) members requested additional research evidence to finalize some of the guideline's recommendations. Therefore, systematic reviews on interventions for low back pain were identified by searching PubMed, EMBASE, CINAHL, The Cochrane Library, Web of Science, AMED, CRD databases, PsycINFO, rehabilitation databases, and the websites of various health technology assessment agencies were also searched.

A supplementary literature search was conducted to identify systematic reviews on interventions for low back pain published from January 1996 to August 2007.

Medical Subject Headings (MeSH) relevant to this topic are: Low back pain, Back pain, Pain, Sacrococcygeal region, Sciatica.

Selecting the Seed Guidelines

Seed guidelines were included if they focused on the diagnosis, conservative nonsurgical treatment, or prevention of nonmalignant, nonspecific low back pain and were designed for use in the primary healthcare settings by physicians, physical therapists, chiropractors, occupational therapists, psychologists, nurses, physiatrists, and other healthcare providers who treat patients with back pain.

Only clinical practice guidelines (CPGs) formulated in countries with developed market economies were included since the health status, cultural norms, access to health care, and disease burden of individuals from countries with transitional or developing economies were likely to be too different from those of Canada to be clinically relevant.

Patients included individuals who were 18 years of age or older. Guidelines that referred to adult patients without

providing a specific age range were also included.

For guidelines on treatment and diagnosis, the duration of pain was defined as follows:

- Acute and subacute pain: pain of less than 12 weeks' duration.
- Chronic pain: pain of at least 12 weeks' duration.

Guidelines that referred to adult patients with "chronic pain" but lacked a definition of chronic pain in terms of time period (i.e., at least 12 weeks) were also included.

Guidelines were excluded if they focused on:

- Inpatient interventions or treatments, such as surgical treatments
- Children or adolescents, pregnant women, or patients with specific causes for low back pain, such as referred pain (from abdomen, kidney, ovary, pelvis, bladder), inflammatory conditions (rheumatoid arthritis, ankylosing spondylitis), infections (postherpetic neuralgia, discitis, osteomyelitis, epidural abscess), degenerative and structural changes (spondylosis, spondylolisthesis, gross scoliosis, or kyphosis), fracture, neoplasm, or metabolic bone disease (osteoporosis, osteomalacia, Paget's disease)

The initial selection of guidelines was made by one reviewer and double-checked by a second reviewer. Guidelines were excluded that, on the basis of their abstract, clearly did not meet the inclusion criteria. Copies of the full text of potentially eligible guidelines were retrieved. In some cases, closer examination of the full text revealed that the guideline did not meet the inclusion criteria. Consequently, these papers were excluded. When a single guideline development group had published more than one guideline, only the most recent version was used.

The independent consultant on the Steering Committee advised that working with more than two or three guidelines for each condition can make the adaptation process unwieldy when a large GDG is involved. Therefore, when more than two guidelines were found on the same topic (this occurred for acute and subacute low back pain CPGs), a consensus meeting of two physicians from the GDG and the Chair of the GDG (a psychologist) selected the two most clinically relevant guidelines based on expert opinion.

Number of Source Documents

Seven seed guidelines

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Critically Appraising the Seed Guidelines

The included guidelines were assessed with respect to various aspects of methodology and reporting using the Appraisal of Guidelines for Research and Evaluation (AGREE) instrument. The seed guideline quality assessments were undertaken independently by two or three reviewers. The reviewers discussed the modified AGREE dictionary with respect to the interpretation of questions prior to assessing the guidelines.

Extracting Data

Two reviewers extracted guideline information into standardized evidence inventory tables that were developed a priori. However, duplicate data extraction and cross-checking were not performed. The evidence inventory tables included guideline profile information (title, country, and intervention category; e.g., prevention, acute and subacute, or chronic low back pain), a synopsis of the recommendations, and a list of the number and types of studies referenced by the guideline to support its recommendations. Discordant recommendations among guidelines were highlighted within the table.

Additional information regarding the methods and processes used to develop this guideline is available in the 'Ambassador Program guideline for the evidence-informed primary care management of low back pain: background document'. (See also the "Availability of Companion Documents" field.)

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The Guideline Development Group (GDG) reviewed all of the documents for the seed guidelines (the guidelines plus their companion documents, evidence inventory tables, and Appraisal of Guidelines for Research and Evaluation [AGREE] scores) and engaged in deliberations during 10 half-day meetings (nine videoconferences and one face-to-face) over a 12-month period. To maintain continuity, the same experienced Chairperson guided all of the meetings. Frequent "roundtables" were conducted during each meeting to ensure that all participants had a voice in the proceedings, and process reviews were instigated at strategic points throughout. Each of the topic areas (prevention, acute and subacute, and chronic low back pain) were addressed in a sequential fashion to ensure that there were separate videoconference discussions on the formulation of recommendations for each. All final decisions were made by consensus.

