

Current Concepts in Non-Surgical Management of Low Back Pain

**Joe Lorenzetti PT, MS, DPT,
FAAOMPT,
Cert. MDT, MTC**



Objectives

- The problem of low back pain (LBP)
- Common Causes of LBP
- Conservative treatment options
- Direct access
- Opioid use

Prevalence of LBP

- LBP is among the most common reasons to visit a physician.
- Up to 25% of Americans report an incidence of back pain within the previous three months.
- LBP has a 1-year prevalence of 22% to 65%.
- Lifetime prevalence of LBP is approximately 84%.

Dagenais S, Gay RE, Tricco AC., et al. *Spine J.* 2010;10:918-40.

Loney PL, Stratford PW. *Phys Ther.* 1999;79:384-96.

Walker BF. *J Spinal Disord.* 2000;13:205-17

Cost of LBP

- Expenditures for back pain are rising more quickly than overall health expenditures.
- Low back pain is the most common cause of disability and lost work time among working-age adults in industrialized countries.
- In the United States of America, LBP treatment costs over \$50 billion annually.
- Annual estimates in the USA have exceeded \$90 billion in total costs.

Liledahl R, Finch M, Axene D, Goertz C. Cost of care for common back pain conditions initiated with chiropractic doctor vs. medical doctor/doctor of osteopathy as first physical: experience of one Tennessee-based general health insurer. *J Manipulative Physiological Ther.* 2010;33:640-3.

Foster N. Barriers and progress in the treatment of low back pain. *BMC Medicine.* 2011;9:108.

Missed Work Due to LBP

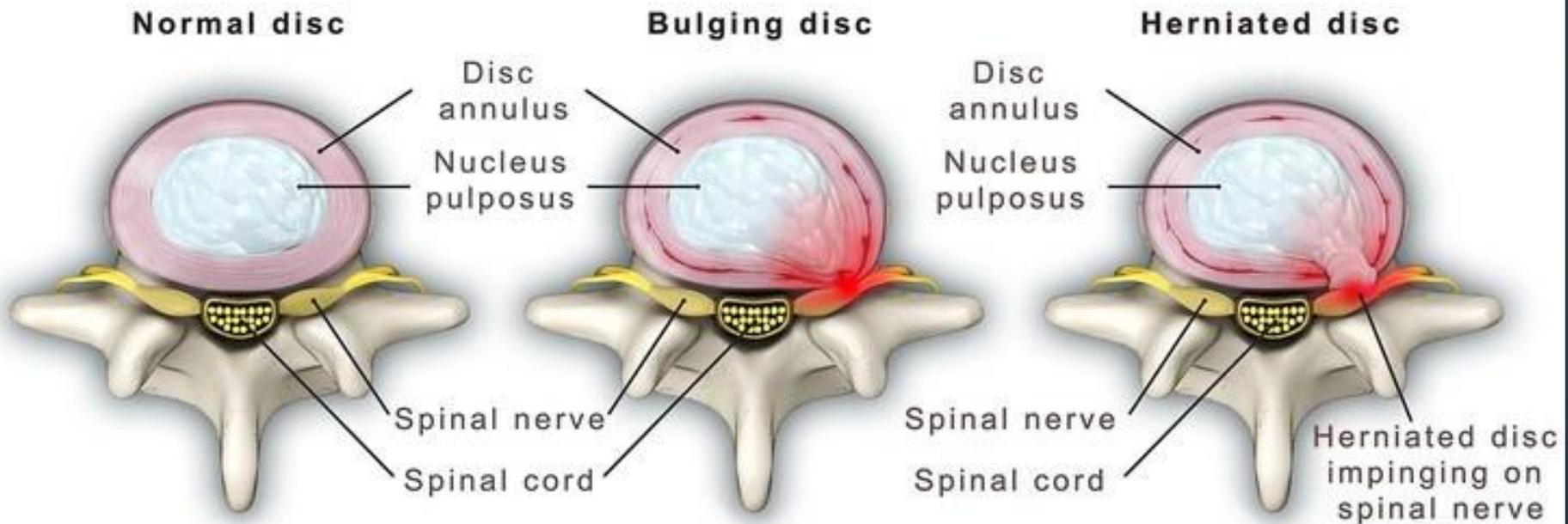
- 6 months out of work: < 40% chance of returning
- 1 year out of work: < 20% chance of returning
- 2 years out of work: ~ 0% chance of returning

Reoccurring LBP

- Acute LBP has a high re-occurrence rate.
- 25% of patients will experience recurrent episodes within one year.
- The prevalence of chronic LBP has been reported to be on the rise.

