Common Back Problems in the Mature Athlete

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Conflicts of Interests

• I have no conflicts of interest in regards of this topic.
• I have no financial relationships to divulge that would impact the bias nature of this lecture other than:
  • Grant Recipient- U.S. Conference of Blind Chiropractic Physicians
  • Paid retaining fee for medical witness for Rosen, Rosen, Rosen, O’Sullivan workers compensation lawyers specializing in “Slip and Fall.”
  • Paid Co-Spokesmodel with Shaquille O’Neal for ICYHOT back patches
• No nursing home patients were HARMED during the making of this lecture
• Patients mentioned in this lecture have given permission to use their likeness for educational purposes.
Objectives

• Incidence of Back in Older Patients vs. Mature Athletes
• Getting the “History”
• Classification of Back Pain (Acute vs. Chronic)
• Region of Pain
  • Cervical
  • Thoracolumbar
  • Sacral
• Imaging / Diagnostics of Spine
• Treatment Options
• Return to Play
• Special Considerations for Mature Athlete
Incidence of Back Pain in Older Patients vs. Mature Athletes
Getting the History – It’s CRUCIAL

• Chief Complaint
  • Pt’s own words
    • Insight: How does pt perceive pain
    • Ask several times, several different ways
  • Location
  • Onset
  • Duration
  • Quality
  • Exacerbation
  • Palliation
History

• Location
  • Be specific (used for comparison at follow-up visits)
    • Midline vs. paraspinal
    • Thoracolumbar vs lumbar vs sacral
    • Buttock vs flank vs SI
    • Right vs Left vs Diffuse

• Referred to...
  • SI, gluteal / buttock, post thigh
  • Groin, lateral hip
History

• Onset
  • Acute – specific event?
  • Subacute – Delayed onset
    • Following unusual activity
    • “woke up with it”
• Chronic
  • Previous history
History

• **Duration**
  • “All the time”
  • “Some of the time”

• **Quality**
  • Dull, deep, sharp, shooting, electricity
  • Gripping, Tearing, Numb, Tingling

• Use Pt’s own words
  • Confidence you’re listening
  • Speak pt’s language
History

• Exacerbation
  • What makes it worse
    • Be specific – document

• Palliation
  • What makes it better

• Most patients with **REAL pathology** can find some palliation / relief
  • Standing, laying flat, feet up, fetal position...
  • Beware: no relief, pain all the time
History

• **Past History** - Tx thus far
  • Meds
    • NSAIDS (with dosages), muscle relaxers, narcs, neurontin
  • P.T.
    • How long? Results? Where?
  • Chiropractor - How many visits (<3 = GOOD)
  • Injections – location, type, when???
  • Surgery

• **Obtain letters, office notes,**
  • X-ray reports, PT reports,
  • injection / surgical reports
History

• Past History
  • Beware:
    • Vague symptoms
    • Uncertainty RE: past Tx
    • Pain out of proportion
    • Multiple Narcotic “allergies”
    • Requesting Medical MJ or CBD oil,

• Social Hx
  • ETOH, Drugs
  • Tobacco – direct correlation with back pain
    • Smoking cessation: Pt actively interested in own health
History - it will give you the ANSWER

• 85% Dx by Hx alone
  • Hx points toward Dx
  • PE corroborates Hx
  • Studies confirm Dx

• Goal
  • Identify Real vs. perceived problem
    • Back pt’s will talk all day – stay focused
    • Athletes generally more reliable
  • Back Pain vs leg pain (nerve irritation)
Physical Exam of Spine in the Mature Athlete

- Due to time constraints will GLOSS OVER this subject
- Suggest you return and study the next 6 slides at later time
Physical Examination

Inspection

• Patient as whole then focus spine
• Adequate exposure
• Standing posture
  • kyphosis, lordosis, scoliosis, list
  • head position, shoulder level, pelvic tilt
• Skin
  • bruising, swelling, deformity, mass
Physical Examination

Range of Motion

• Relative range important (individual variance)
  • Pushing up on thighs
  • Hamstring tightness

• Squat
  • ROM lower extremities, hips
  • Strength/ Balance (mini neuro exam)
Physical Examination

Gait

• Arise from chair / exam table
• Reciprocal
  • Limp
  • Shuffling
  • Posture
• Heel walk
• Toe Walk

• NOTE: gait speed is single greatest determinant of quality of life in octogenarians.
Physical Examination

Palpation

• Start with non-painful areas first
  • gains trust
  • allows examination of other areas

• Identify pain generator
  • Point tenderness vs. diffuse
  • “One Finger” test

• Anatomic Landmarks
  • spinous processes, paraspinal
  • PSIS, SI joint, sciatic notch
    • deep posterior thigh, ischial tuberosity
Physical Examination
Neurologic exam

• Motor Exam
  • L1-2 Hip Flexors
  • L3 Quadriceps extension
  • L4 Foot dorsiflexion/Quads
  • L5 Great toe extension/Foot eversion
  • S1 Foot plantarflexion/Knee flexion
Physical Examination
Neurologic Exam

