

Exercising with Low Back Pain

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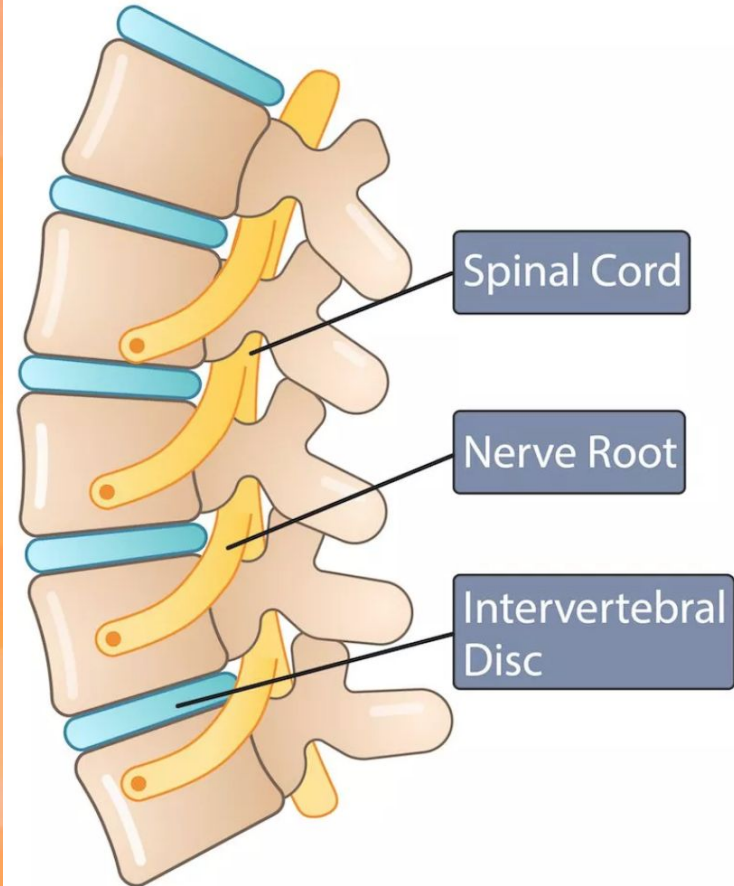
Outline

- Anatomy
 - Disc pain
 - Stenosis
- General Principles/Guidelines
- Risk Factors and Recovery
- Questions

Lumbar Spine Anatomy

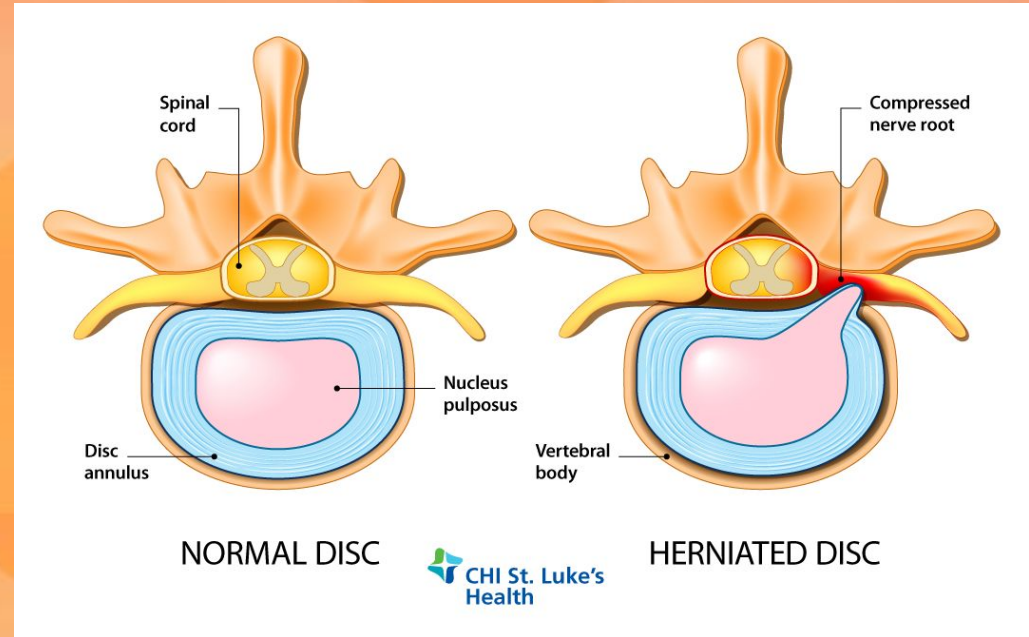
- Vertebrae
- Spinal cord
- Nerve roots
- Foramina
- Discs

