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OUTCOMES

Back Pain Technologies: Beyond the Buzz

Hassan Moinzadeh, MD, PhD

Steven Moskowitz, MD

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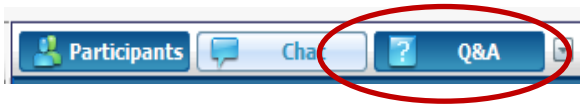
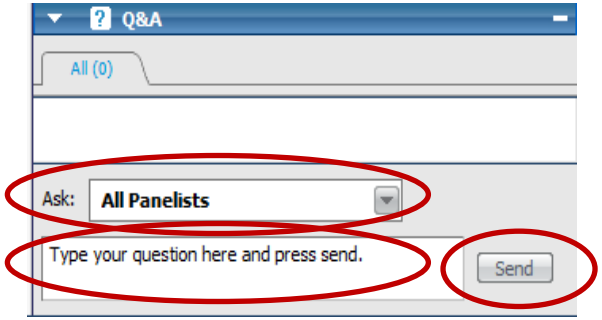
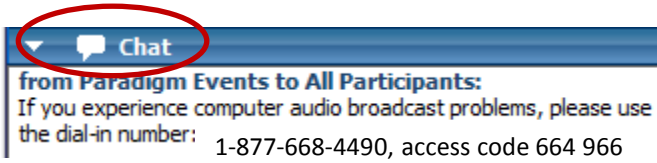






Low Back Pain

Low back pain is a symptom, not a specific disease.

Low back pain is usually described as discomfort in the lumbosacral region of the back that may or may not radiate to the legs, hips, and buttocks.

http://www.mdguidelines.com/low-back-pain/definition

Back Pain Statistics

Back pain is the most common disability condition for working-age Americans.

- Low back pain is the most common type of pain according to the National Institute of Health Statistics
- Back pain is the leading cause of disability in Americans under 45 years old
- More than 26 million Americans between the ages of 20 and 64 experience frequent back pain
- Adults with low back pain are often in worse physical and mental health than people who do not have low back pain
- Adults reporting low back pain:
  - Three times as likely to be in fair or poor health
  - More than four times as likely to experience serious psychological distress

All data from American Academy of Pain Medicine Facts and Figures on Pain factsheet

Today's Presenters

Hassan Moinzadeh, MD, PhD

- Diplomate of the American Board of Physical Medicine and Rehabilitation
- Served as the medical director of the pain management program at Rehab Practice Management in Long Beach for more than 15 years
- MD and PhD in Clinical Psychology
- Member of the American Academy of Physical Medicine and Rehabilitation

Steven Moskowitz, MD

- Diplomate of the American Board of Physical Medicine and Rehabilitation
- 29 years experience in medical rehabilitation, neurological rehabilitation and pain management
- 22 years experience in varied case management models including high risk medical and complex injury management

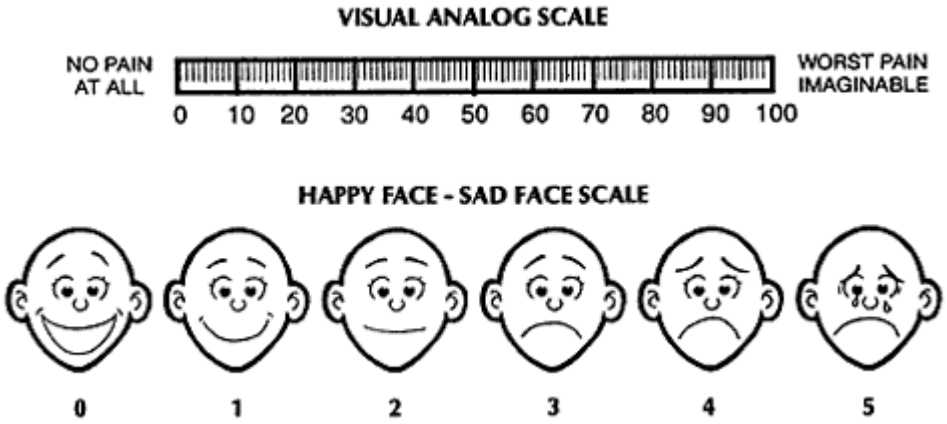
Mechanics, Misdiagnoses and Medications: Zeroing in on Back Pain

