Low Back Pain Clinical Practice Guidelines

Definition

Several terms are used to describe conditions related to the back, based upon radiologic findings (eg, spondylosis), physical findings (radiculopathy), and symptoms (sciatica).
Lower back pain is subdivided by time frame into acute lower back pain lasting <4 weeks, subacute lower back pain lasting 4 to 12 weeks, and chronic lower back pain lasting >12 weeks.

An exclusion diagnosis is made by eliminating specific causes of lower back pain arising from neurological compromise, neoplasia, inflammatory arthritis, fracture, and referred pain from other locations or organ systems. The exact cause of pain is often impossible to identify precisely, but arises from any combination of pathology involving discs, vertebrae, facet joints, ligaments, and/or muscles.

Assessment (History and Examination)

- **A focused history and physical examination are sufficient to evaluate most patients with back pain of less than four weeks duration.**
- **Do not routinely obtain imaging studies or other diagnostic tests in patients with nonspecific low back pain.**
- **Consider urging referral for emergency or relevant specialty for further evaluation if any of Red flag:**

Red Flags help identify rare, but potentially serious conditions. They include:
- Features of Cauda Equina Syndrome including sudden onset of loss of bladder/ bowel control, saddle anesthesia (**emergency**)
- Severe worsening pain, especially at night or when lying down (urgent)
- Significant trauma (urgent)
- Weight loss, history of cancer, fever (urgent)
- Use of steroids or intravenous drugs (urgent)
- First episode of severe pain with patient over 50 years old, especially over 65 (soon)
- Widespread neurological signs (soon)

Yellow Flags indicate psychosocial barriers to recovery. They include:
- Belief that pain and activity are harmful
- 'Sickness behaviors' (like extended rest)
- Low or negative mood, social withdrawal
- Treatment expectations that do not fit best practice
- Problems with claim and compensation
- History of back pain, time-off, other claims
- Problems at work, poor job satisfaction
- Heavy work, unsociable hours (shift work)
- Overprotective family or lack of support

EMERGENCY - referral within hours URGENT - referral within 24 - 48 hours SOON - referral within weeks

TENS - Transcutaneous electrical nerve stimulation

Back Examination:

Expose the body parts to be examined appropriately and take permission to examine the patient.

1. Inspect

a. Gait (walking without shoes), Check tip toe walking (S1) and heel walk (L5).
b. Posture look at the patient's:
   - Back for scoliosis (thoraco-lumbar).
   - Sides for kyphosis (thoracic) and lordosis (cervical and lumbar).
c. Check shoulder and pelvic levels (should be symmetrical).
d. Skin (erythema, swelling, scars, hair, fat pads "lipoma").
e. Muscle Wasting (leg or gluteal).

2. Palpate

a. Temperature bilaterally.
b. Tenderness (using your thumb): over spinous process, paraspinal muscles, paravertebral area, sacroiliac joint, anterior and posterior iliac spines.
c. Masses or muscle spasm.

3. Percuss: Lightly on the back for any tenderness using a fist.

4. Check range of motion

a. Flexion: bending forward (if limited indicates disc pathology).
b. Extension: bending backward (if limited indicates spinal stenosis, spondylolisthiasis or usually facet pain).
c. Lateral rotation: bending to both sides (if limited indicates muscular pathology).
d. Rotation: fix the hip and ask the patient to turn to left and right (if limited indicates muscular pathology).