Additional research evidence was required when there were uncertainties or disagreements regarding evidence

interpretation, or when recommendations were overlapping, discordant, or absent. These contentious items were referred for further analysis to ad hoc GDG subcommittees comprising the Chair, one health technology assessment (HTA) researcher, and at least one volunteer from the GDG with expertise in the relevant area. When necessary, additional information was provided from individual studies cited by the seed guidelines or from systematic reviews listed in a regularly updated database of reviews on low back pain. All of the consensus-based subcommittee decisions were presented to the GDG for final approval.

Additional information regarding the methods and processes used to develop this guideline is available in the 'Ambassador Program guideline for the evidence-informed primary care management of low back pain: background document'. (See also the "Availability of Companion Documents" field.)

Rationale and Process for Developing Recommendations

Each recommendation in this guideline was sourced from one or multiple "seed" guidelines and was accepted, supplemented, or changed as follows:

- Accepted or accepted with minor modification (e.g., wording)
- Accepted but supplemented with expert opinion
- Rejected and a new recommendation created based on expert opinion
- Additional information retrieved/considered:
  - Accepted/changed original recommendation based only on studies included in seed guidelines
  - Accepted/changed original recommendation based on additional evidence from systematic review literature search
  - Supplemented additional evidence with expert opinion
  - Rejected and a new recommendation created based on expert opinion

Rating Scheme for the Strength of the Recommendations

Summary of Criteria to Determine the Categorization of Recommendations

Do	• The Guideline Development Group (GDG) accepted the original recommendation, which provided a prescriptive direction to perform the action or used the term "effective" to describe it. • The GDG supplemented a recommendation or created a new one, based on their collective professional opinion, which supported the action.
Not Recommended	• The GDG accepted the original recommendation, which provided a prescriptive direction "not" to perform the action; used the term "ineffective" to describe it; or stated that the evidence does "not support" it. • The GDG supplemented a recommendation or created a new one, based on their collective professional opinion, which did not support the action.
Do Not Know	• The GDG accepted the original recommendation, which did not recommend for or against the action or stated that there was "no evidence", "insufficient or conflicting evidence", or "no good evidence" to support its use. • The GDG supplemented a recommendation or created a new one, based on their collective professional opinion, which was equivocal with respect to supporting the action.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

The 'Alberta Clinical Practice Guideline (CPG) for the Evidence-Informed Primary Care Management of Low Back Pain' (summary, guideline, and companion documents) were reviewed by various stakeholders (professionals with experience and interest in pain management, members of the Guideline Development Group (GDG) and their colleagues, and patients with acute and chronic low back pain) as well as two independent methodologists with expertise in guideline development. The Steering Committee and Research Team collated all feedback and incorporated it, where possible, into the Alberta CPG. All changes were subsequently presented to the GDG.

Additional information regarding the methods and processes used to develop this guideline is available in the 'Ambassador Program guideline for the evidence-informed primary care management of low back pain: background document'. (See also the "Availability of Companion Documents" field.)

Recommendations

Major Recommendations

The criteria used to determine the categorization of the recommendations (**Do, Not Recommended, and Do Not Know**) are defined at the end of the "Major Recommendations" field. In addition, an explanation of the evidence source (i.e., types of evidence and corresponding "seed" guidelines) are also available.

Prevention

	Recommendation	Evidence Source
Do	**Patient Education** Practitioners should provide information or patient education material on back pain prevention and care of the healthy back that emphasizes patient responsibility and workplace ergonomics. (See the companion document - Patient brochure in the "Availability of Companion Documents" field) The evidence is unclear on what quantity, intensity, or media is optimal for delivering this information. (See the companion documents - patient information sheets ["Acute low back pain" and "Chronic low back pain"] and patient brochure which are available in the "Availability of Companion Documents" field.) Practitioners should emphasize that acute low back pain is nearly always benign and generally resolves within 1 to 6 weeks. *Patient information and educational material based on a biomedical or biomechanical model (anatomical and "traditional" posture information) can convey negative messages about back pain and is not recommended*.	**SR** (G2 & G5)
Do	**Physical Activity** Physical activity is recommended. There is insufficient evidence to recommend for or against any specific kind of exercise, or the frequency/intensity of training.	**SR** (G5)
Do Not Recommend	**Shoe Insoles/Orthoses** The use of shoe insoles or orthoses is not recommended for prevention of back problems.	**RCT** (G5)
Do Not Know	**Lumbar Support/Back Belts** Neither lumbar supports nor back belts appear to be effective in reducing the incidence of low back pain.	**RCT** (G3)
Do Not Know	**Manipulative Treatment** No evidence was found to support recommending regular manipulative treatment for the prevention of low back pain.	**RCT** (G5)
Do Not Know	**Mattresses** There is insufficient evidence to recommend for or against any specific mattresses for prevention of low back pain.	**RCT** (G5)
Do Not Know	**Furniture - Chairs** There is insufficient evidence to recommend for or against any specific chairs for prevention of low back pain.	**NRT** (G5)
Do Not Know	**Risk Factor Modification** There is no good evidence for or against risk factor modification (e.g., smoking cessation, reduced alcohol consumption, weight reduction) for the prevention of low back pain.	**SR** (G3)