Healthy Spine



Discogenic Pain

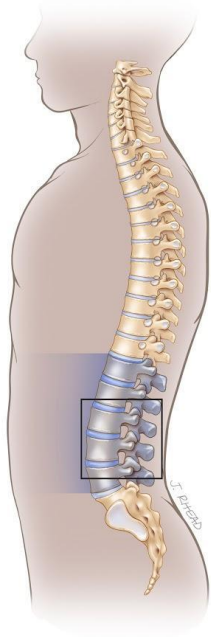
- Pain that is due to the disc
 - Herniations
 - Disc degeneration
- These people tend to prefer bending backward
 - Low back EXTENSION



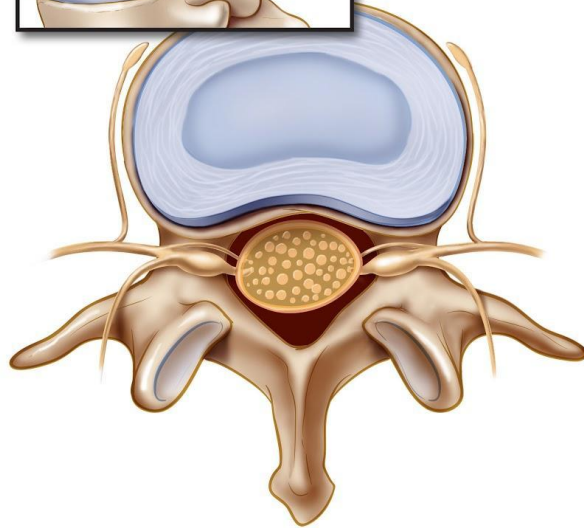
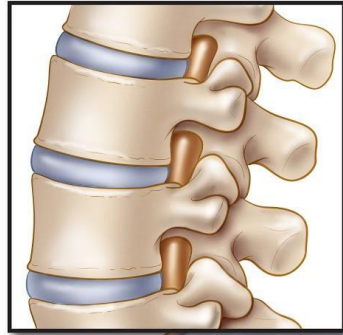


Spinal Stenosis

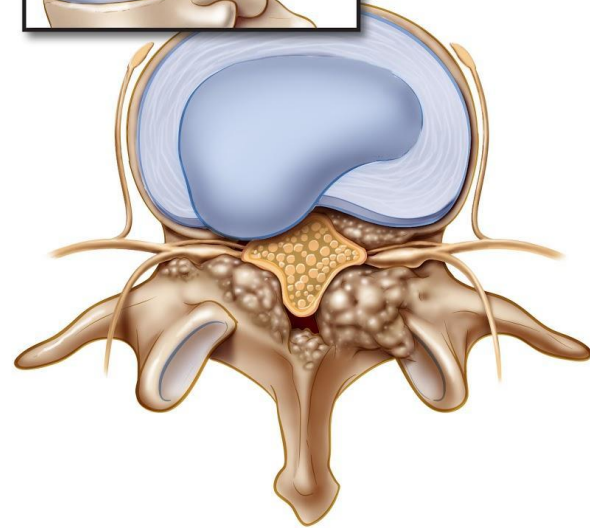
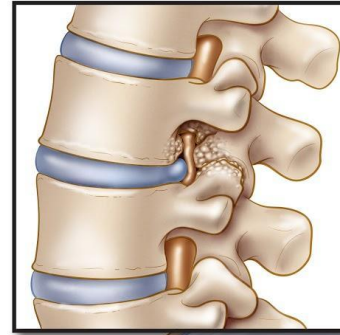
- Narrowing of the foramina
- These people tend to prefer bending forward
 - Low back FLEXION
 - Flexion has been found to increase space for the nerves by up to 30% (Singh 2013).