Hassan Moinzadeh, MD, PhD

When Low Back Pain Becomes Something More

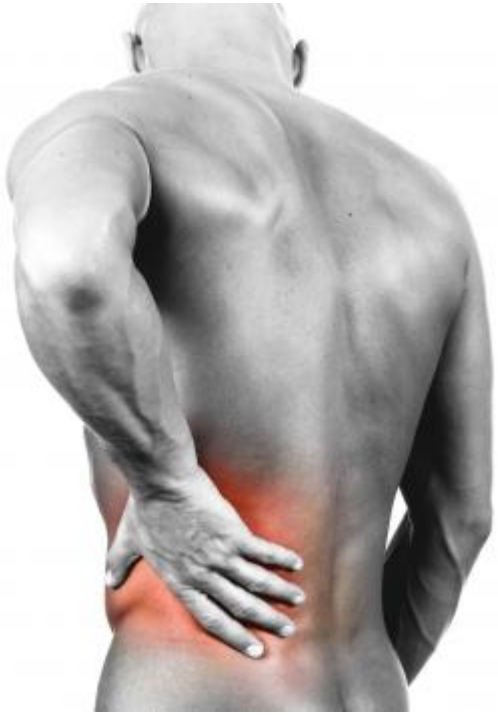
The biopsychosocial nature of low back pain.

- Imaging and anatomy does not tell the whole picture
- Pain behavior and Visual Analog Scale (VAS) are not a measure of spine pathology
- Fear avoidance and its effect on function
- The pain emotional experience
- How should these cases be approached?