Acute & Subacute

	Recommendation	Evidence Source
Do	**Diagnostic Triage** The first qualified practitioner with the ability to do a full assessment (i.e., history-taking, physical and neurological examination, and psychosocial risk factor assessment) should assess the patient and undertake diagnostic triage. (See Appendix A in the original guideline document for summary of red and yellow flags and companion documents, "Clinical assessment for psychosocial yellow flags" and "What can be done to help somebody who is at risk?" Also available in the "Availability of Companion Documents" field.) If serious spinal pathology is excluded, manage as non-specific low back pain as per the reassessment and treatment recommendations below.	**SR** (G2 & G4)
Do	**Emergent Cases** Patients with red flags (See Appendix A in the original guideline document for red flag definitions) indicating a high likelihood of serious underlying pathology should be referred for immediate evaluation and treatment to an appropriate resource depending on what is available in your region (e.g., emergency room, relevant specialist.)	**EO** (G2)
Do	**Cases Requiring Further Evaluation**	**EO** (G2)

	Schedule an urgent appointment with a physician if any of the red flags are present. (See Appendix A in the original guideline document for red flag definitions.)	
Do	**Referral** Patients with disabling back or leg pain, or significant limitation of function including job related activities should be referred within 2-6 weeks to a trained spinal care specialist such as a physical therapist, chiropractor, osteopathic physician or physician who specializes in musculoskeletal medicine. Consult or refer to a spinal surgeon if the patient has neuromotor deficits that persist after 4 to 6 weeks of conservative treatment or sciatica for longer than 6 weeks with positive straight leg raise.	**EO** (G2)
Do	**Psychosocial Risk Factors** Primary care evaluation should include assessment for psychosocial risk factors ("yellow flags") and a detailed review if there is no improvement. (See Appendix A in the original guideline document for summary of yellow flags and companion documents, "Clinical assessment for psychosocial yellow flags" and "What can be done to help somebody who is at risk?" Also available in the "Availability of Companion Documents" field.) Psychosocial risk factors (yellow flags) include fear, financial problems, anger, depression, job dissatisfaction, family problems, or stress.	**SR** (G2 & G4)
Do	**Laboratory Testing** If cancer or infection is suspected, order the appropriate blood tests. In the absence of red flags, no laboratory tests are recommended.	**EO** (G2)
Do	**Reassessment of Patients Whose Symptoms Fail to Resolve** Reassess patients whose symptoms are not resolving. Follow-up in one week if pain is severe and has not subsided. Follow-up in three weeks if moderate pain is not improving. Follow-up in 6 weeks if not substantially recovered. If serious pathology (red flag) is identified, consider further appropriate management. Identify psychosocial risk factors (yellow flags) and address appropriately. (See Appendix A in the original guideline document for definitions of red and yellow flags and companion documents "Clinical assessment for psychosocial yellow flags" and "What can be done to help somebody who is at risk?" for chronicity and increased disability. Also available in the "Availability of Companion Documents" field.)	**G** (G2 & G4)
Do	**Information and Reassurance** Educate the patient and describe the benign long-term course of low back pain. Provide education materials that are consistent with your verbal advice, to reduce fear and anxiety and emphasize active self-management. (See the companion document - Patient Information Sheet in the "Availability of Companion Documents" field.)	**NRT** (G2 & G4)
Do	**Cold Packs or Heat** In the first 72 hours recommend cold packs (ice), after that, alternate cold and heat as per patient's preference. *Heat or cold should not be applied directly to the skin, and not for longer than 15 to 20 minutes. Use with care if lack of protective sensation*.	**EO** (G2)
Do	**Advice to Stay Active** Patients should be advised to stay active and continue their usual activity, including work, within the limits permitted by the pain. Physical exercise is recommended. *Patients should limit/pace any activity or exercise that causes spread of symptoms (peripheralization). Self-treating with an exercise program not specifically designed for the patient may aggravate symptoms*.	**SR** (G2 & G4)
Do	**Return to Work** Encourage early return to work. Refer workers with low back pain beyond 6 weeks to a comprehensive return-to-work rehabilitation program. Effective programs are typically multidisciplinary and involve case management, education about keeping active, psychological or behavioral treatment and participation in an exercise program. *Working despite some residual discomfort poses no threat and will not harm patients*.	**SR** (G2)
Do	**Analgesia** Prescribe medication, if necessary, for pain relief preferably to be taken at regular intervals. First choice acetaminophen; second choice non-steroidal anti-inflammatory drugs (NSAIDs). Only consider adding a short course of muscle relaxant (benzodiazepines, cyclobenzaprine, or antispasticity drugs) on its own, or added to NSAIDs, if acetaminophen or NSAIDs have failed to reduce pain. *Serious adverse effects of NSAIDs include gastrointestinal complications (e.g., bleeding, perforation and increased blood pressure). Drowsiness, dizziness and dependency are common adverse effects of muscle relaxants. (See Medication Table in Appendix B in the original guideline document.)*	**SR** (G4 & G7)

