

# LOW BACK PAIN

## OBJECTIVES:

- Discuss epidemiology of low back pain
- Summarize diagnosis/ special tests
- Review “Red Flags”
- Discuss treatment and referral guidelines
- Discuss light duty guidelines



## EPIDEMIOLOGY:

Low back pain is the most common cause of disability in people under age 45. Lifetime incidence is 90%. 50% of working adults experience one or more episodes per year. Low back pain accounts for 20% of all physician visits.

### Acute Low Back Pain (Low back strain or sprain, “pulled muscle”, mechanical LBP)

- Most common form
- Risk factors include: repetitive bending, twisting and lifting; heavy lifting; whole-body vibration; sustained awkward posture; smoking; poor fitness.
- May occur without any history of injury or overuse.
- 85% resolve within 4 weeks regardless of treatment

### Acute lumbar disc herniation

- Risk factors include extreme lifting, age >50 years
- 10-25% have persistent sciatica at 6 weeks, <10% at 3 months.
- 80-90% resolve without surgery

### Degenerative disease

- Osteoarthritis (DJD)
- Degenerative disc disease
- Spinal stenosis
- Ankylosing spondylitis
- All more likely after age 50
- Chronic pain

### Traumatic

- Compression fracture (increased risk with osteoporosis, age >70)
- Spondylolysis/ spondylolisthesis

### Medical

- Infection (paraspinal abscess, pyelonephritis, gyn infections)
- Nephrolithiasis
- Metastatic disease

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Diagnosis and Treatment -Back Injuries

# DIAGNOSIS

## Special considerations regarding migrant farmworkers and low back pain:

### Risk factors

- Work is back-intensive: frequent bending, twisting, lifting, long hours, piece work.

### Protective factors

- Healthy worker effect: H2A physicals and migration select for younger, fitter population
- Culturally low smoking rate, especially among Hispanic workers
- Less likely to adopt behaviors associated with chronic pain and disability, such as prolonged bed rest and injury litigation

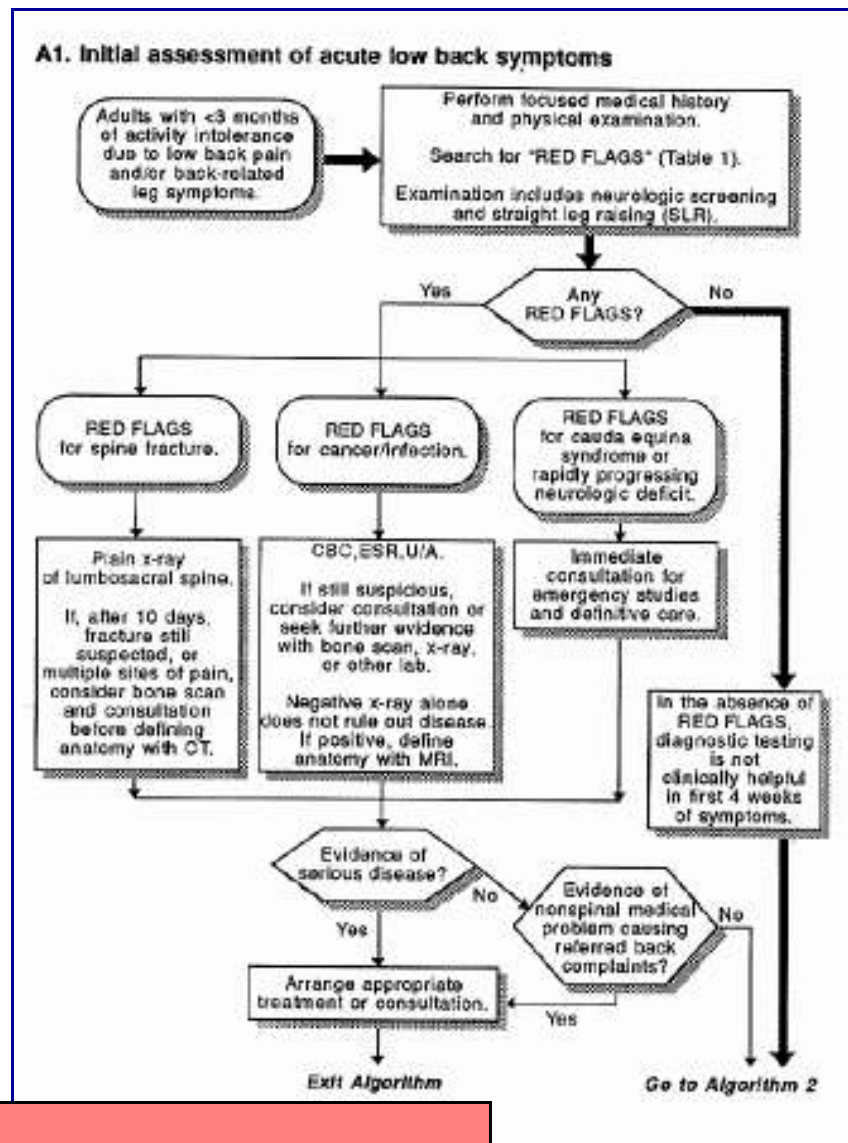
The great majority of patients presenting with acute low back pain require only rest, time, and OTC pain medications. It is essential, however, to detect those few with more serious disease who will require more intensive workup and referral. Skillful use of the history and physical exam will allow the medical provider to safely accomplish this winnowing process. The AHCPR guidelines are a systematic, evidence-based approach to this (algorithm next page).



