Review of Guidelines for Low Back Pain: Primary Care Perspective

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Interventional Spine & Pain Medicine
Conflict of Interest Statement

• I hereby certify that, to the best of my knowledge, no aspect of my current personal or professional situation might reasonably be expected to affect significantly my views on the subject on which I am presenting.
Objectives

• Learn and be able to explain:
  – The different causes of low back pain.
  – The workup and initial treatment for **acute** low back pain.
  – The different treatment options for **chronic** low back pain.
  – The “**red flags**” of spinal pain.
Kulpreet K. Sahota, M.D.

- **Training and Background**
  - *M.D.*
    - New Jersey Medical School
    - University of Medicine & Dentistry of New Jersey
  - *Resident*
    - Physical Medicine and Rehabilitation
    - Temple University Hospital/Moss Rehabilitation Hospital
  - *Fellow*
    - Interventional Spine & Pain Fellowship
    - Performance Spine & Sports Physicians
  - *Interventional Spine & Pain Management*
    - Bone and Joint Clinic since 2010
Low Back Pain

• >85% of all adults experience LBP in their lifetime

• 1/4 adults seek care for LBP in a 6 month period

• Over 70% self-limited their activities

• 60% were unable to perform some ADLs

• 45% decreased or abstained from sexual activity
1st Visit with Acute Non-Specific LBP

- Patient Education
  - Reassurance
  - Advise to stay active
  - Avoid Bed rest, Twisting, Bending
- Trial of NSAID or Acetaminophen
- Muscle relaxant PRN
- Tramadol PRN
- Opioid PRN severe pain only
2nd Visit with Acute Non-Specific LBP

• Consider changing NSAID
• Consider PT referral
  – Spine Stabilization, McKenzie Method
• Consider Spine Specialist referral if Pain is severe or limits functions/ADLs
# Treatment Guidelines for Low Back Pain/Radiculopathy

## RECOMMEND
- NSAIDS
- Acetaminophen
- Muscle Relaxants
- Benzodiazepines
- Opioids
- Epidural Steroid Injections (Especially Transforaminal)
- Patient Education & Reassurance

## ACCEPTABLE
- Home Exercise Program
- Ice/Heat Application
- Physical Therapy
- *Spine Stabilization Exercises*
- *McKenzie Method*

## UNSUPPORTED
- Oral Steroids
- Acupuncture
- Aerobic Conditioning
- Lumbar Supports
- Massage
- Traction
- Spinal Manipulation
- Chiropractic Techniques

## INADVISABLE
- Bed Rest

## DO
- Information, Education, Self-care
- Physical Activity
- Therapeutic Exercise
- Active Rehabilitation
- Multidisciplinary Treatment Programs

## MIGHT DO
- Acetaminophen
- NSAIDS
- Muscle Relaxants
- Opioids
- Tramadol
- Benzodiazepines
- Tricyclic Antidepressants
- Psychological Therapy
- Back Schools
- Manual Therapy
- Hydrotherapy
- Viniyoga
- Acupuncture
- Epidural Steroid Injections
- Referral for Surgery

## DON’T KNOW
- Aspirin
- TENS
- Lumbar Supports
- Gabapentin
- Topiramate
- Prolotherapy

## DON’T DO
- Traction
- Biofeedback
- Ultrasound Therapy
- Electrotherapy
- Low-Level Laser Therapy

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Cochrane Review 2015

AAFP Casazza 2012
Risk Factors for LBP

- Smoking
- Obesity
- Older age
- Female
- Sedentary Work
- Physically Strenuous Work
- Genetics
- Low Educational Achievement
- Workers’ Compensation Insurance
- Job Dissatisfaction
- Psychological factors (Depression, Anxiety)
Statistics

• Pts with acute LBP:
  – >70% of pts completely resolved 1 year after episode
  – 25-62% of pts still have recurrent LBP after 1 year
    • 15% severe chronic pain
    • 33% moderate chronic pain

• Pts with acute Radiculopathy:
  – 33% improve by 2 weeks
  – 75% improve by 3 months
  – 10% of patients undergo surgery
Anatomy

- The spine has 3 major components:
  - Spinal column
    - Bones
    - Discs
  - Neural elements
    - Spinal Cord
    - Nerve Roots
  - Supporting Structures
    - Muscles, Tendons
    - Ligaments
Spine Tripod
Spine Tripod