Do	**Narcotic Analgesics** There is evidence that the effect of opioid or compound analgesics is similar to NSAID treatment of acute low back pain. Oral opioids may be necessary to relieve severe musculoskeletal pain. It is preferable to administer a short-acting agent at regular intervals, rather than on a pain-contingent basis. Ongoing need for opioid analgesia is an indication for reassessment. *In general, opioids and compound analgesics have a substantially increased risk of side effects compared with acetaminophen alone. (See Medication Table in Appendix B in the original guideline document.)*	**SR** (G7)
Do	**Spinal Manipulation** Patients who are not improving may benefit from referral for spinal manipulation provided by a trained spinal care specialist such as a physical therapist, chiropractor, osteopathic physician or physician who specializes in Musculoskeletal (MSK) medicine. *Risk of serious complication after spinal manipulation is low (estimated risk: cauda equina syndrome, less than 1 in one million). Current guidelines contraindicate manipulation in people with severe or progressive neurological deficit.*	**SR** (G4)
Do	**Multidisciplinary Treatment Programs** Encourage early return to work. Refer patients who have difficulty returning to work to a multidisciplinary treatment program.	**SR** (G4)
Do Not Recommend	**Back Schools** Back schools are not recommended for treatment of acute low back pain. Back schools are programs of variable duration and intensity that include education about the anatomy and function of the back as well as training on specific therapeutic exercises.	**SR** (G4)
Do Not Recommend	**Traction** Do not use traction. Traction has been associated with significant adverse events. *Passive treatment modalities such as traction should be avoided as mono-therapy and not routinely be used because they may increase the risk of illness behaviour and chronicity.* *The following adverse effects from traction were reported: reduced muscle tone, bone demineralization, and thrombophlebitis.*	**SR** (G4 & G7)
Do Not Recommend	**Massage Therapy** Massage therapy is not recommended as a treatment for acute low back pain.	**SR** (G4)
Do Not Recommend	**Transcutaneous Electrical Nerve Stimulation (TENS)** TENS is not recommended for the treatment of acute non-specific low back pain.	**SR** (G4)
Do Not Recommend	**Diagnostic Imaging** For non-specific acute low back pain (no red flags), diagnostic imaging tests, including x-ray, computed tomography (CT) and magnetic resonance imaging (MRI), are not indicated. *In the absence of red flags, routine use of x-rays is not justified due to the risk of high doses of radiation and lack of specificity.*	**SR** (G4)
Do Not Recommend	**Oral and Epidural Steroids** *Oral Steroids* Do not use oral steroids for acute non-specific low back pain	**EO** (G2)
Do Not Recommend	*Epidural Steroids* Do not use epidural steroid injections for acute non-specific low back pain without radiculopathy. It is reasonable to use epidural steroid injections for patients with radicular pain for greater than 6 weeks who have not responded to first line treatments. *Adverse effects are infrequent and include headache, fever, subdural penetration and more rarely epidural abscess and ventilatory depression.*	**SR** (G4)
Do Not Recommend	**Bed Rest** Do not prescribe bed rest as a treatment. If the patient must rest, bed rest should be limited to no more than 2 days. Prolonged bed rest for	**SR** (G2, G4 & G7)

	more than 4 days is not recommended for acute low back problems. Bed rest for longer than two days increases the amount of sick leave compared to early resumption of normal activity in acute low back pain. *There is evidence that prolonged bed rest is harmful*.	
Do Not Know	**Acupuncture** The evidence does not allow firm conclusions about the effectiveness of acupuncture.	**SR** (G7)
Do Not Know	**Therapeutic Exercise** There is insufficient evidence to recommend for or against any specific kind of exercise, or the frequency/intensity of training. Clinical experience suggests that supervised or monitored therapeutic exercise may be useful following an individualized assessment by a spine care specialist. For patients whose pain is exacerbated by physical activity and exercise, refer to a physical therapist, chiropractor, osteopathic physician, or physician who specializes in MSK medicine for therapeutic exercise recommendations. *Patients should discontinue any activity or exercise that causes spread of symptoms (peripheralization). Self-treating with an exercise program not specifically designed for the patient may aggravate symptoms*.	**SR** (G2 & G4)