• Sensory Exam
  • C4  Clavicles
  • T4  Nipples
  • T10 Umbilicus
  • L1  Inguinal
  • L3  Lateral leg
  • L4  Medial leg
  • L5  Dorsum foot
  • S1  Lateral/ Sole foot
  • S2-4 Perianal
Physical Examination
Neurologic Exam

• Reflexes
  • Lower motor neurons (DTR’s)
    • L4 Knee
    • S1 Ankle
  • Upper motor neurons
    • Babinski
    • Clonus

• Provocative testing
  • Straight leg raises
  • Femoral nerve stretch test
Causes of **Cervical** Pain in Mature Athletes

**• ACUTE**
- Myofascial/Somatic Dysfunction
- Transient Brachial Plexopathy (i.e. Stingers)
- Discogenic
- Stenosis (Canal vs. Neuroforaminal)
- Fracture (Osteoporotic vs. Trauma)
- Myocardial Ischemia/Infarction
- Infection
  - Discitis, Meningitis

**• CHRONIC**
- Spondylarthopathies
- Facet Arthritis
- Degenerative Disc Disease
- Spinal Stenosis
- Osteoporosis
- First Rib Fractures
- Autoimmune-Lupus, RA, PMR
- Tumor
  - Pancoast
ACUTE Cause of Cervical Pain in Mature Athletes

- Myofascial/Somatic Dysfunction
  - **Levator Scapulae** – “stiff neck”
  - **Scalenes** – “Deep neck pain”
  - **Semispinalis Cervicalis/Capitis** “Ache into Head, posterior neck pain”
  - **Trapezius**– “Coat Hanger” distribution
- Discogenic
- Stenosis (Canal vs. Neuroforaminal)
- Fracture (Osteoporotic vs. Trauma)
- Pancreatitis
- Infection
  - Disciitis, meningitis, Lymes, pneumonia
CHRONIC Causes of Cervical Pain in Mature Athletes

• Spondylarthropathies
• Facet Arthritis
• Degenerative Disc Disease
• Spinal Stenosis
• Osteoporosis
• First Rib Fractures
• Autoimmune-Lupus, RA, PMR
• Fibromyalgia
• Tumor
  • Pancoast, lung cancer
Causes of **Thoracolumbar** Pain in Mature Athletes

### ACUTE CAUSES
- Myofascial
- Somatic Dysfunction
- Discogenic
- Stenosis (Canal vs. Neuroforaminal)
- Fracture (Osteoporotic vs. Trauma)
- Pancreatitis
- Infection
  - Discitis, meningitis, Lymes, Pneumonia,
- Spontaneous Pneumothorax
- Aortic Aneursym

### CHRONIC CAUSES
- Spondylarthopathies
- Facet Arthritis
- Degenerative Disc Disease
- Spinal Stenosis
- Osteoporosis
- Autoimmune
  - Lupus, RA, Ankylosing Spondylitis, PMR, Myositis
- Fibromyalgia
- Lyme’s Disease
- Tumor
  - Primary-Multiple Myeloma
  - Metastatic-Prostate, Renal Cell, Breast CA
ACUTE Causes of Thoracolumbar Pain

- Myofascial
  - Quadratus Lumborum
  - Iliopsoas
- Somatic Dysfunction
  - Rhomboid Dysfxn, Posterior Ribs
- Discogenic
- Stenosis (Canal vs. Neuroforaminal)
- Vertebral Fracture (Osteoporotic)
- Pancreatitis
- Infection
  - Disciitis, meningitis, pneumonia
- Spontaneous Pneumothorax
- Aortic Aneursym
CHRONIC Causes of Thoracolumbar Pain

- Spondylarthropathies
- Facet Arthritis
- Degenerative Disc Disease
- Spinal Stenosis
- Osteoporosis
- Autoimmune
  - Lupus, RA, Ankylosing Spondylitis
- Lyme’s Disease
- Fibromyalgia
- Tumor
  - Primary-Multiple Myeloma
  - Metastatic-Prostate, Renal Cell, Breast CA
Causes of **Sacral Pain** in Mature Athletes

**• ACUTE**
- Somatic/Sacral Dysfunction
- Sciatica (Fem Nerve Irritation)
- Endometriosis
- Occult /Coccyx fracture (i.e. Fall)

**• CHRONIC**
- SI Joint arthritis
- SI Joint instability
- Sacral Stress fracture
- Leg Length Discrepancy
- Metastatic fracture
  - Prostate, RCC, Ovarian, Mult Myeloma
- Hip Osteoarthritis
- Lyme’s Disease
- Autoimmune- Lupus, RA, AS
ACUTE causes of Sacral pain in Mature Athletes

- Somatic/Sacral Dysfunction
  - Gluteal Medius – ”Lumbago of Back”
  - Gluteal Minius – “Pseudo-Sciatica”
  - Piriformis – “Post. Hip Weakness”
- Sciatica (Fem Nerve Irritation)
- Endometriosis
- Occult /Coccyx fracture (i.e. Fall)
CHRONIC Causes of Sacral Pain in Mature Athletes