5. Special tests:

a. Straight leg raising test (SLR): (positive if shooting sciatica pain between 30 to 70 degrees: pain radiate below the knee that some times associated with numbness and parasthesia indicating herniated disc).
b. Bragard test (used to confirm a positive straight leg raising (SLR) test): passively lower the leg an inch from the level at which the patient felt pain with SR test and dorsiflex the foot (positive if shooting sciatica pain reoccur also indicates herniated disc).
c. Contralateral leg raising test: elevating the other leg causes back pain on the involved side.
d. Bowstring sign or tibial stretch sign: passively bend the patient's knee and press at the popliteal fossa (positive if sciatica pain is elicited and indicates herniated disc).
e. Figure four or FABER test: flexion, abduction, and external Rotation at the sacroiliac joint (positive if pain is not produced at the:
   - Sacroiliac (SI) joint indicates Si joint dysfunction or Sacroiliitis.
   - Groin indicates iliopsoas strain, iliopsoas bursitis or intra-articular hip disorder (osteoarthritis or labral tear).
   - Posterior hip indicates posterior hip impingement.
f. Femoral stretch sign: extend the hip while patient lying prone or on the side (positive if anterior thigh pain elicited and indicates involvment of L2-L3(or [4) nerve root).

6. Neurological examination:

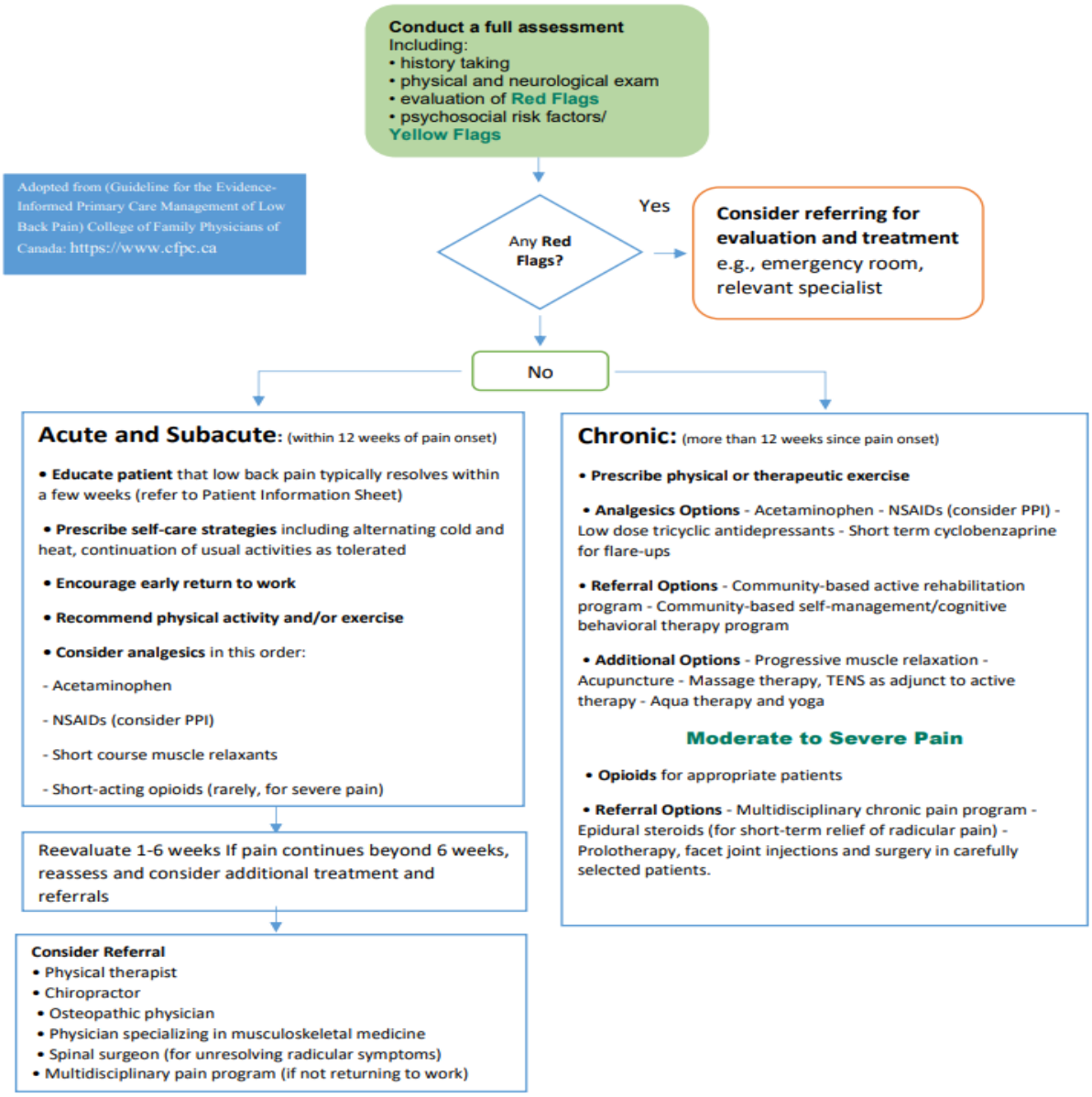
a. Sensation of the foot: Medial side (L4), Dorsum (L5) and Lateral side (51).
b. Power: dorsiflexion (L4-L5) and plantar flexion (SI) the foot.