Normal spinal canal size
and space for nerves



Narrowing with compression of the
nerve structures in the spine

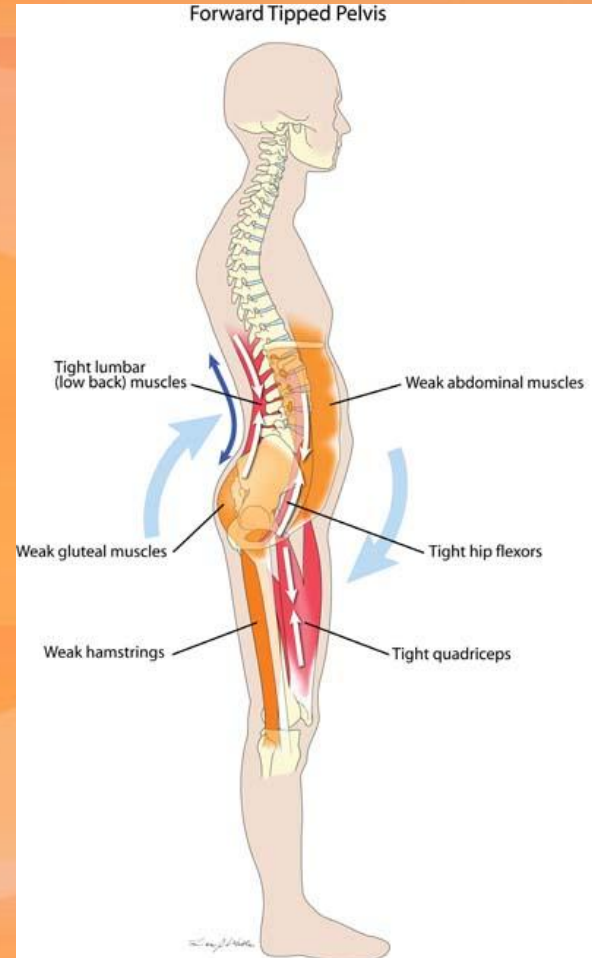


General Principles/Guidelines

- Keep moving!
- Pain during exercise
- Directional preference
- Muscular engagement
- Warming up
- Slow progression
- Recovery

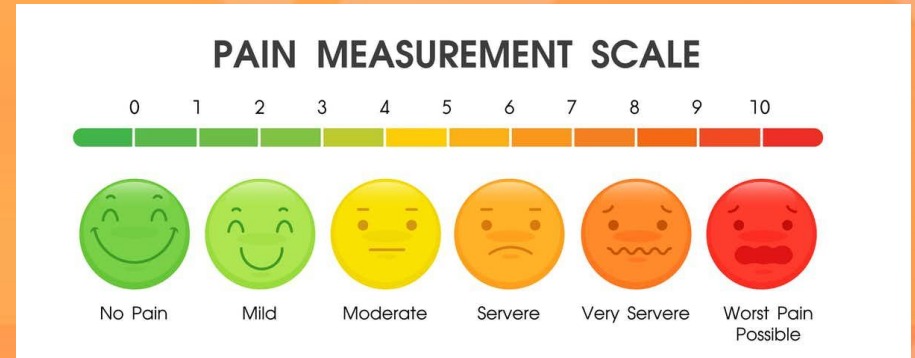
Keep moving!

- Every 30 mins to 1 hour!
 - Combat stiffness (**precursor to pain**)
 - Combat hip flexor tightness and muscle imbalance
 - Secondary benefits
 - Decreased risk of heart disease (Harvard Health 2017)
 - Decreased physical and mental stress (Harvard Health 2017)
 - Decreased risk of death (Diaz 2017)



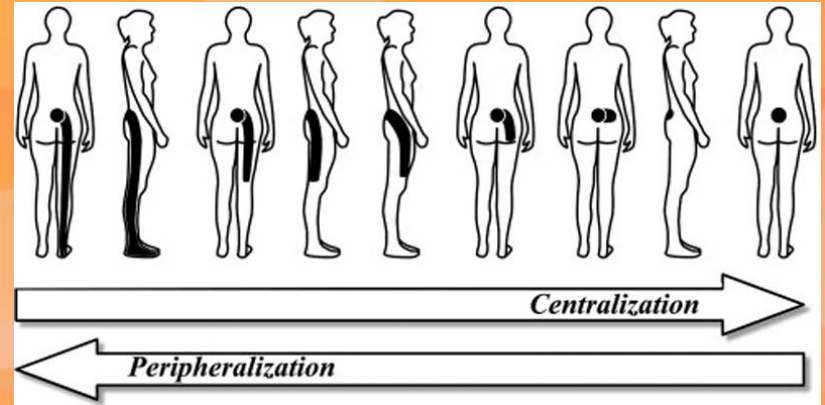
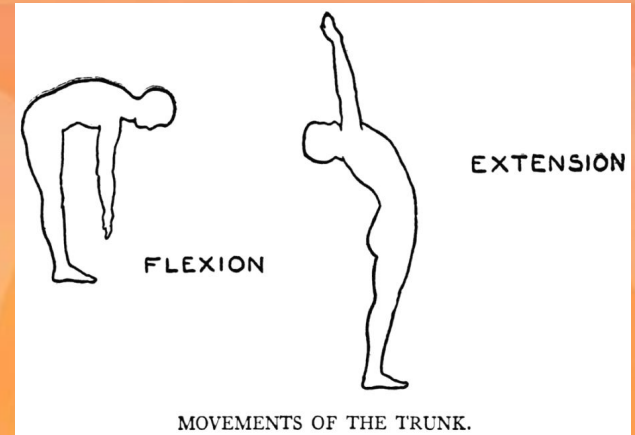
Pain during exercise