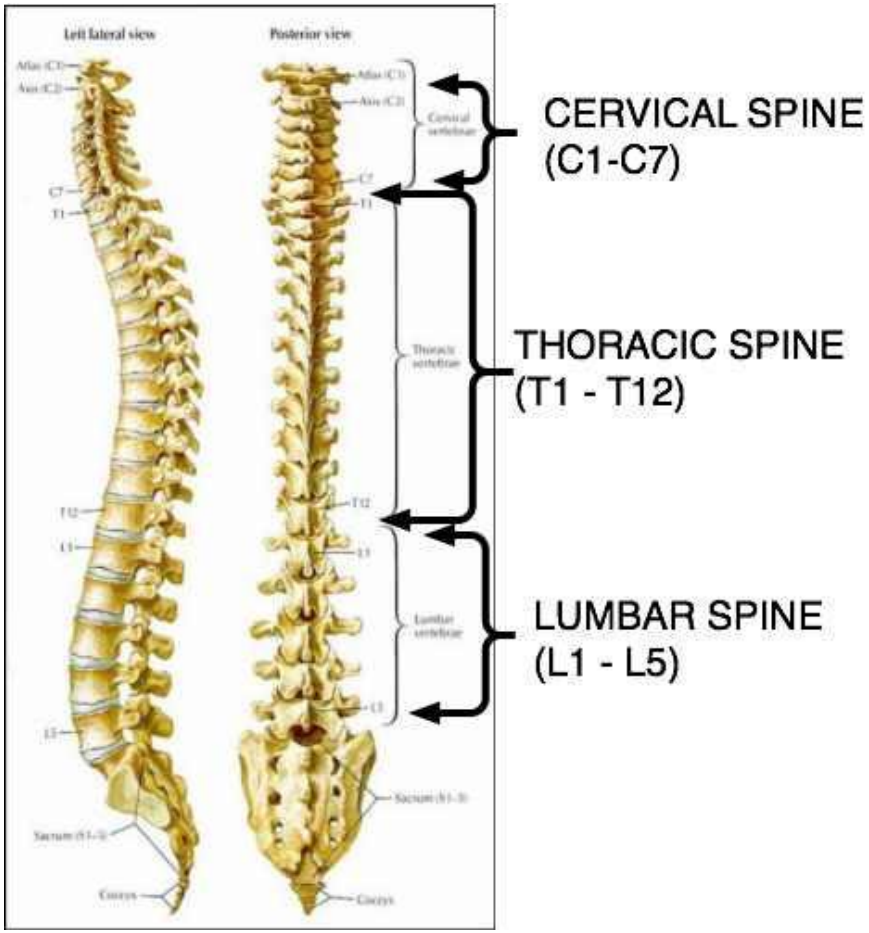


Anatomy and Physiology of Back Pain

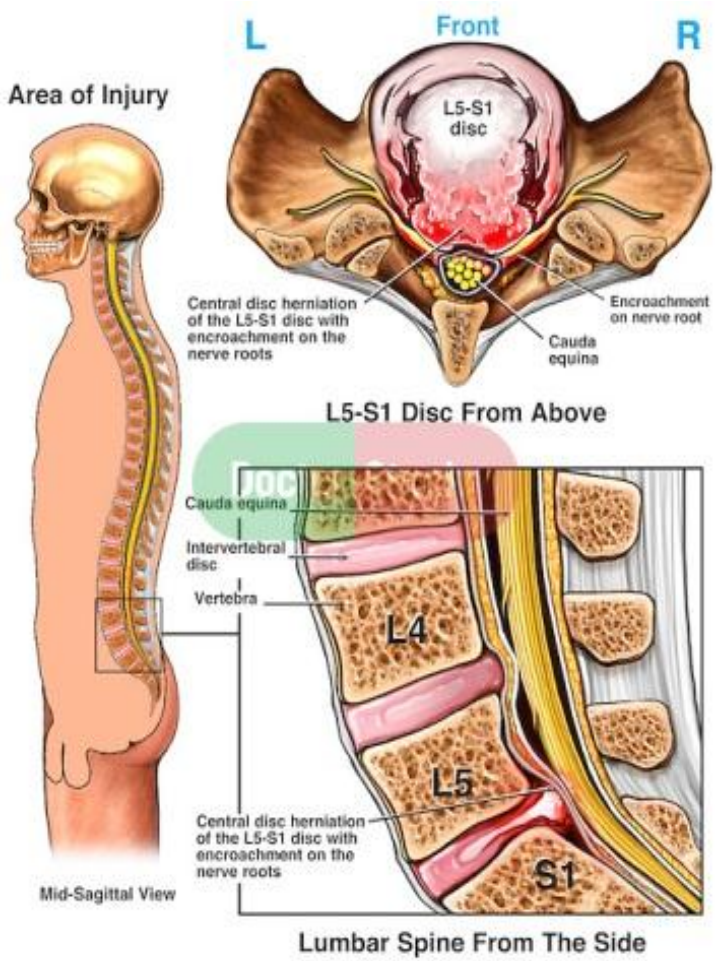
Assessing back pain