Chronic

	Recommendation	Evidence Source
Do	**Diagnostic Tests** In chronic low back pain, x-rays of the lumbar spine are very poor indicators of serious pathology. Hence, in the absence of clinical red flags spinal x-rays are not encouraged. More specific and appropriate diagnostic imaging should be performed on the basis of the pathology being sought (e.g., dual energy x-ray absorptiometry [DEXA] scan for bone density, bone scan for tumors and inflammatory diseases). However, lumbar spine x-rays may be required prior to more sophisticated diagnostic imaging, for example prior to performing a CT or MRI scan. In this case, the views should be limited to anterior-posterior (AP) and lateral (LAT) without requesting oblique views. *Oblique view X-rays are not recommended; they add only minimal information in a small percentage of cases, and more than double the patient's exposure to radiation*.	**NRT** (G2)
Do	**Laboratory Testing** If cancer or infection is suspected, order the appropriate blood tests. In the absence of red flags, no laboratory tests are recommended.	**EO** (G2)
Do	**Self-management Programs** Where available, refer to a structured community-based self-management group program for patients who are interested in learning pain coping skills. These programs are offered through chronic disease management and chronic pain programs. Self-management programs focus on teaching core skills such as self monitoring of symptoms to determine likely causal factors in pain exacerbations or ameliorations, activity pacing, relaxation techniques, communication skills, and modification of negative "self talk" or catastrophizing. These programs use goal setting and "homework assignments" to encourage participants' self confidence in their ability to successfully manage their pain and increase their day-to-day functioning. Most community-based programs also include exercise and activity programming that are also recommended. Where structured group programs are not available, refer to a trained professional for individual self-management counselling.	**G** (G6)
Do	**Physical Exercise and Therapeutic Exercise** Patients should be encouraged to initiate gentle exercise and gradually increase their exercise level within their pain tolerance. Sophisticated equipment is not necessary. Low cost alternatives include unsupervised walking and group exercise programs such as those offered though chronic disease management programs. The outcome for group exercise is likely better in terms of peer support, giving people improved confidence and empowering patients to manage with less medical intervention. If exercise persistently exacerbates their pain, patients should be further assessed by a knowledgeable physician to determine if further investigation, medications, other interventions, and/or consultation are required. The exercise program should also be assessed by a knowledgeable physical therapist or qualified exercise specialist if the exercises exacerbate the patient's pain. *Some studies reported mild negative reactions to the exercise program such as increased low back pain and muscle soreness in some patients*.	**SR** (G1 & G6)
Do	**Active Rehabilitation** Active rehabilitation program includes: • Education about back pain principles	**SR** (G2)

	• Self-management programming (see Self-management Programs recommendation) • Gradual resumption of normal activities (including work and physical exercise) as tolerated • Therapeutic exercise - there is strong evidence that therapeutic exercise is effective for chronic low back pain. There is no conclusive evidence as to the type of therapeutic exercise that is best. A client-specific, graded, active, therapeutic exercise program is recommended.	
Do	**Massage Therapy** Massage therapy is recommended as an adjunct to an overall active treatment program.	**SR** (G6)
Do	**Acupuncture** Acupuncture is recommended as a stand-alone therapy or as an adjunct to an overall active treatment program. *No serious adverse events were reported in the trials. The incidence of minor adverse events was 5% in the acupuncture group.*	**SR** (G6)
Do	**TENS** The research evidence does not support the use of TENS as a sole treatment for chronic low back pain. However, clinical experience suggests that TENS may be useful in select patients for pain control to avoid or reduce the need for medications. A short trial (2 to 3 treatments) using different stimulation parameters should be sufficient to determine if the patient will respond to this modality. *Skin irritation is a common adverse event.*	**SR** (G6)
Do	**Acetaminophen and NSAIDs** Acetaminophen and NSAIDs are recommended. No one NSAID is more effective than another. *NSAIDs are associated with mild to moderately severe side effects such as: abdominal pain, diarrhea, edema, dry mouth, rash, dizziness, headache, tiredness. There is no clear difference between different types of NSAIDs. (See Medication Table in Appendix B in the original guideline document.)*	**SR** (G6)
Do	**Muscle Relaxants** Some muscle relaxants (e.g., cyclobenzaprine) may be appropriate in selected patients for symptomatic relief of pain and muscle spasm. *Caution must be exercised with managing side effects, particularly drowsiness, and also with patient selection, given the abuse potential for this class of drugs. (See Medication Table in Appendix B in the original guideline document.)*	**SR** (G6)
Do	**Antidepressants** Tricyclic antidepressants have a small to moderate effect for chronic back pain, at much lower doses than might be used for depression. *Possible side-effects include drowsiness and anticholinergic effects. (See Medication Table in Appendix B in the original guideline document.)*	**SR** (G6)
Do	**Opioids** Long-term use of weak opioids, like codeine, should only follow an unsuccessful trial of non-opioid analgesics. In severe chronic pain, opioids are worth careful consideration. Long acting opioids can establish a steady state blood and tissue level that may minimize the patient's experience of increased pain from medication withdrawal experienced with short acting opioids. Careful attention to incremental changes in pain intensity, function, and side effects is required to achieve optimal benefit. Because little is known about the long-term effects of opioid therapy, it should be monitored carefully. *Opioid side-effects (including headache, nausea, somnolence, constipation, dry mouth, and dizziness) should be high in the differential diagnosis of new complaints.* A history of addiction is a relative contraindication. Consultation with an addictions specialist may be helpful in these cases. Consult the Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain endorsed by the College of Physicians & Surgeons of Alberta (CPSA). (Also see Medication Table in Appendix B in the original guideline document.)	**SR** (G6)
Do	**Multidisciplinary Treatment Program** Referral to a multidisciplinary chronic pain program is appropriate for patients who are significantly affected by chronic pain and who have failed to improve with adequate trials of first line treatment. Get to know the multidisciplinary chronic pain program in your referral area and use it for selected cases of chronic low back pain.	**SR** (G6)