- SI Joint arthritis
- SI Joint instability
- Sacral Stress fracture
- Leg Length Discrepancy
- Metastatic fracture
  - Prostate, RCC, Ovarian, Mult Myeloma
- Hip Osteoarthritis
- Lyme’s Disease
- Autoimmune- Lupus, RA, AS
Imaging of the Spine

• Plain Radiography
  • AP and Lateral most helpful
  • Oblique view
    • Limited value in Thoracic
    • Most helpful for:
      • Stenosis in Cervical/Lumbar
      • Spondyloarthropathies “Scotty Dog” Sign in Lumbar
        • Improves sensitivity by 20% over top just AP/LAT
        • Excessively more radiation
  • Flexion/ Extension Views
    • If Instability suspected in Cervical or Lumbar
    • Spasm may mask instability (i.e. “lithesis”)
    • Re-evaluate alignment
Imaging of the Spine

• **Computed Tomography**
  - Allows visualization of spatial anatomy
  - Bone seen best
  - Confirmatory test - not exploratory
    - routine CT not useful or cost effective
  - Slice thickness may miss pathology

• **MRI**
  - Gold standard for soft tissue detail
  - No radiation
  - Built-in bone scan (T2)
    - Helps show inflammation
Imaging & Diagnostics of the Spine

- **Bone Scan**
  - Sensitive but not specific
  - Increased uptake = bone turn-over
  - Helpful for stress fractures, metastatic disease

- **SPECT Scan**
  - Suspected lesion not seen on XR
  - Not responding to treatment 6-8 weeks
  - Special Bone Scan that cones in to lumbar segments
  - Used primarily to stage Spondys as acute vs. chronic
  - May help distinguish healing potential
    - chance for healing = hot scan
    - established non-union = cold

- **Discography**
  - Degenerative disc, limited use, very painful
  - May not correlate

- **EMG/NCS**
  - Helpful in determine peripheral vs spinal origin of neuropathic pain or dysfunction
Fire Scan v. MRI

- “FIRE SCAN” combined SPECT and CT
  - Combined modalities
  - Increased radiation
  - Improved imagine
  - Takes longer (two separate tests)

- MRI
  - Suspected lesion not seen on XR
  - Considering a stress fracture vs. an occult fracture
  - SPECT scan not available
  - Cost
  - No Radiation
Treatment Options - ACUTE

• ACUTE
  • Soft tissue
  • Manipulation (DO/Chiro/LMT/DPT)
  • Dry Needling
  • ICE
  • Stretching / Home Exercise Program
• Medications
  • NSAIDs
  • Prednisone
  • Muscle Relaxers
  • Transdermal (patch vs. Lipoderm)
Treatment Options - CHRONIC

- Formal Physical Therapy
  - Myofascial Release
  - Electrical Stim (TENS unit)
  - Back School
- Core Strengthening exercise
- Weight loss – **Obesity is EPIDEMIC, do not be afraid to address it!!**
- Mindfulness/Biofeedback
- Acupuncture
- Maximize Medication Control
  - Tiered approach
- Injections (facet, trigger, IM, epidural, facet, prolotherapy, etc)
- Ablative (electrodiagnostic, blocks, etc)
- Surgery (decompression/ORIF) – **LAST RESORT**

- **AVOID DAILY USE OF NARCOTICS**
Dangers of Opioid Prescribing (Goldilocks Syndrome)

- **Giving too little**
  - Pain is undertreated
  - Leads to misuse: hoarding, taking more than prescribed, using other drugs or meds

- **Giving too much**
  - Contributing to abuse
  - Contributing to diversion
  - Excessive side effects

- **Giving just the right amount**
  - May mask pain and contribute to re-injury
  - May make the pt uninterested in other therapy

- **TOLERANCE IS THE LONG TERM USE EFFECT, #1 reason patients start seeking non-prescription narcotics**
Millions of Prescriptions (US Data)

Dangers of Opioids

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6043a4.htm?s_cid=mm6043a4_w
Return to Participation for Mature Athletes

• Light training as pain allows

• **Increase activity** based on:
  • severity of injury
  • athlete’s compliance
  • specific sport
  • past medical history
  • physician comfort level

• **Return to FULL activity**
  • once pain controlled
  • ROM and Strength normal
Special Considerations in Mature Athletes

• Most are familiar with back pain as both an athlete and an older person, take compliant seriously. Treat effectively. Help them return to activity

• Keep your Differential LARGE in Mature Athletes c/o Back Pain
  • Cervical – First Rib fx, Myocardial Ischemia
  • Thoracolumbar – Ankylosing Spondylitis, Lymes, Metastatic tumor, AAA, Sacral – Endometriosis, Lymes.

• Keep your Mature athlete active, mobile and engaged in their sport if at all possible

• Avoid NARCOTICS in treatment of Chronic and most Acute cases of Back pain
References