c. Reflexes: knee jerk (L3-L4), ankle jerk (SI-S2), and ankle clonus: sudden passive ankle dorsiflexion which result in repetitive uncontrolled ankle twitches (indicates upper motor neuron lesion).

11. End your exam with:

a. Quick examination of neck and hip.
b. Abdominal palpitation to exclude Abdominal Aortic Aneurysm.
c. Digital rectal exam to check for anal sphincter tone

Management



- Do a full clinical assessment; rule out red flags
- In the absence of red flags, reassure the patient there is no reason to suspect a serious cause
- Reinforce that pain typically resolves in a few weeks without intervention
- Encourage patient to keep active
- Consider evidence-based management as per the guideline
- Recommend physical activity and/or exercise to prevent recurrence
- If pain continues beyond 6 weeks, reassess and consider additional treatment and referrals
- The goal of chronic pain management is improved quality of life
- Encourage and support pain self-management

Evidence indicates these actions are ineffective or harmful:

- Lab tests and diagnostic imaging in the absence of red flags
- Oral and systemic steroids
- Epidural steroid injections in the absence of radicular pain
- Prolonged bed rest
- Traction (including motorized)
- TENS for acute pain
- Therapeutic ultrasound for acute and subacute pain
- Massage, prolotherapy and TENS as sole treatments for chronic pain

Pain Type		Medication		Dosage range
Acute and sub-acute low back pain or flare-up of chronic low back/ spinal pain		**1st line**	Acetaminophen	Up to 1000 mg QID (max of 3000 mg/day)
		2nd line NSAIDs (consider PPIs if >45 years of age)	Ibuprofen	Up to 800 mg TID (max of 800 mg QID)
			Diclofenac	Up to 50 mg TID
		Add: Cyclobenzaprine for prominent muscle spasm		10 to 30 mg/day; Greatest benefit seen within one week; therapy up to 2 weeks may be justified
		If prescribing controlled release opioids: add a short-acting opioid or increase controlled release opioid by 20 to 25%		See opioids below
Chronic low back/ spinal pain		**1st and 2nd lines**	See acute pain, above	
	TRICYCLICS AND OPIOIDS	**3rd line** Tricyclics (TCAs)	Amitriptyline Nortriptyline fewer adverse effects	10 to 100 mg HS
		3rd line Weak Opioids	Codeine	30 to 60 mg every 3 to 4 hours
			Controlled release codeine	50 to 100 mg Q8h, may also be given Q12h
		4th line Tramadol (*not currently covered by Alberta Blue Cross*)		Slow titration max 400mg/day. Note: Monitor total daily acetaminophen dose when using tramadol - acetaminophen combination
		5th line Strong Opioids (controlled release)	Morphine sulfate	15 to100 mg BID
			Hydromorphone HCl	3 to 24 mg BID
			Oxycodone HCl	10 to 40 mg BID -TID
			Fentanyl patch	25 to 50 mcg/hr Q3 days

APPROVL			
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Adopted from:

(Guidelines for the Evidence – Informed Primary Care Management of Low Back Pain) College of Family Physicians of Canada