Do	**Prolotherapy** Prolotherapy is only appropriate in carefully selected and monitored patients who are participating in an appropriate program of exercise and/or manipulation/mobilization. *The most commonly reported adverse events were temporary increases in back pain and stiffness following injections. Some patients had severe headaches suggestive of lumbar puncture, but no serious or permanent adverse events were reported.*	**SR** (G6)
Do	**Epidural Steroid Injections** For patients with leg pain, epidural steroid injections can be effective in providing short-term pain relief. *Transient minor complications include: headache, nausea, pruritis, increased pain of sciatic distribution, and puncture of the dura. (See Medication Table in Appendix B in the original guideline document.)*	**SR** (G6)
Do	**Behavioural Therapy/Progressive Muscle Relaxation** Where group programs are not available, consider referral for individual cognitive-behavioural treatment provided by psychologist or other qualified provider.	**SR** (G6)
Do	**Referral** Refer patients with severe persistent disability who have not responded to an exercise-based active rehabilitation program to interdisciplinary rehabilitation, a multidisciplinary chronic pain program or a physiotherapy clinic with consultation services.	**G** (G2 & G6)
Do Not Know	**Spinal Manipulation** There is insufficient evidence to recommend for or against spinal manipulative therapy.	**SR** (G6)

Definitions:

Summary of Criteria to Determine the Categorization of Recommendations

Do	• The Guideline Development Group (GDG) accepted the original recommendation, which provided a prescriptive direction to perform the action or used the term "effective" to describe it. • The GDG supplemented a recommendation or created a new one, based on their collective professional opinion, which supported the action.
Not Recommended	• The GDG accepted the original recommendation, which provided a prescriptive direction "not" to perform the action; used the term "ineffective" to describe it; or stated that the evidence does "not support" it. • The GDG supplemented a recommendation or created a new one, based on their collective professional opinion, which did not support the action.
Do Not Know	• The GDG accepted the original recommendation, which did not recommend for or against the action or stated that there was "no evidence", "insufficient or conflicting evidence", or "no good evidence" to support its use. • The GDG supplemented a recommendation or created a new one, based on their collective professional opinion, which was equivocal with respect to supporting the action.

Explanation of Evidence Source

Type of Evidence

Systematic Review - **SR**

Randomized Control Trial - **RCT**

Non-Randomized Trial - **NRT**

Guideline - **G**

Expert Opinion - **EO**

*"Seed" Guidelines**

G1: Mercer C et al. Clinical guidelines for the physiotherapy management of persistent Low Back Pain (LBP), part 1: exercise. Chartered Society of Physiotherapy, London. 2006. Available for purchase.

G2: Institute for Clinical Systems Improvement (ICSI). Adult low back pain. Bloomington (MN). 2006 September. Last accessed online May 7, 2008.

G3: U.S. Preventive Services Task Force. Primary Care Interventions to Prevent Low Back Pain: Brief Evidence Update. February 2004. Agency for Healthcare Research and Quality, Rockville, MD. Last accessed online May 7, 2008.

G4: van Tulder M et al. on behalf of the COST B13 Working Group on Guidelines for the Management of Acute Low Back Pain in Primary Care. European Guidelines for the Management of Acute Nonspecific Low Back Pain in Primary Care. 2004. Last accessed online May 7, 2008.

G5: Burton AK et al. on behalf of the COST B13 Working Group on Guidelines for Prevention in Low Back Pain. European

Guidelines for Prevention in Low Back Pain. November 2004. Last accessed online May 7, 2008.

G6: Calgary Health Region. Chronic Pain Management. Guidelines for Primary Care Practice in the Calgary Health Region. October 2005. Regional Pain Program. Low Back Pain. Evidence-based Clinical Practice Guidelines for Primary Care Practice in the Calgary Health Region. Chronic Pain Services in the Community: Supporting Primary Care. September 19, 2006. Last accessed online May 7, 2008.

G7: Australian Acute Musculoskeletal Pain Group. Evidence-based Management of Acute Musculoskeletal Pain. Acute Low Back Pain. Chapters 4 & 9, pg 25-62 and 183-188. 2003. Last accessed online May 7, 2008.

*The guidelines are not presented in any specific order. G1, G2, etc., are randomly assigned and for the purpose of organization only.

Clinical Algorithm(s)

An algorithm for the evidence-informed primary care management of low back pain is provided in the summary of the guideline (see the "Availability of Companion Documents" field).

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified for each recommendation (see "Major Recommendations").