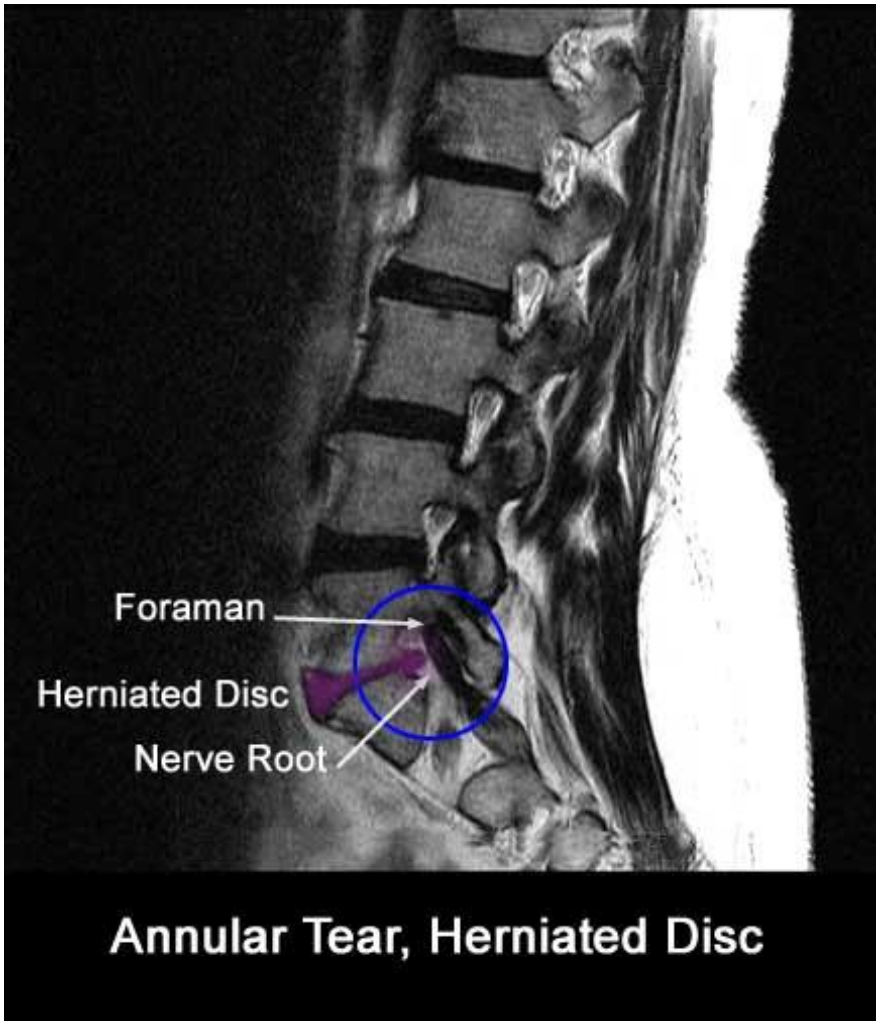


Looking at the bones



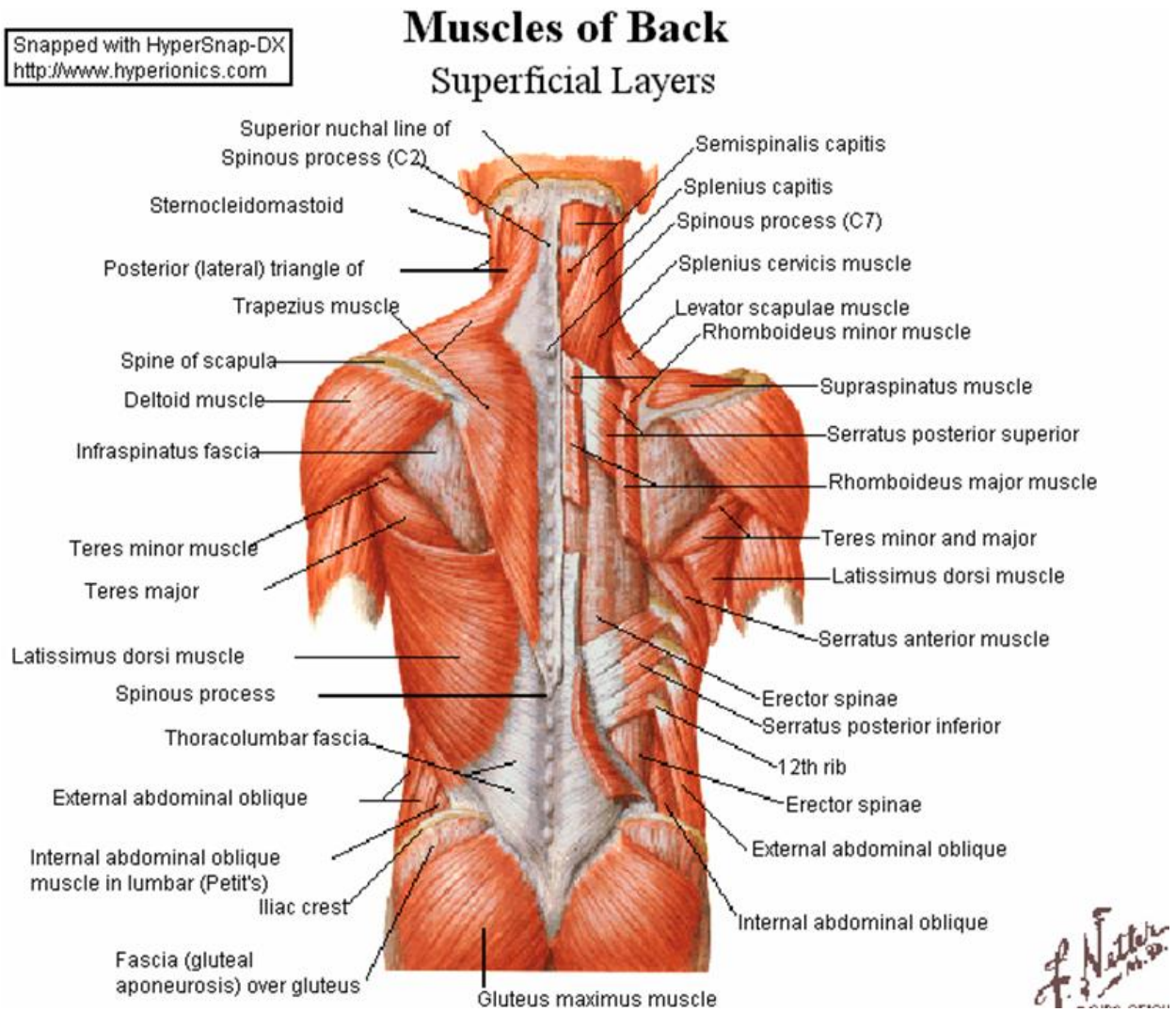
Most Back Pain is Not From a Herniated Disc