1. Arthritic facet joint
2. Thinned disc
3. Spine segment
Causes of Spinal Pain

- Myofascial Sprain/Strain Pain
- Facet Joint Arthritis & Strains
- Radiculopathy
- Disc Herniations & Tears
- Spinal Stenosis
- Sacroiliac Joint Dysfunction
- Spinal Fractures
- Other Causes
Myofascial Sprain/Strain Pain

• Ligaments and muscles have stress overload
  – Causes tears & inflammation
Facet Joint Strain & Arthritis
Discogenic Pain

Figure #2

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Spondylolysis & Spondylolisthesis

Spondylolysis is a condition where the vertebrae are separated, in most cases from a fracture. Spondylolisthesis means the vertebrae have separated and moved out of proper position.
Disc Herniations & Nerve Root Radiculopathy
Disc Herniations & Nerve Root Radiculopathy
Spinal Stenosis & Nerve Root Radiculopathy
Sacroiliac Joint Dysfunction

Inflammation of the sacroiliac (SI) joints
Spinal Fractures

Compression fracture
Other Causes

- Infections
  - Discitis, Osteomyelitis
- Tumors
- Rheumatoid Arthritis
- Piriformis Syndrome
- Sacroccocygeal Joint Injury
- Abdominal Aortic Aneurysm
- Pancreatitis
- Peptic Ulcer Disease
- Cholecystitis
- Herpes Zoster
- Endometriosis
- Pelvic Inflammatory Disease
- Prostatitis
- Renal Colic
- Pyelonephritis
Red Flags

- Trauma
- > 50 years old
- Unexplained weight loss
- Unexplained fever
- Immunosuppression
- Cancer history
- IV Drug use
- Bowel/Bladder Dysfunction
- Prolonged Steroid Use
- Osteoporosis
- Focal Neurological Deficit
- Duration > 4-6 weeks
- Unresponsive to treatment
- Recent infection
Red Flags: What To Do

• Cauda Equina Syndrome or Spinal Cord Compression:
  – Urgent Surgical referral

• Fracture:
  – Plain films +/- CT Scan
  – Surgical Referral vs. Conservative treatment

• Infection:
  – CBC, ESR, CRP, MRI
  – Antibiotics +/- Surgery

• Neoplasm:
  – CBC, ESR, CRP, MRI
  – Surgical Referral vs. Non-surgical treatment
Physical Examination

- Inspection
- ROM
- Palpation
- Strength Testing
  - Heel and Toe Walking
  - Balance
- Reflexes
  - Patella/Achilles
  - Babinski’s Sign

Special Testing

- Facet joint loading
- Quadrant Testing
- Straight Leg Raise
  - Supine or Seated
- Reverse Straight Leg Raise
Imaging

• Before 4-6 weeks not necessary unless:
  – <18 years or >50 years
  – h/o Osteoporosis
  – Red flags

• After 4-6 weeks: AP and Lateral radiographs of Lumbar spine
  – Rule out tumor, infection, instability
  – Red flags
  – Neurological deficits

• Lumbar spine MRI preferred over CT
When to refer to a Spine Specialist

• Non-surgical Spine referral after 4-6 weeks:
  – Persistent pain
  – Sensory deficits
  – Reflex loss

• Surgical referral:
  – Progressive/Severe deficits – Urgent Referral
    • Rare
Interventional Spine Procedures

• Goals:
  – Decrease Pain
  – Decrease Inflammation
  – Increase Mobility and Activity
  – Increase Quality of Life
Interventional Spine Procedures

Diagnostic
- Medial Branch Blocks: Common
- Discography: Infrequently Performed
- Epidural Steroid Injections: Common
- Facet Joint Injections: Infrequently Performed

Therapeutic
- Medial Branch Radiofrequency Ablation: "Nerve Burning" Common
- Sacroiliac Joint Steroid Injections: Common
- Spinal Cord Stimulator: "Pain Pacemaker" Failed Conservative care

Conservative care
Epidural Steroid Injections: Caudal
Epidural Steroid Injections: Interlaminar
Epidural Steroid Injections: Transforaminal
Facet Joint Steroid Injections

Medication injected into joint
Lumbar Medial Branch Blocks and Medial Branch Radiofrequency Ablation
Cervical Medial Branch Blocks and Medial Branch Rhizotomy
Sacroiliac Joint Steroid Injections
Spinal Cord Stimulator: Trial & Permanent
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