The Evidence Source provides information on the "seed" guideline(s) that were used to develop the Alberta guideline recommendations. The Evidence Source also provides information on the design of the study that was referenced in the "seed" guideline in support of the recommendation. The following evidence sources were considered:

- Systematic review (SR): as cited by the "seed" guideline(s) or identified from supplementary literature search from January 2000 to August 2007 required by the Ambassador Guideline Development Group (GDG)
- Randomized controlled trial (RCT): as cited by the "seed" guideline
- Non-randomized trial (NRT): in the form of non-systematic/narrative review, non-randomized comparative study, and case series study, as cited by the "seed" guideline
- Guideline (G): as cited by the "seed" guideline
- Expert opinion (EO): after examining the individual studies cited by the "seed" guideline(s) or additional SRs on low back pain as identified by supplementary literature search from January 2000 to August 2007, the original recommendation was rejected and a new one was drafted based on the collective expert opinion of the Ambassador GDG. When no evidence was provided by the "seed" guideline in support of the recommendation, the supporting evidence for that recommendation was labeled as expert opinion (by the authors of the "seed" guideline).

When the evidence cited by the "seed" guideline(s) was from SR(s) and studies of other design (i.e., RCT, NRT, or guideline) only SR is listed as the source. When no SR was referenced in the "seed" guideline, the evidence source was indicated in the following order: RCT, or NRT, or guideline, or expert opinion. The same classification for the evidence source was applied when multiple "seed" guidelines were used to inform one recommendation.

Each recommendation in the Alberta guideline came from one or more "seed" guideline(s) accepted, supplemented, or changed and was based on additional evidence, and/or consensus of expert opinion.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Appropriate medical evaluation, treatment, and management of low back pain in adults
- It is expected that providing relevant, up-to-date information to assist primary care practitioners in the prevention, diagnosis, and treatment of low back pain will allow more patients to be competently managed in the primary care setting and decrease unnecessary referrals to increasingly overburdened specialists.

Potential Harms

Nonsteroidal Anti-inflammatory Drugs (NSAIDs)

Serious adverse effects of NSAIDs include gastrointestinal complications (e.g., bleeding, perforation and increased blood pressure). Drowsiness, dizziness and dependency are common adverse effects of muscle relaxants. Mild-to-moderately severe side effects of NSAIDs include abdominal pain, diarrhea, edema, dry mouth, rash, dizziness, headache, tiredness. There is no clear difference between different types of NSAIDs. (See Medication Table in Appendix B in the original guideline document.)

Opioids

In general, opioids and compound analgesics have a substantially increased risk for side effects compared with acetaminophen alone. Opioid side-effects (including headache, nausea, somnolence, constipation, dry mouth, and dizziness) should be high in the differential diagnosis of new complaints. (See Medication Table in Appendix B of the original guideline document.)

Epidural Steroids

Adverse effects are infrequent and include headache, fever, subdural penetration and more rarely epidural abscess and ventilatory depression. Other transient minor complications include nausea, pruritis, and increased pain of sciatic distribution (see Medication Table in Appendix B in the original guideline document).

Muscle Relaxants

Caution must be exercised with managing side effects, particularly drowsiness, and also with patient selection, given the abuse potential for this class of drugs. (See Medication Table in Appendix B in the original guideline document.)

Antidepressants

Possible side-effects include drowsiness and anticholinergic effects. (See Medication Table in Appendix B of the original guideline document.)

Prolotherapy

The most commonly reported adverse events were temporary increases in back pain and stiffness following injections. Some patients had severe headaches suggestive of lumbar puncture, but no serious or permanent adverse events were reported.

Contraindications

Contraindications

Risk of serious complication after spinal manipulation is low (estimated risk: cauda equina syndrome, less than 1 in one million). Current guidelines contraindicate manipulation in people with severe or progressive neurological deficit.

See Medication Table in Appendix B in the original guideline document for contraindications for drug treatments used in the management of acute and chronic low back pain.

Qualifying Statements

Qualifying Statements

- These recommendations are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. They should be used as an adjunct to sound clinical decision making.
- Not all recommended treatment options are available in all communities, nor are all treatment options necessarily covered by the guideline.

Implementation of the Guideline

Description of Implementation Strategy

The 'Alberta Clinical Practice Guideline (CPG) for the Evidence-Informed Primary Care Management of Low Back Pain' dissemination plan includes the following main strategies to manage barriers.

- Develop patient support materials (information sheets, DVD, website, brochure) and potentially a patient website with interactive teaching videos and other information.
- Target dissemination to the general public (media, brochure) and provide information to insurers.
- Involve partners:
  - Toward Optimized Practice (TOP) to launch guideline
  - Guideline Development Group (GDG) to champion the CPG in their regions
  - Advisory Committee members to champion through their organizations
  - Align with the Alberta Bone & Joint Health Institute
- Facilitate access to the Alberta CPG on the TOP Website from sites of other Alberta associations and organizations.
- Contact and connect with important stakeholders such as Alberta Health and Wellness, Alberta Health Services, the Workers' Compensation Board, and the primary care networks.
- Promote the CPG to professionals through different channels such as workshops, teaching support for continuing medical education (CME) in faculties of medicine (Calgary and Edmonton), presentation at one of the rural CME sessions, participation at conferences and other professional meetings, publication in peer-reviewed Canadian and international journals, and a consensus conference.

