



Non-Pharmacologic Treatment of Back Pain

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Overview:

“Doc, my back hurts”

Non-Pharmacologic Treatment Modalities

Physical Therapy Evaluation and Treatment

“Doc, my back hurts”

- **Not an uncommon story:**
 - 45 yr. old male with chronic lumbar pain, intermittent radiations to L leg causing disability and poor sleep
 - Pain started with MVA at 20 yo and then became worse over time working in a warehouse doing various jobs
 - Pain makes it difficult to stand or sit for any prolonged periods of time and can't work more than 3-4 hours a day at light duty

Continued:

- Patient has had multiple imaging studies that show moderate degenerative disc disease at L3-S1 with moderate foraminal narrowing bilaterally and no significant spinal cord impingement
- Has had minimal to moderate relief in the past with combinations of NSAIDs and muscle relaxants, brief periods of time on opioids/Tramadol
- Wants to get his life back, a steady job, and help around the house with chores

“Doc, my back hurts”

- 84% of Adults will have back pain during their lives
- 24% of primary care visits are for back pain
- >100 billion dollars in annual costs in health expenditures, missed work, and personal costs
- Chronic back pain is defined as lasting >12 weeks

Risk Factors for Chronic Back Pain

- Lower level educational attainment
- Lower SES
- Smoking
- Depression
- Sleep disturbances
- Other medical comorbidities

Non-Pharmacologic Modalities: Evidence

Nonpharmacologic Therapies for Low Back Pain: A Systematic Review for an American College of Physicians Clinical Practice Guideline

- Annals of Internal Medicine April 2017

Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review

- AHRQ #209, June 2018

Non-Pharmacologic Modalities

- Exercise
- Psychological Therapies
- Mindfulness-Based Stress Reduction
- Ultrasound
- Low-level Laser
- Traction
- Spinal Manipulation
- Massage
- Yoga
- Acupuncture

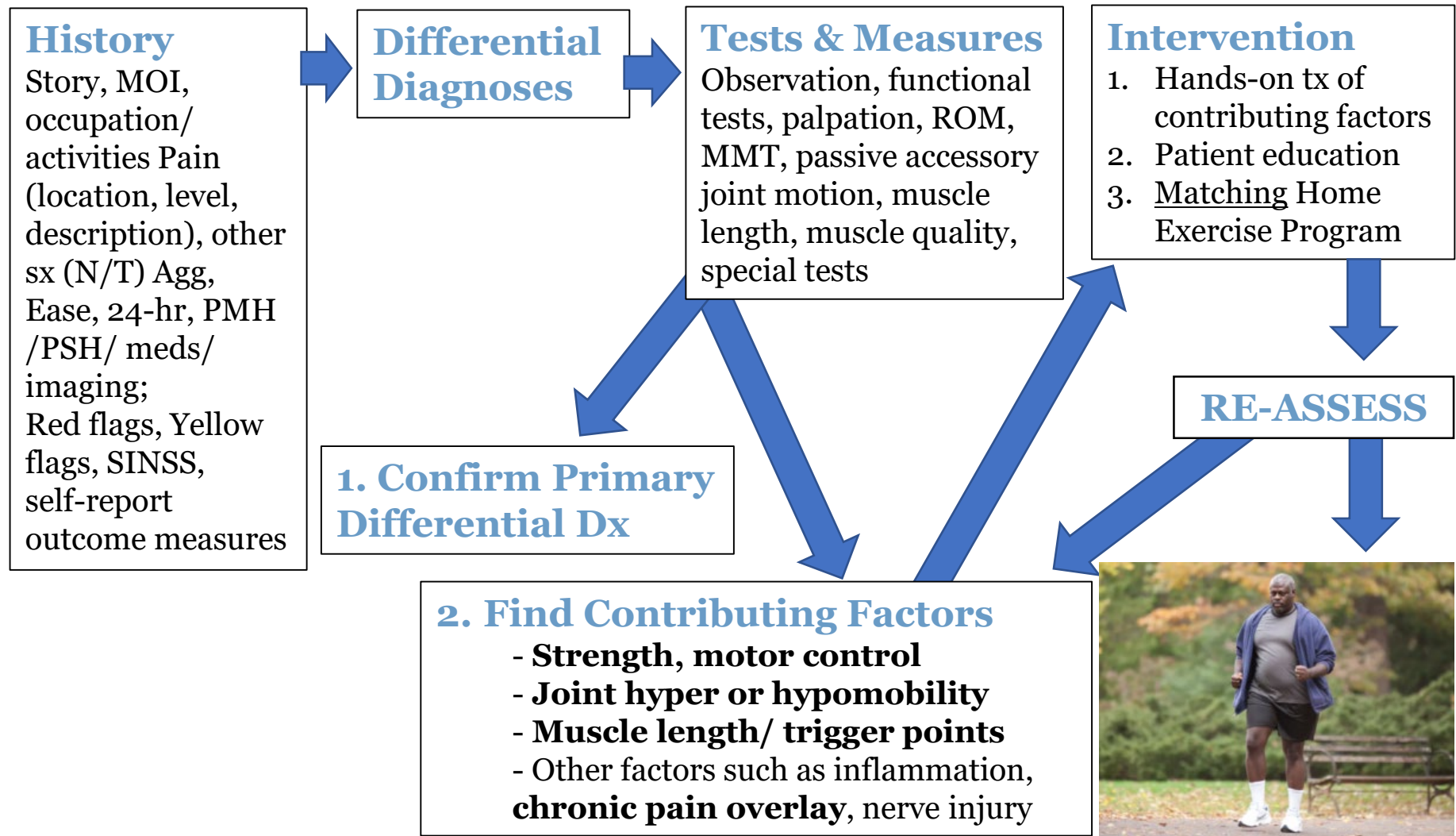
Evidence Supports Compared to “Usual Care”