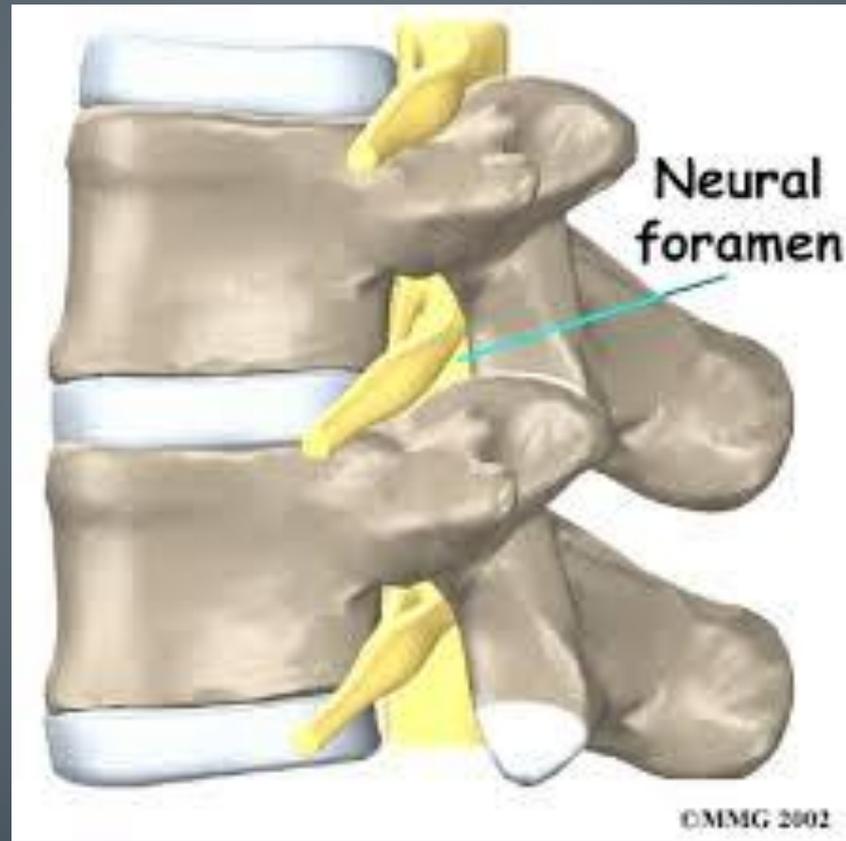
Common Causes of LBP

- Disc Bulge/Herniation



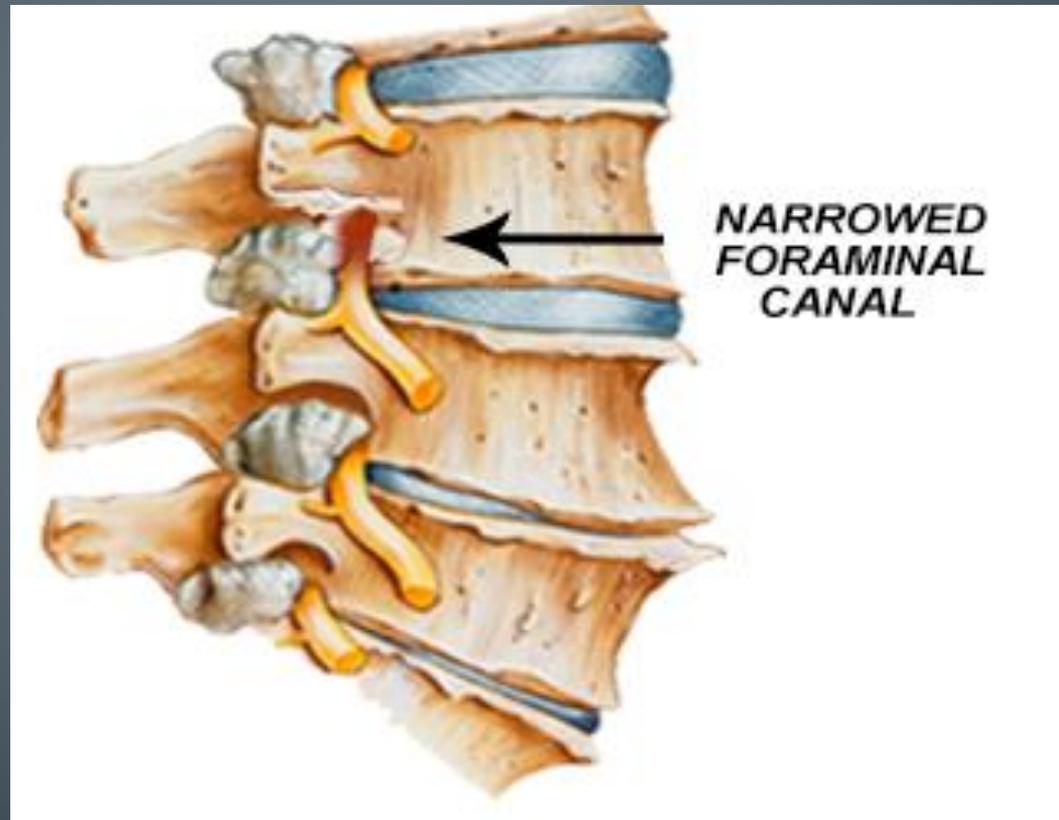
Common Causes of LBP

- Stenosis



Common Causes of LBP

- Stenosis



How Should We Manage Acute LBP



Previous Research

- Patients with acute LBP are advised to remain active within the limits of pain as long as there is no evidence of underlying serious pathology.
- Exercise recommendations during the first 4 weeks after onset consist of low-stress aerobic activity.