- Match your activity to your level of pain
 - Excruciating pain or pain down your leg? Change gears.
- Keep your pain manageable
 - 3/10 or lower on your personal pain scale
 - If you have pain, keep it in your back
 - Not down the legs



Directional Preference

- Most people present with either a **FLEXION** or **EXTENSION** preference.
 - Preference: decrease in pain; increase in centralization
- Examples: what's your preference (POLL)?
 - Flexion preference
 - Sitting
 - Bending forward
 - Lying on back with knees bent
 - Extension preference
 - Standing
 - Bending backward
 - Lying on back with knees straight
 - Lying on stomach



Directional Preference

- Leverage your preference as treatment!
 - Higher levels of low back pain: 90-100 reps/day may be one of your only exercises
 - Lower levels of low back pain: perform ~10 reps between exercises
 - Can also “cancel out” opposite motions
 - Example for extension people: between sets of squats (flexion), do back bends (extension)
 - Example for flexion people: between sets of bench press (extension), do forward bends (flexion)
 - **Do what feels good. Avoid what feels bad.**

Muscular engagement

- If an exercise is painful, try being more mindful of engaging your glutes and abs. Then try again.
- Engaging your core and glutes during exercises can bring more stability to your low back and decrease pain.

Muscular engagement (cues)

- Glute engagement: squeeze and tuck your butt under you
 - To test: Poke your glutes before and after you activate them
 - Glutes should feel “harder” when they are activated
- Core engagement: brace for a punch
 - Can also try lighter engagement: pressing belly button lightly toward spine
 - Find what works for you



Warming up

- Warm-ups
 - Improved performance
 - Possible injury rate reduction
- 5 minutes
 - Light, warming activities
 - Walking, elliptical, body-weight squats, jumping jacks, forward or back bends, cat-cow
 - Self-releases with LAX ball and foam roller
 - YouTube Channel: React Physical Therapy



React Physical Therapy

753 subscribers

SLOW progression

- Trial and error
- Find the level of activity where you are uncomfortable and modify one level down
- Patience
 - Few days to a week before trying something previously uncomfortable
- Adjustments
 - Weight
 - Speed
 - Number of reps
 - Length of break between sets

SLOW progression

- Example Progression: Squatting
 - a. Bodyweight partial squats
 - b. Bodyweight squats
 - c. Single-leg partial squats
 - d. Single-leg squats
 - e. Weighted partial squats
 - f. Weighted deeper squats
- Example
 - a. No issues with exercise a, b, and c.
 - b. Struggle with d.
 - c. Work on c for a few days/weeks.
 - d. Re-test d.



SLOW progression

- Example Progression: Running

- Walk
- Walk-jog
- Jog
- Run



- Best not to go straight to running (or even jogging)
- Slowly increase distance or speed over the course of weeks
 - Max 10% increase week to week

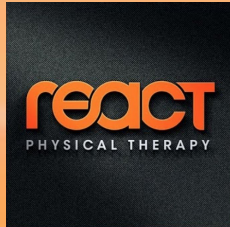
Risk Factors and Recovery

- Correlation between low back pain and stress
 - Lack of sleep also potentially a risk factor (Auvinen 2009)
- Sleep!
 - Ideally on your back
 - More symmetry
 - Build muscle, heal
- Healthy, balanced diet
- Monitor how you feel following your exercise (immediately and the following day)
 - Did you push too hard?
 - Are you sore in the right places?
- Adjust!

Recovery: Physical Therapy

- If you need personal guidance with a return to exercise program...
- If you need hands-on techniques (massage, spinal mobilizations) to help with pain...
- If you want 30 minutes, 1-3x/week, of one-on-one time with a doctor of physical therapy to discuss your symptoms...

Consider physical therapy!
Consider React!



Summary

- Keep moving!
- Keep pain low (3/10 or lower) and in the back (not down the legs)
- Know and use your directional preference
- Engage your glutes and core
- 5-minute warm-up
- Progress SLOWLY
- Sleep and manage stress
- Consider PT

Questions?

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