## Diagnostic Categories

Nonspecific back symptoms (most common)  
Sciatica  
Potentially serious spinal condition (red flag)

**AHCPR Diagnosis  
Algorithm**

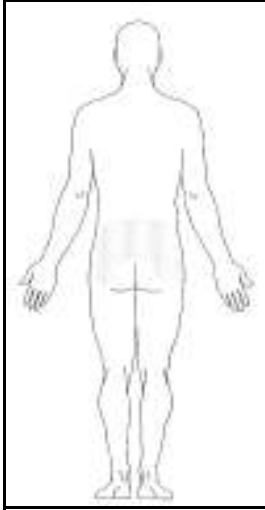


**RED FLAGS**

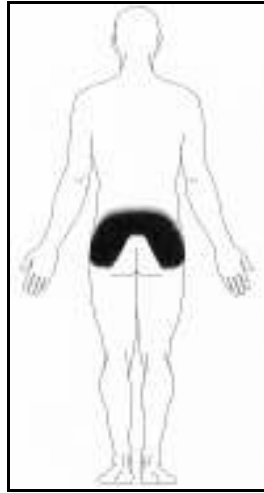
- For Fracture**
- History of major trauma (fall, direct blow, MV A)
  - Minor trauma in older or osteoporotic patient
- For Spine Metastasis/Infection**
- Age >50 or <20
  - History of cancer
  - Constitutional symptoms (fever, fatigue, weight loss)
  - Risk factors for infection (IVDA, HIV, Immunosuppressive drugs)
  - Symptoms worse at rest/night
- For Cauda Equina Syndrome**
- Saddle anesthesia
  - Bladder Dysfunction
  - Fecal Incontinence

# PATTERNS OF LOW BACK PAIN

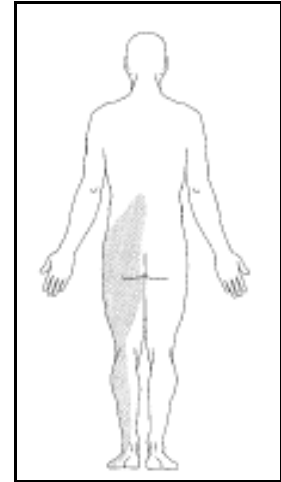
## Most common:



Low back sprain

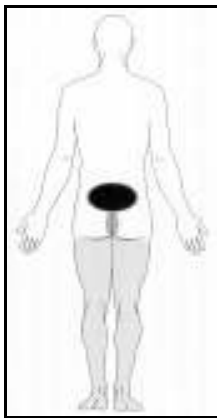


Degenerative disc disease

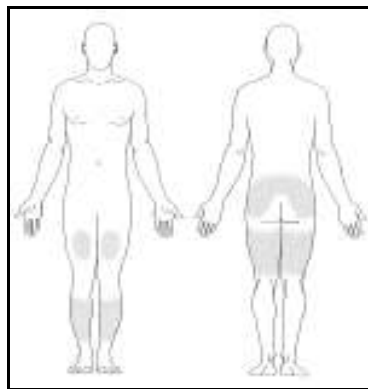


Sciatica

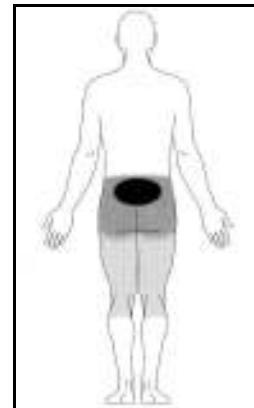
## Uncommon but clinically important:



Cauda Equina Syndrome



Spinal Stenosis

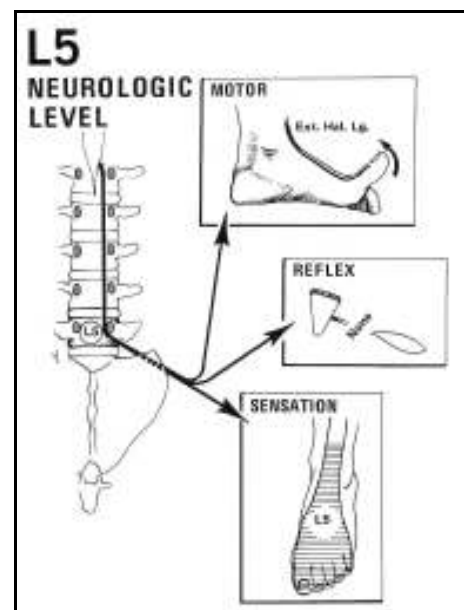
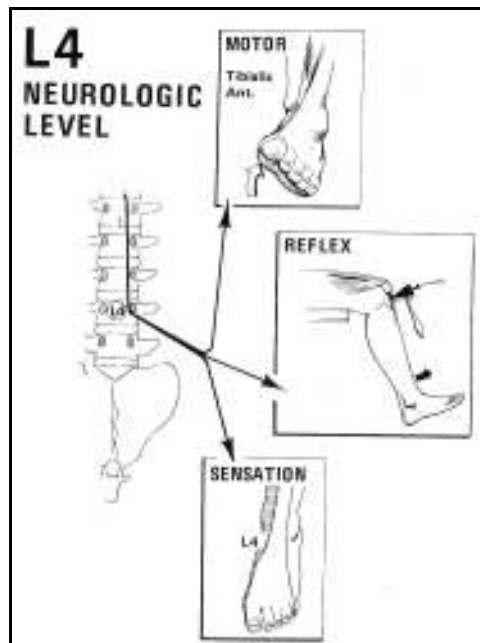
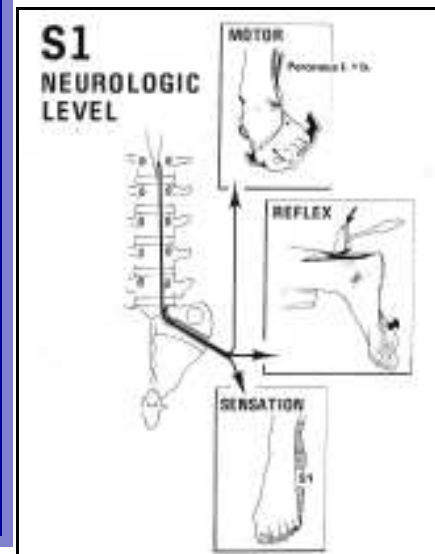


Spondylolysis

# PHYSICAL EXAM

## Essential exam :

- Heel walk (L4)
- Dorsiflexion great toe (L5)
- Toe walk (S1)
- Patellar reflex (L4)
- Ankle reflex (S1)
- Light touch in foot: medial (L4), dorsal (L5), lateral (S1)
- Straight leg raise (L5, S1)
- Valsalva (supports disc herniation, not level-specific)