- Referral for specific interventions recommended only after 4 weeks.

Benefits of Early Physical Therapy

- Median total medical costs for 1 year after injury were \$1,003.68 for the guideline-based group and \$774.00 for the classification-based group.
- 25% decrease in cost
- Improved disability
- Improved return to work status after 4 weeks

Physical Therapy Treatment Options

- Specific Exercise (MDT)
- Manipulation
- Traction
- Stabilization

Specific Exercise

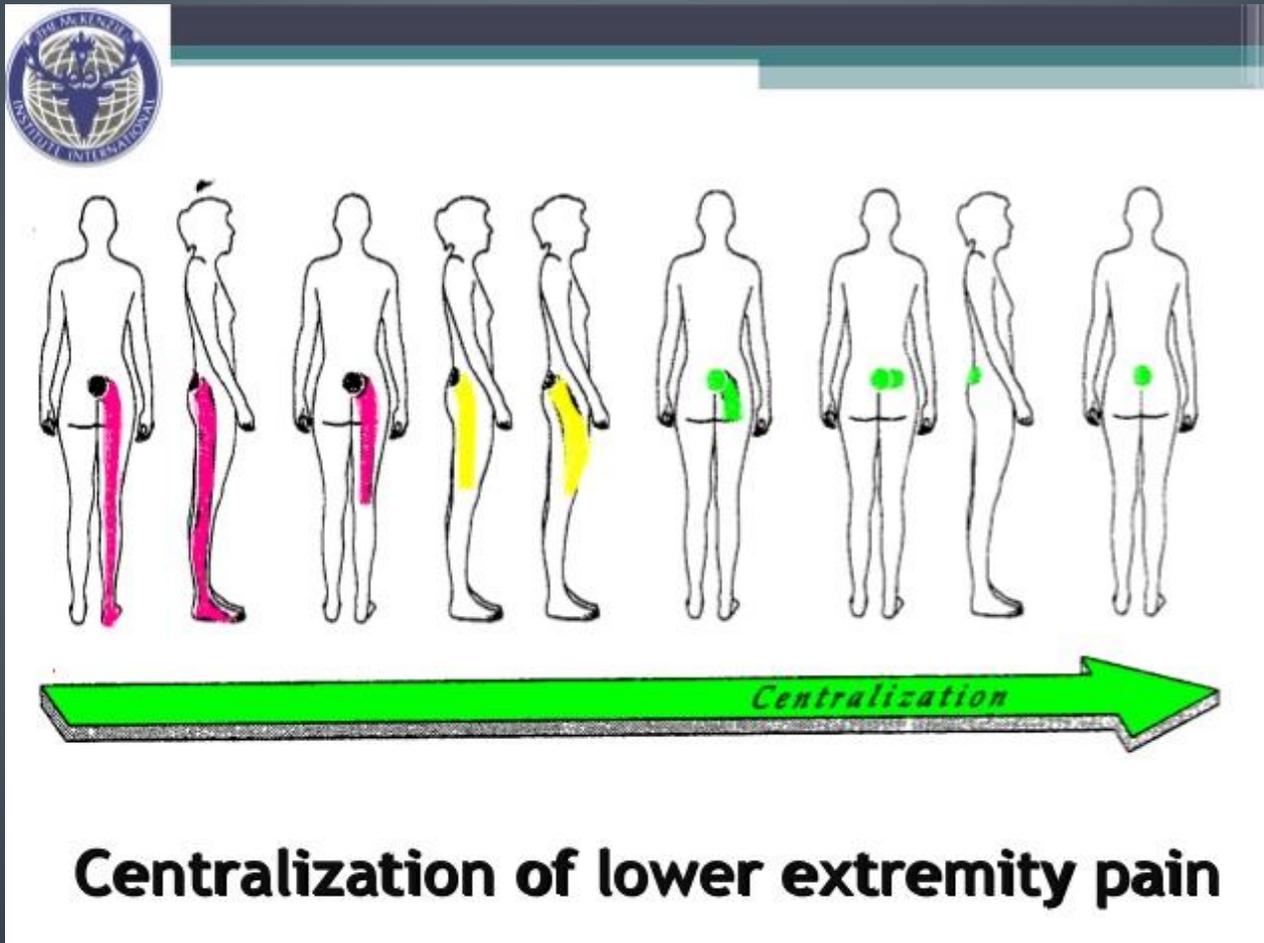
- Mechanical Diagnosis and Therapy (MDT)