Implementation Tools

Clinical Algorithm

Patient Resources

Personal Digital Assistant (PDA) Downloads

Quick Reference Guides/Physician Guides

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Toward Optimized Practice. Guideline for the evidence-informed primary care management of low back pain. Edmonton (AB): Toward Optimized Practice; 2009 Mar 2. 21 p. [19 references]

Adaptation

The following "seed" guidelines* were used to develop the guideline recommendations.

G1: Mercer C et al. Clinical guidelines for the physiotherapy management of persistent Low Back Pain (LBP), part 1: exercise. Chartered Society of Physiotherapy, London. 2006. Available for purchase.

G2: Institute for Clinical Systems Improvement (ICSI). Adult low back pain. Bloomington (MN). 2006 September. Last accessed online May 7, 2008.

G3: U.S. Preventive Services Task Force. Primary Care Interventions to Prevent Low Back Pain: Brief Evidence Update. February 2004. Agency for Healthcare Research and Quality, Rockville, MD. Last accessed online May 7, 2008.

G4: van Tulder M et al. on behalf of the COST B13 Working Group on Guidelines for the Management of Acute Low Back Pain in Primary Care. European Guidelines for the Management of Acute Nonspecific Low Back Pain in Primary Care. 2004. Last accessed online May 7, 2008.

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G6: Calgary Health Region. Chronic Pain Management. Guidelines for Primary Care Practice in the Calgary Health Region. October 2005. Regional Pain Program. Low Back Pain. Evidence-based Clinical Practice Guidelines for Primary Care Practice in the Calgary Health Region. Chronic Pain Services in the Community: Supporting Primary Care. September 19, 2006. Last accessed online May 7, 2008.

G7: Australian Acute Musculoskeletal Pain Group. Evidence-based Management of Acute Musculoskeletal Pain. Acute Low Back Pain. Chapters 4 & 9, pg 25-62 and 183-188. 2003. Last accessed online May 7, 2008.

*The guidelines are not presented in any specific order. G1, G2, etc., are randomly assigned and for the purpose of organization only.

Date Released

2009 Mar

Guideline Developer(s)

Institute of Health Economics - Private Nonprofit Research Organization

Toward Optimized Practice - State/Local Government Agency [Non-U.S.]

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The abovementioned funders had no influence on the recommendations contained in the final Alberta clinical practice guideline (CPG).

Guideline Committee

Guideline Development Group (GDG)

Composition of Group That Authored the Guideline

Guideline Development Group (GDG) Members: Paul Taenzer (*Chair*), BSc, PhD, RPsych, Regional Pain Program, Alberta Health Services Calgary Health Region, Psychology, pain management

For details on the affiliation, discipline, and area of expertise of the GDG members, see Appendix A in the guideline background document (see the "Availability of Companion Documents" field).

Financial Disclosures/Conflicts of Interest

All Guideline Development Group (GDG), Steering Committee, and Research Team members completed a declaration of competing interest using a standard form (see Appendix P in the guideline background document).

Competing interest was considered to be financial or nonfinancial interest, either direct or indirect, that could affect the recommendations contained in the Alberta CPG. Noncompeting interests were declared among the members of the GDG, Steering Committee, or Research Team. However, one member of the GDG had acted as a speaker and had provided consultation services to a manufacturer for educational sessions.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the Toward Optimized Practice (TOP) Web site.

Availability of Companion Documents

The following are available:

- A summary of the guideline for the evidence-informed primary care management of low back pain. Edmonton (AB): Institute of Health Economics; 2009. 2 p. Electronic copies: Available in Portable Document Format (PDF) from the Toward Optimized Practice (TOP) Web site.
- Ambassador Program guideline for the evidence-informed primary care management of low back pain: background document. Edmonton (AB): Institute of Health Economics; 2009. Electronic copies: Available in PDF from the Institute of Health Economics Web site.
- Clinical assessment of psychosocial yellow flags. Edmonton (AB): Institute of Health Economics; 2009. 3 p. Electronic copies: Available in PDF from the TOP Web site.
- What can be done to help somebody who is at risk? Edmonton (AB): Institute of Health Economics; 2009. 2 p. Available in PDF from the TOP Web site.
- Canadian guideline for safe and effective use of opioids for chronic non-cancer pain. National Opioid Use Guideline Group (NOUGG). 2010. Electronic copies: Available from the McMaster University Web site.

In addition, a mobile version of the original guideline document is available from the TOP Web site.

Patient Resources

The following are available:

- What you should know about chronic low back pain. Patient handout. Edmonton (AB): Institute of Health Economics; 2009. 1 p. Electronic copies: Available in Portable Document Format (PDF) from the Toward Optimized Practice (TOP) Website.
- What you should know about acute low back pain. Patient handout. Edmonton (AB): Institute of Health Economics; 2009. 1 p. Electronic copies: Available in Portable Document Format (PDF) from the Toward Optimized Practice (TOP) Website.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on September 23, 2010. The information was verified by the guideline developer on October 22, 2010.

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