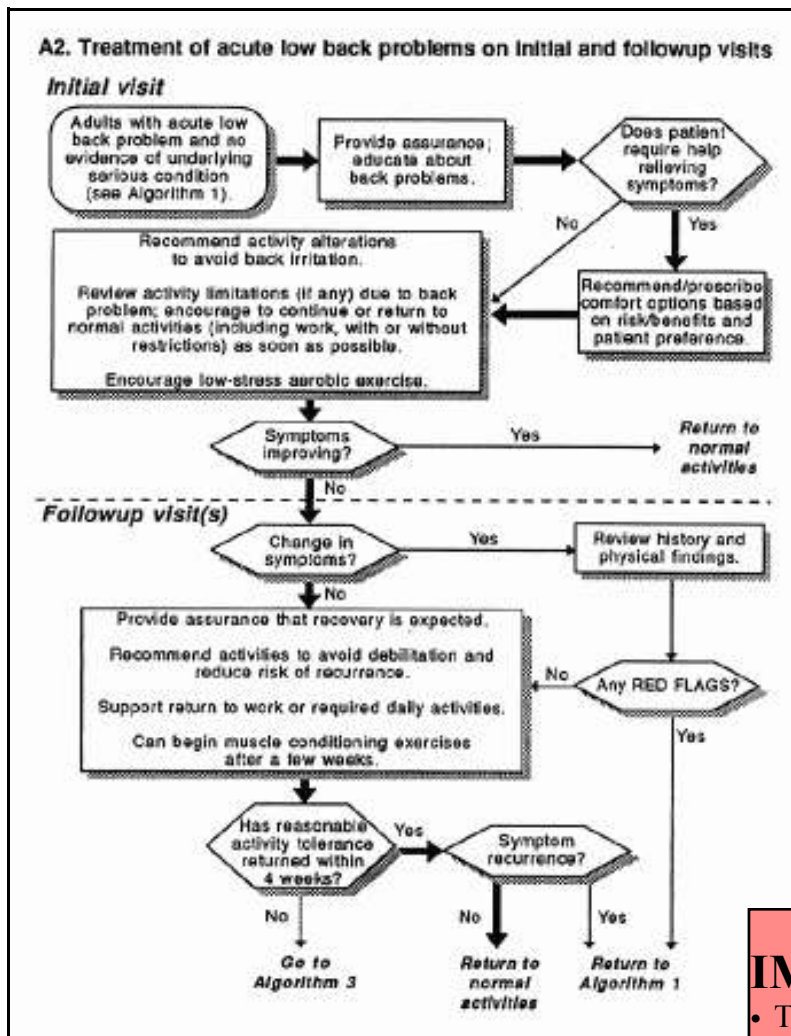
# MANAGEMENT

## AHCPR guidelines for management of low back pain:

- In the absence of red flags, imaging and other testing are not helpful during the first 4 weeks
- Relief of pain is most safely accomplished with nonprescription medications
- Bed rest > 4 days is not helpful
- 2-4 days of bed rest may be an option for severe initial symptoms
- Gradual return to normal activities is more effective than bed rest.
- Exercise: gradual self paced increase is best: both aerobic and strength exercises are helpful.
- Low stress aerobic activities can be safely started in the first 2 weeks, trunk muscle conditioning should wait 2 wks.
- Within the first 3 months, only patients with evidence of serious spinal pathology or severe, debilitating symptoms of sciatica, and physiologic evidence of specific nerve root compromise corroborated on imaging studies can be expected to benefit from surgery.
- With or without surgery 80-90% of patients with sciatica recover eventually.

## WADDELL'S SIGNS

- **TENDERNESS:** non anatomic or superficial
- **PAIN WITH SIMULATED TESTING:** axial loading (hand on head), or pelvic rotation
- **INCONSISTENT RESPONSES WITH DISTRACTION:** Straight leg raise positive when lying but normal when seated. No downward force with opposite leg raise (Hoover test)
- **REGIONAL DISTURBANCES:** cogwheeling, nondermatomal sensory loss
- **OVERREACTION:** jumps when touched