- **Exercise** (studies don't differentiate well whether from PT evaluation and plan): Slightly to Moderately improved function and pain control - short and long term
- **Psychologic Therapies** (Cognitive Behavioral Therapy, Biofeedback, relaxation training): Slightly improved function and pain control – short and long term
- **Yoga**: Slightly Improvement pain - short and intermediate; Moderate Improvement function - short and intermediate time frame.
- **Mindfulness-Based Stress Reduction**: Slight improvement pain - short and intermediate term only; improvement in function less clear

Evidence Does Not Support Long Term Benefit

- **Ultrasound:** No Benefit
- **Low-Level Laser:** Slight improvement pain and function - short term only
- **Spinal Manipulation:** Slight improvement pain and function - intermediate time frame
- **Massage:** Slight improvement - short term only
- **Traction:** No Benefit
- **Acupuncture:** Slight improvement pain and function – short term only

Full PT Evaluation



PTs can contribute to the solution for chronic pain syndrome

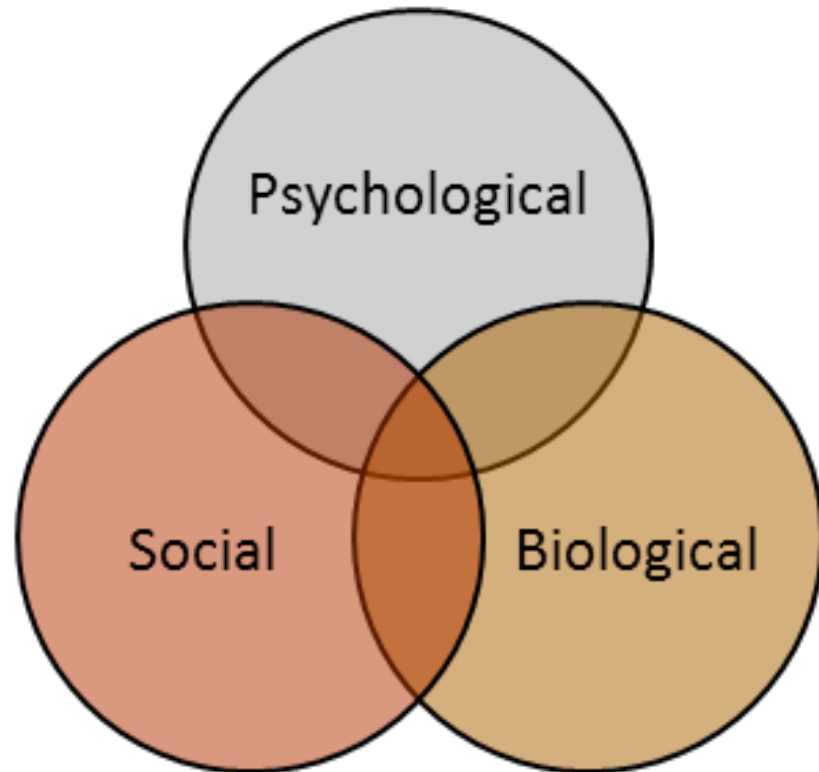
- PTs have 3 years of graduate doctoral training, steeped in pain science, pain evaluation, and pain management
- Use evidenced-based tests and measures to determine the causes of pain
- Assess intensity, quality, temporal, and physical characteristics
- Also evaluate for risk factors for pain and future pain issues
- Evals typically 45-60 min