The Muscles

Strength, flexibility and coordination matter…and muscles can hurt.



Back Function Matters

Flexibility is a key indicator.

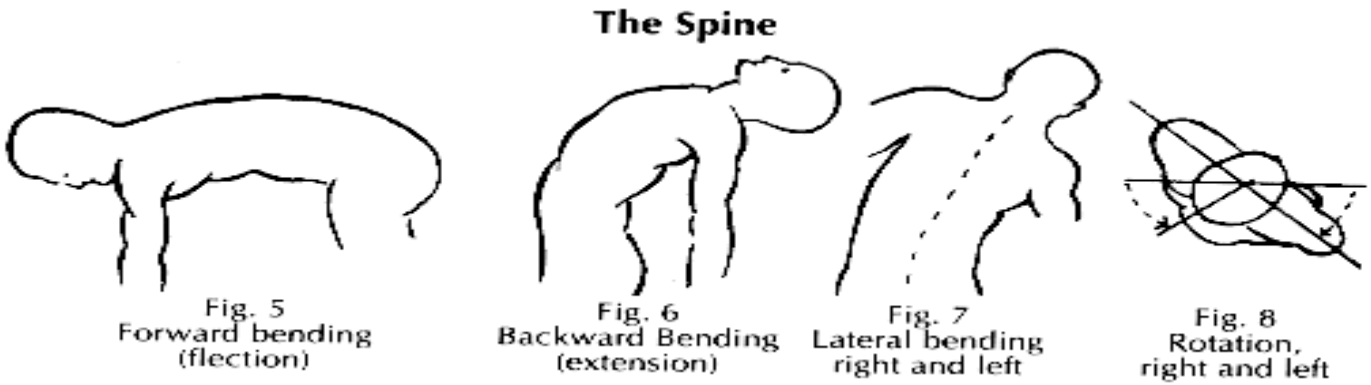


Fig. 5
Forward bending
(flection)

Fig. 6
Backward Bending
(extension)

Fig. 7
Lateral bending
right and left

Fig. 8
Rotation,
right and left

Assessing Back Pain

What tests do and do not tell us.

- Imaging
  - X-ray
  - CT
  - MRI
  - Discogram
- Concept of false positives
  - MRI of a bulging disc
  - Facet arthropathy
  - Bone spurs
- Physiologic testing
  - EMG
  - Blood work
- Physical examination
  - Physical and functional examination
  - Behavioral assessment

Common Misdiagnoses

Careful application of objective assessment is vital.

- Discogenic pain
- Radiculopathy
- Sacroiliac Joint Syndrome
- Piriformis Syndrome

The Evidence Drives Diagnosis

Case Study: Ms. K

This 34-year-old woman was diagnosed with failed pain syndrome and chronic lumbar radiculopathy after a fall in 2008.

- Initially treated with NSAIDS, physical therapy, and epidural injections, but her pain continued.
- L4-5 microdiscectomy and laminectomy in 2008.
- Past Medical History: L3-4 microdiscectomy and laminectomy in 1997; anxiety, depression, obesity.

Diagnostic Studies

- MRI in 2008 and repeated in 2009 showed Left L4-5 disc herniation encroaching on the left L5 nerve root, post op changes at L3-4 and then also at L4-5.
- EMG, July 2010: evidence of mild bilateral chronic L5-S1 motor radiculopathy.
- MRI: Post op changes again noted at L3-4, L45. No significant changes since MRI of 2009.

Medications at Time of Referral

Opana 30 mg TID, Percocet 10/325 mg tablets TID, neurontin 600 mg QID, Valium 5 mg TID, Paxil 40 mg TID

Medications

These are the medications typically prescribed for back pain.