## MANAGING DELAYED RECOVERY:

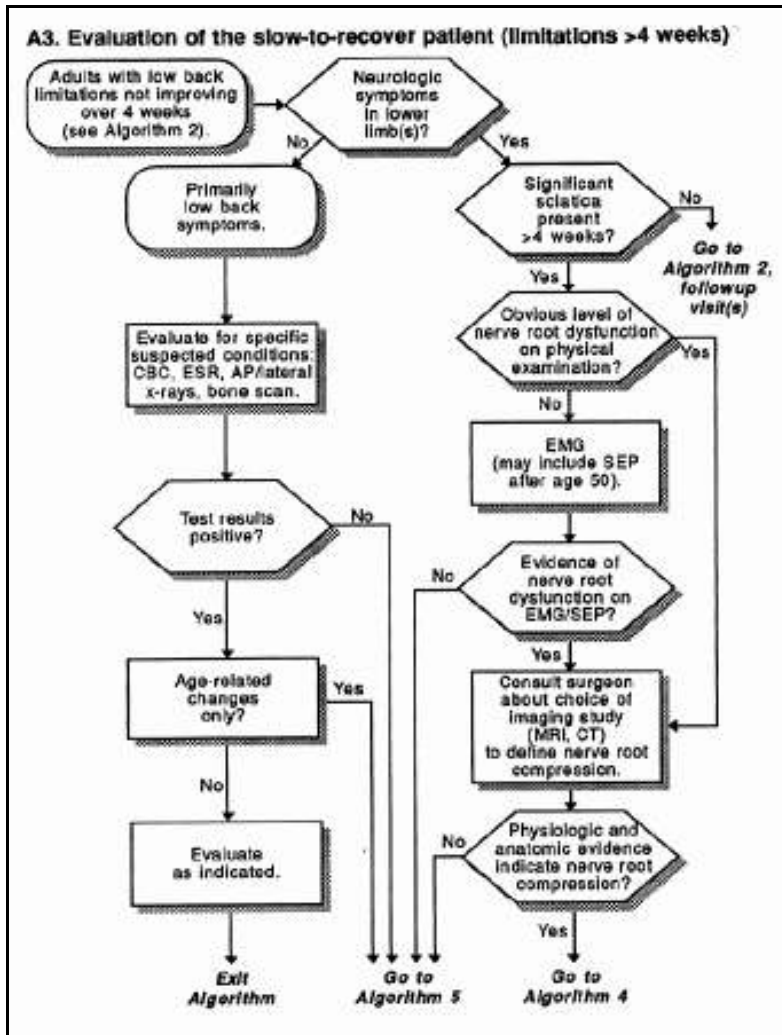
In the absence of red flags, additional workup for low back pain can be safely deferred for 4 weeks. If the patient is still in pain after 4 weeks, re-evaluation should occur. If non-organic pain is strongly suspected, based on presence of Waddell's signs and any "negative red flags" (see box), it is reasonable to treat as a chronic pain syndrome, without imaging or referral.

## IMAGING NEEDED:

- Trauma history
- Inability to recall trauma (dementia, alcohol or drug abuse)
- Neurologic deficit
- Temp >38 (100.4)
- Malignancy
- Corticosteroid use
- Ankylosing spondylitis suspected

## 'NEGATIVE' RED FLAGS:

- Unhappy with job: conflicts with co-workers or boss, recent discipline, low status, difficult work
- Pending disability claim, previous disability claims
- Family history of long-term disability
- Previous failed treatment
- Other chronic pain problems
- Substance abuse, depression



## Light duty:

Temporary work restrictions are an essential component of low back pain management, but can be problematic in the case of migrant farmworkers. Growers may not have light duty work available, and often have a ready supply of substitute workers. Farmworkers themselves are often reluctant to reduce their workload. The harvest season is short, and pay is usually by piece work, encouraging workers to work as hard and fast as they can.

It may be helpful to negotiate with the grower, or safety officer in the case of larger farms, to encourage temporary assignment to a non-piece work light duty job using the parameters below. If the grower purchases workers compensation insurance, this can be reframed as disability risk management. Typical duration of light duty is 2-4 weeks.

SYMPTOMS	Moderate/severe	Mild	None
Lifting restriction	20 lbs	60# (M), 35# (F)	80# (M), 40# (F)
Bend/ Twist	minimal	limited	-----
Sitting	20 min	50 min	-----

### References for this module:

Acute Low Back Problems in Adults. Agency for Health Care Policy and Research (AHCPR), Clinical Practice Guideline 14, 1994.

Essentials of Musculoskeletal Care. Walter Green, editor. American Academy of Orthopedic Surgeons, 2001.

Physical Exam of the Spine and Extremities. Stanley Hoppenfeld. Appleton-Centruy-Crofts. 1976.