What is MDT?

- Classification based system
- Patient response system
- Based on symptomatic and mechanical baselines
- Progression of forces
- Focus on self treatment

Centralization/Direction of Preference



Centralization

The centralization phenomenon is found to be a reliable predictor of good or excellent treatment outcome.

- In 87 patients, centralization occurred in 76 (87%).
- 100% of patients who had excellent outcomes had centralization.

Direction of Preference

- 75% of people with spine pain we can find the right direction of movement
- Threefold decrease in medication use.
- Exercises matching subjects' DP significantly and rapidly decreased pain and medication use and improved in all other outcomes.

Manipulation



Stabilization



Stabilization

- Focus on control of deep, local muscles with progression through stages
- Body-specific, require more attention and precision from the patient
- Improve motor control and sequencing of local stabilizers

Traction

- No directional preference
- Neurological signs



Chronic Pain



Chronic Pain

- Graded exercise approach
- Understanding hurt vs harm
- Based on function
- Core exercises

Direct Access



Direct Access

- Physician referral not necessary for the first 10 visits or 30 days in New York State
- Exceptions: Medicare, No Fault, Workman's Comp

Direct Access

- Mitchell 1997:
 - Physician referral \$2,236/episode
 - Direct Access \$1,004/episode
 - Physician referral episodes were 65% longer in duration
 - Physician referral episodes generated
 - 67% more physical therapy claims
 - 60% more office visits

The Use of MRI

- The sensitivity of MRI's is high
- Numerous anatomic variations visible on a MRI are not associated with symptoms.
- If you get an MRI first rather than seeing a Physical Therapist, you are:
 - 6x's more likely to get surgery
 - 5x's more likely to get an injection
 - 4x's more likely to have an ER visit

Direct Access/Imaging vs. PT

- \$4,793/episode more if a patient had an MRI first than patients who received physical therapy first.

Imaging Features of Spinal Degeneration in Asymptomatic Populations

Imaging findings for 3,110 asymptomatic individuals

Disk degeneration:

37% of 20-year-old individuals.

96% of 80-year-old individuals.

Disk bulge:

30% of those 20 years of age

84% of those 80 years of age.

Disk protrusion:

29% of those 20 years of age.

43% of those 80 years of age.

Annular fissure:

19% of those 20 years of age .

29% of those 80 years of age.

The Wrinkles Inside are Normal



Opioid Use



Opioid Use in New York State

- 10,909,602 opioid analgesic prescriptions were dispensed to patients in 2014.
- Opioid analgesic-related deaths increased 30 percent from 2009 to 2013.
- Opioid-related emergency department visits increased 73 percent from 2010 to 2014.

Center for Disease Control Recommendations

- Pain or function problems are related to low back pain, hip or knee osteoarthritis, or fibromyalgia
 - The CDC cites “high-quality evidence” supporting exercise as part of a physical therapy treatment plan for those familiar conditions.
- Opioids are prescribed for pain
 - Even in situations when opioids are prescribed, the CDC recommends that patients should receive the “lowest effective dosage,” and “should be combined” with non-opioid therapies such as physical therapy.

Early Physical Therapy:

Decreased Risk Of:	Fewer Amounts Of:
<p>Advanced imaging Surgery Injections Opioid medication use Emergency department visits</p>	<p>Additional physician visits Restricted work days Missed days of work Physical therapy visits Specialists visits Subsequent medical service usage</p>

Prevention

- Good posture
- Regular exercise
- Proper body mechanics
- Balance flexion and extension activities

Thank You

