

Low Back Pain

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Objectives

- Better determine the source of low back pain
- Better advise the patient about the likely course of recovery
- Avoid unhelpful treatments that will not improve low back pain

Is it my discs?

- Probably – The L4-L5 and L5-S1 discs account for 90% of back pain
- 60-80% of adults over age 30 are affected at some point
- 85% of patients with acute low back pain improve with time alone
 - One or two days of bed rest may help
 - Three days or more of bed rest will prolong recovery
 - 40% of patients are better in one week, 60% 3 weeks, 85% 2 months
 - Recovery may take 3-6 months AVOID NARCOTICS!!!
- Physical therapy should be started when acute pain fades
- Surgical Efficacy is unclear for:
 - Low back pain
 - Lumbar Disc Herniations
 - Spinal Stenosis

Is it cancer?

- Unlikely, metastatic lesions are the most common bony lesion.
- Multiple Myeloma is the most common primary lesion
- Metastasis from breast, lung, renal, prostate, and thyroid are common

- This is an area where your physical exam can be the most helpful. Firm palpation of the spinous processes to elicit an focal tenderness should make you think harder about a metastatic lesion.

Low Back Pain Without Radiculopathy

- Muscle Strain
- Facet joint arthritis
- Degenerative disc disease

- Physical exam findings are often unhelpful here
 - ROM may or may not be decreased due to pain
 - Muscle firmness and tenderness can be due to spasm
 - Flank pain might lead you to do a renal workup

- If age < 10, think infection, leukemia, or scoliosis

Low Back Pain WITH Radiculopathy

- Radiates below the knees (not merely to the buttock or thighs)
- Loss of Sensation
- Abnormal reflexes
- Motor weakness (is it from pain or impingement?)

Lower Extremity Neurologic Exam

- L2-3 – No reflex, innervates quads, sensation of anterior thigh, note strength with leg raising
- L4 – tibialis anterior (stand on heels, inverts the ankle), patellar reflex, sensation over medial foot
- L5 – Extensor hallucis longus (lifts the great toe), no reflex (medial hamstring is difficult to assess), sensation over the dorsum of the foot
- S1 – Peroneus longus and brevis (stand on your toes and inside of the foot), Achilles reflex, sensation over the lateral portion of the foot
- S2-4 – Anal wink reflex, would affect sphincter tone if involved

Physical Exam Techniques

- Straight Leg Test
 - Passive lifting of affected leg to an angle less than 60 degrees causes pain
 - Seated active or seated passive or lying passive
 - Pain radiates distal to the knee (85% sensitive & 52% specific)
- Crossed Straight Leg Test
 - Passive lifting of the unaffected leg reproduces pain in opposite leg
 - This is more specific for disk disease
- Slump Test
 - Slump forward with chin to chest, extend knee & ankle, then look up
 - If looking up relieves pain this is a sign of nerve root impingement
- Trendelenburg Test

Disc Herniation

- It can resolve over time without surgery
- Nerve root compression can be due to inflammation
- The disk material compressing the canal can be resorbed
- Perform a straight leg raise test

Spinal Stenosis

- It can occur in the neural foramina, central canal, or both
- Typically older patients with arthritic changes (osteophytes)
- Found in 1/3 of patients over age 60 (most are asymptomatic)
- The patient will complain of pain that radiates from the buttocks to the legs and becomes worse with standing or walking (this is called neurogenic claudication) (with vascular claudication the pain will usually start distally and radiate proximally)
- They will tend to lean onto the shopping cart. They might ride a bike.
- Reflexes may become brisker (especially with canal stenosis of the cervical or thoracic spine). Straight leg raise is less useful.

What About Spondylosis?

- This is a more likely problem for patients in their late teens and 20s
- Symptomatic at 25% slippage or greater
- Secondary to recurrent lumbar hyperextension (football, gymnastics)

Surgical Options

- Disc Herniation – laminectomy or diskectomy
- Foraminal Spinal Stenosis – Lumbar decompression surgery
 - Data for this intervention are stronger than for any other surgery
- Arthritis – Fusion or Disk Replacement
 - Fusions tend to fail at adjacent segments and require more fusions over time

Medication Options

- NSAIDs (try many types)
 - Start with ibuprofen 400mg PO TID
 - 800mg dose rarely warranted
 - Consider naproxen, diclofenac, meloxicam
- Acetaminophen (usually ineffective)
- Duloxetine
- Nortriptyline
- Muscle relaxants (such as tizanidine, cyclobenzaprine) (briefly)
- Prednisone (briefly)
- Gabapentin (only small decrease in pain – risk of dizziness/fatigue)

Movement

- OMT
- Home exercises
- Physical Therapy
- Epidural steroid injection relief tends to be short-lived

Could it be my Rheumatoid Arthritis?

- NEVER in the lumbar spine
- RA can often cause pain in the cervical spine
- Other autoimmune syndromes can involve the low back
 - Ankylosing Spondylitis
 - Inflammatory Osteoarthritis

Should I get a “back belt?”

- No – the data is generally equivocal or negative

What red flags warrant imaging?

- Rapidly progressive neurologic changes
 - (esp incontinence, saddle anesthesia)
 - Gait disturbances
 - Night pain
 - Loss of ambulation
 - Chronic steroids
 - Fever
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- MRI is an effective way to spot an epidural abscess, hematoma, or spinal neoplasm
 - Consider imaging if pain persists more than six weeks. Radiographic findings often correlate poorly with low back symptoms.

Patient Attitudes That Increase the Chance of Low Back Pain Becoming Chronic

- Fear and Avoidance of activity
- Eeyore Syndrome (consider duloxetine!)
- Prefer passive rather than active treatments
- Belief that they are disabled by pain

Questions?