Epidemiology of low back Pain

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Definition

- LBP refers to spinal and paraspinal symptoms in lumbosacral region
- Pain occurs posteriorly in region between the lower rib margin and proximal thighs
- Acute less than 2-4 weeks
- Subacute up to 12 weeks.
- Chronic more than 12 weeks.
- May radiate down one or both legs
  - Sciatica is pain that radiates down the posterior or lateral leg beyond the knee
- Buttock pain

Natural History of Low Back Pain

- 70 % improve within 2 weeks
- 90 % improve within 6 weeks
- 3% do not improve within 6-12 weeks
    - 50 % of low back pain (LBP) cost is due to these patients

Epidemiology of Low back pain

- Affects of reports 5.6% of US adults each day
- Lifetime prevalence at least 60-70%
- Mostly self treated; only 25-30% seek medical care
- 1st episode usually occurs between 20-40yrs of age
- Most cases self limited
- Recurrent LBP in 25-60% patients within 1-2 years.

Who Treats The Pain

- Family physicians and internists
- Physiatrists
- Chiropractors
- Neurologists
- Pain specialists and anesthesiologists
- Pain psychologists
- Spine surgeons

Socioeconomic burden of LBP

- LBP is the 5th most common reason for U.S. office visits, and 2nd to respiratory illness as reason for symptom-related MD visits
  - >16 million LBP office visits/year
  - 5% of primary care physician (PCP) visits are for LBP
  - Most common reason to see a neurosurgeon or orthopedist
- Up to 84 percent of adults have LBP at some time in their lives, and over one-quarter in the previous 3 months
  - Only 2-5% seek health care or claim disability

Socioeconomic burden of LBP

- Peaks at 55 to 64 years of age; affects all ages
- The most common cause of activity limitations in persons <45 years of age
  - More disability than cancer + heart disease + stroke + AIDS
- In 2013, nearly $90 billion dollars in spending for back and neck pain
  - Increase of $64 billion from 1996

Trends in LBP

- Increased utilization of imaging studies
- Increased incidence of surgery
- Increased use of injections
- Increased prescription of opioids
- Increased costs for LBP
- No decrease in disability

Risk factors for LBP

- Congenital spine abnormalities
- Size and shape of spinal canal
- Smoking-cough
- Occupation
- Prior episode of LBP
- Physical unfitness

- Increasing age
  - up to age 60, male = female; after 60,women> male due to osteoporosis
- Sedentary jobs
- Stress and other psychological factors
- Strenuous physical labor
- Myofascial Pain
- Multifactorial nature
  - Habitual, flexed sitting posture and the pressure pain threshold

Etiology

- Most common etiology of acute LBP in primary care setting is “mechanical” and/leg pain
  - Non- specific (non-radicular or nonneurogenic) LBP versus Radicular or neurogenic
  - Precise pathoanatomic cause hard to confirm
    - Weak association among symptoms, exam findings, anatomic changes.
- Nonmechanical Causes

  -Cancer, infection, inflammatory arthritis

Table 1. Differential Diagnosis of Low Back Pain

Condition (prevalence)*	*Signs and symptoms*
Mechanical low back pain (97%)	
Lumbar strain or sprain (≥ 70%)	Diffuse pain in lumbar muscles; some radiation to buttocks
Degenerative disk or facet process (10%)	Localized lumbar pain; similar findings to lumbar strain
Herniated disk (4%)	Leg pain often worse than back pain; pain radiating below knee
Osteoporotic compression fracture (4%)	Spine tenderness; often history of trauma
Spinal stenosis (3%)	Pain better when spine is flexed or when seated, aggravated by walking downhill more than uphill; symptoms often bilateral
Spondylolisthesis (2%)	Pain with activity, usually better with rest; usually detected with imaging; controversial as cause of significant pain
Nonmechanical spinal conditions (1%)	
Neoplasia (0.7%)	Spine tenderness; weight loss
Inflammatory arthritis (0.3%)	Morning stiffness, improves with exercise
Infection (0.01%)	Spine tenderness; constitutional symptoms
Nonspinal/visceral disease (2%)	
Pelvic organs—prostatitis, pelvic inflammatory disease, endometriosis	Lower abdominal symptoms common
Renal organs—nephrolithiasis, pyelonephritis	Usually involves abdominal symptoms; abnormal urinalysis
Aortic aneurysm	Epigastric pain; pulsatile abdominal mass
Gastrointestinal system—pancreatitis, cholecystitis, peptic ulcer	Epigastric pain; nausea, vomiting
Shingles	Unilateral, dermatomal pain; distinctive rash

Table 2. "Red Flag" Findings and Evaluation Strategies for Patients with Low Back Pain

	Diagnosis of concern				*Evaluation strategy**		
Finding	*Cauda equina syndrome*	*Fracture*	*Cancer*	*Infection*	*CBC/ESR/ CRP*	*Plain radiography*	*MRI*
Age > 50 years		X	X		1†	1	2
Fevers, chills, recent urinary tract or skin infection, penetrating wound near spine				X	1	1	1
Significant trauma		X				1	2
Unrelenting night pain or pain at rest			X	X	1†	1	2
Progressive motor or sensory deficit	X		X				1E
Saddle anesthesia, bilateral sciatica or leg weakness, difficulty urinating, fecal incontinence	X						1E
Unexplained weight loss			X		1†	1	2
History of cancer or strong suspicion for current cancer			X		1†	1	2
History of osteoporosis		X				1	2
Immunosuppression				X	1	1	2
Chronic oral steroid use		X		X	1	1	2
Intravenous drug use				X	1	1	2
Substance abuse		X		X	1	1	2
Failure to improve after six weeks of conservative therapy			X	X	1†	1	2‡

CBC = complete blood count; ESR = erythrocyte sedimentation rate; CRP = C-reactive protein; MRI = magnetic resonance imaging.

NOTE: *"Red flag" findings indicate the possibility of a serious underlying condition.*

**—1 = first-line evaluation in most situations; 2 = follow-up evaluation; E = emergent evaluation required.*

†—*Prostate-specific antigen testing may be indicated in men in whom cancer is suspected.*

‡—*Or unnecessary.*

Information from reference 16.

Thank you!