- NSAIDS
- Muscle relaxants
- Neuropathic pain medications
- SSRIs
- Opioids
- Topicals
- Over the counter
- Miscellaneous

Interventional Technologies

Very careful selection is needed before choosing one of these technologies.

- Trigger point injections
- "Minimally invasive" procedures
- Spinal cord stimulators
- Intrathecal pain pumps
- Surgery

Ripped from the Headlines in 2013

- "Epidural Steroid Injections Are Associated With Less Improvement in Patients With Lumbar Spinal Stenosis" SPINE
- "Spinal Fusion For Degenerative Disc Disease: An Operation in Search of an Indication" The Back Letter
- "…could not find evidence of any other benefits of total disc replacement, and the studies provided no insights on the long-term risks associated with it." Cochrane Review

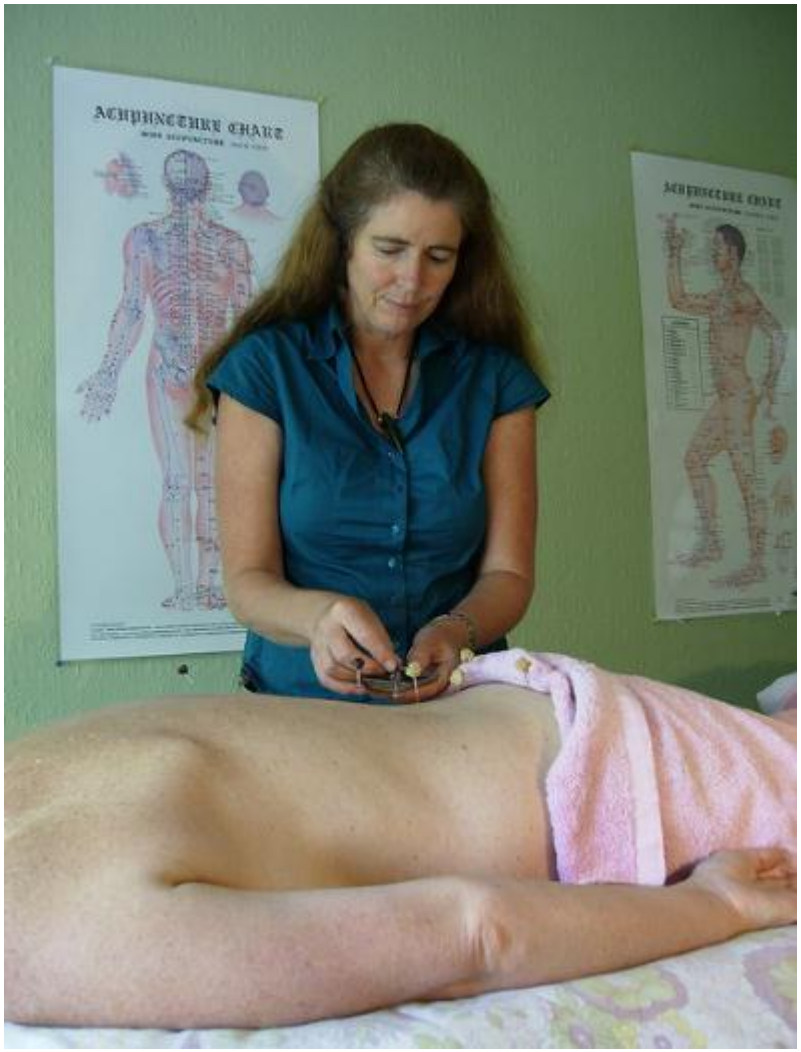
The Best Outcome: Restore Function

- Therapeutic exercise
  - Physical therapy
  - Pool therapy
- Cognitive Behavioral Therapy and other psychotherapeutic modalities
- Adjunctive treatments
- Lifestyle changes
- Pain management program/functional restoration program/opioid detox
- Attitude changes

Adjunctive Interventions

When do they work and for whom?

- Passive modalities
  - Massage
  - Acupuncture
  - Heat and cold modalities
- Wellness
  - Diet and nutrition
  - Smoking cessation
  - Mindfulness and biofeedback
- Durable Medical Equipment
  - Electrical stimulation
  - Back braces
  - Mattresses
  - Assistive devices (canes, walkers)



Acupuncture image from Wonderlane via Flickr Creative Commons

What's Coming Next?