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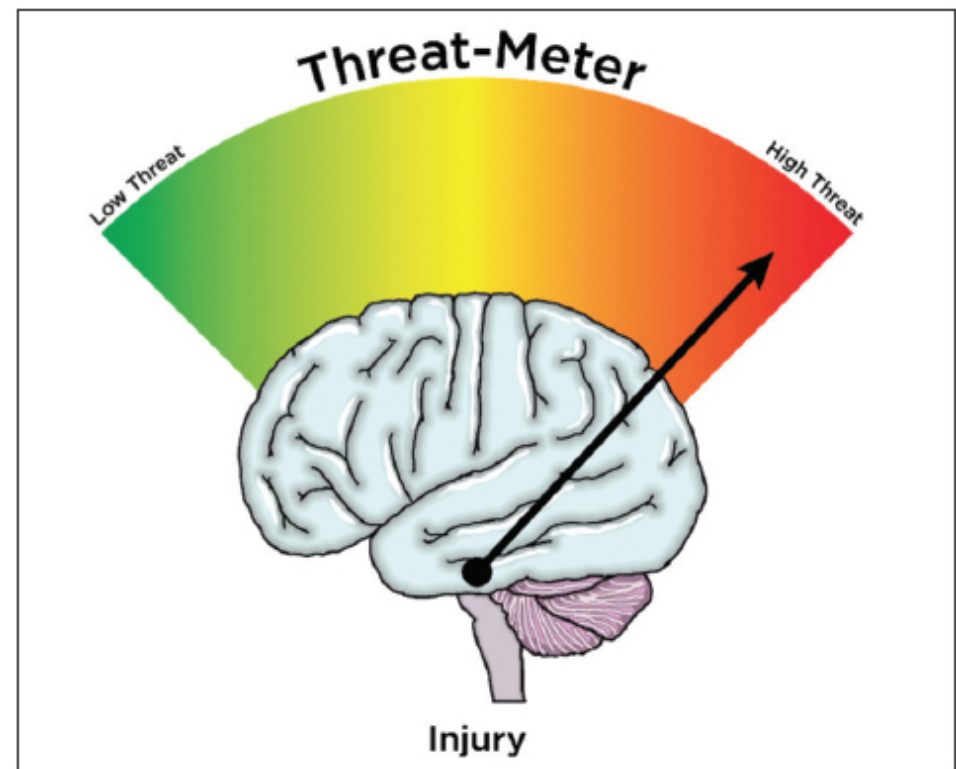
Risk Factors for Chronic Pain

- Disease history
- Cognitive and psychological factors
- Beliefs
- Sedentary lifestyle



PT Interventions

- Therapeutic exercise
- Manual therapy
- Stress management
- Sleep hygiene
- **Pain neuroscience education** (& other psychological informed patient education)



[Adriaan Louw. www.rehabpub.com/2017/11/meet-middle/](http://www.rehabpub.com/2017/11/meet-middle/)

PT is effective in both treating pain and preventing chronic pain

- Low back pain systematic review
 - 60 RCTs, exercise therapy, found PT decreased pain, improved function, and helped people return to work
- Pre- and post-surgery systematic review
 - 35 RCTs, 3000 pnts undergoing THA, found pre-op exercise and education led to significant reductions in pain, shorter lengths of post-op stay, and improvements in function
- Arthritis
 - Studies show therapeutic exercise programs reduce pain and improve function in people with hip and knee OA

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References from APTA White Paper 2018

- Beyond Opioids: How Physical Therapy Can Transform Pain Management to Improve Health. An APTA White Paper. 1 June 2018 (51 citations)
- https://www.apta.org/uploadedFiles/APTAorg/Advocacy/Federal/Legislative_Issues/Opioid/APTA_OpioidWhitePaper.pdf

Thank you! Happy to be on the team!

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