Case Management Tips: Treatment in Context

Steven Moskowitz, MD, Senior Medical Director at Paradigm

Poll: Vote Using the Box to Your Right

Which of the following is <u>not</u> a proven risk factor for back pain becoming chronic?

a) High perceived disability at time of injury

b) Unavailability of light duty

c) Significant negative event in past year

d) Poor perception of general health

e) Losing a pet at a young age

1 Risk Factors Associated With the Transition From Acute to Chronic Occupational Back Pain; Marlene Fransen, PhD et al Spine 2002;27:92–98

2 Epidemiology of Back Disorders: Prevalence, Risk Factors, and Prognosis, Nisha J Manek et al, Curr Opin Rheumatol. 2005;17(2):134-140

Why is Back Pain So Hard to Treat?

- Complexity of the low back
- Common asymptomatic incidental imaging findings[1]
- Acute and chronic back pain differ
- Importance of the psychosocial aspects of pain reporting
- Absence of simple “pain generator”
- Modern medicine responds more readily to symptoms rather than spine function
- Tendency to prefer passive vs. active treatment
- Quick-fix health focus

1 Magnetic Resonance Imaging of the Lumbar Spine in People without Back Pain, *Maureen C. Jensen, et. Al.* NEJM volume 331:69-73, July 14, 1994, number 2

Challenges for the Insurer

- Often put in the position of certifying sequential single services
  - Trial and error
- Outcomes of popular treatments often not game changing
  - Lack of measurement
- Behavioral factors get ignored in medical treatment offers
  - Why factors influence a doctor decision to prescribe opioids[1]
- Doctors , injured workers often do not fully engage in the effective conservative interventions
  - Immediate gratification
- Injured workers often agree to invasive treatments that are statistically not likely to help them

Avoid This Trap!

"Because nothing else worked" is a poor criteria to justify an intervention

1 What Factors Affect Physicians' Decisions to Prescribe Opioids for Chronic Noncancer Pain Patients? Turk, Dennis C. Ph.D., et al, Clinical Journal of Pain: December 1997 - Volume 13 - Issue 4 - pp 330-336

Addressing Provider Challenges

Considerations	Tactics
Overemphasis on subjective complaint and imaging	Measurement, concordance, peer-to-peer, case management
Many mainstay treatments are not steeped in deep evidence • Commonly used does not mean effective • Surgical "cures" have been disappointing, when not applied selectively	Accountability to EBM, clarify selection criteria
Rush to market for procedures and medications • FDA approval does not validate effectiveness • Lack of careful selection	Vetting new technology, UR, peer-to-peer
Providers often offer boutique service • No time or resource to week through the behaviors • Take IW history at face value	Guide toward pain management instead of pain medicine

Addressing Injured Worker Challenges

Considerations	Tactics
Lack of medical sophistication • Blind trust • Assumption of beneficence • Lack of knowledge	Education, second opinion, case management
Human nature can play a counter-adaptive role • Fantasy of a quick and total fix • Dislike of exercise and other active involvement • Disbelieve of the psychosocial aspects of pain	Cognitive behavioral techniques, education, coaching
Individual personality traits affect individual approach • Coping ability • Anger/entitlement • Secondary gain	Cognitive behavioral techniques

Returning to Our Case Study, Ms. K

- **Carrier Challenge**
  - Was surgery a reasonable approach?
  - Behavioral red flags?
  - How to consider a CPMP
- **Provider**
  - Significant vs. Incidental findings
  - Surgery vs. rehabilitation
  - Pain management vs. pain medicine approach
- **Injured Worker**
  - Biopsychosocial versus biomedical approach
  - Restoration of function
  - Readiness to change

Avoiding Quick Fixes

Back pain management requires careful orchestration.

1. Encourage the injured worker to commit to therapeutic exercise and wellness
2. Educate the injured worker
   - No such thing as a quick fix, even with quick fixes
   - Need for evidence-based careful selection when applying medications
   - Need to measure meaningful outcome and expect restoration of function
   - Need to discontinue treatment not showing effectiveness
3. Avoid trial and error
   - Trying a treatment because nothing else has worked is not good medical decision making

Avoid This Trap!

Resist new-to-market treatments without evidence support

Question and Answer Session

Submit your questions in the Q&A panel on the right of your screen.

Dr. Hassan Moinzadeh

Dr. Steven Moskowitz

Mary Baranowski

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