ORTHOINDY
BONE · JOINT · SPINE · MUSCLE

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Patient Name: _____

Diagnosis: _____

_____

Notes: _____

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Lumbar Degenerative Disk Disease Physical Therapy Prescription

Therapy

Usually two times a week. Duration should be as long as needed to reach functional goals and/or independent with home exercise programs and progressions.

Long Term Plan

- 45 minutes of aerobics, five days a week
- Learn to decrease sitting time, always use a lumbar roll in sitting
- Talk to Dr. Poulter about bone health and weight loss strategies if appropriate

Treatment options below do not all have to be included, but all could be appropriate for this patient population. Use tests/measures and clinical decision making to individualize the appropriate treatment(s) to your patient. If radicular symptoms are present, address these first and make sure to give long term home exercise program for stabilization.

Phase I

Precautions

- Keep spine in neutral for all strengthening and make sure to achieve proper neuromuscular control of transverse abdominis, multifidi before progressing strengthening exercises.
- If leg symptoms present, focus on centralizing pain out of leg, **do not** progress strength exercises until achieved.

Goals

- Centralize symptoms out of lower extremity (if present), then work to abolish if possible.
- Achieve proper muscle firing of transverse abdominis and multifidi, 10" each.
- Achieve proper muscle firing of glute muscles without substitution from hamstrings or lumbar paraspinals, 10" holds.
- Improve cardio endurance to at least 20 minutes, three to five days a week.
- Learn proper sitting posture with lumbar roll, and proper lifting mechanics.

Education
- Teach importance of sitting posture and use of lumbar roll
- Teach correct body mechanics (eg.: lifting, vacuuming, yard work, etc.)
- Teach how different positions and postures effect the spine

Stabilization Exercises
Emphasis on achieving proper neuromuscular control of transverse abdominis *and multifidi without compensation (use stabilizer biofeedback cuff if available).*
- **TA Bracing:** 10" isometrics with normal breathing (without pelvic tilt) in supine, quadruped and prone
- **Multifidi:** 10" isometrics with normal breathing in prone
- **Glute Sets:** 10" isometrics with emphasis on proper glute firing in prone (bilateral and unilateral)

Manual Therapy
- Sound assisted soft tissue mobilization/augmented soft tissue mobilization as needed for areas of soft tissue restriction or muscle guarding
- Address any positional faults with mobilization or contract/relax techniques
- Joint mobilizations as needed

Flexibility
- **Stretching:** Hip flexors, hamstrings, gastroc/soleus, quadriceps
- **Hip Range of Motion:** Restore normal extension, internal rotation, external rotation if not within normal limits (mobilizations if needed)

Cardio *(as long as it doesn't produce or increase symptoms, let pain be the guide)*
- Walking – best for these patients
- Biking – recumbent or hybrid/upright (void road bikes)
- Swimming

Aquatic Physical Therapy *(or exercises if patient has access to a pool)*
- Transverse abdominis bracing during all exercises
- Walking all directions, balance, lower extremity and upper extremity strengthening

Phase II

Goals
- Patient able to activate co-contraction of transverse abdominis and multifidi regularly during daily activities, especially in situations where they anticipate or experience pain.
- Restore normal hip range of motion for extension, internal rotation, external rotation (if they are not within normal limits).
- Once patient is able to complete exercises and cardio below without production of pain during or after, continue to Phase III.

Transverse Abdominis/Multifidi Progressions *(maintain neutral spine)*
Only initiate these once patient can complete Phase I exercises. Emphasize neutral spine position during each exercise and correct muscle firing of transverse abdominis. (This is ***not*** *a complete list.)*
- **Supine:** Add upper extremity/lower extremity movements (eg.: marches, straight leg raises, upper extremity lift and lowers, etc.)
- **Quadruped:** Alternating upper extremity, alternating lower extremity, alternating upper extremity/lower extremity (bird-dog)
- **Sidelying:** Clams, hip abduction, etc.

- **Prone:** Hip extension, alternating upper extremity/lower extremity lifts (avoid hyperextension)
- **Bridging:** Bridges, single leg bridges, on swiss ball, etc.
- **Balance:** Static (eg.: single leg stance, tandem, etc.)
- **Swiss Ball:** No sit ups, no twisting (eg.: wall squats, seated exercises, bridges, bird-dog, etc.)

Flexibility *(see above)*

Cardio *(as long as it doesn't produce or increase symptoms, let pain be the guide)*
- Stationary bike, walking, elliptical, swimming, hiking, Pilates

Phase III
Only initiate these once patient can complete Phase II exercises correctly and without increase in pain.

TA/Multifidi progressions *(maintain neutral spine)*
- Lower extremity strengthening with transverse abdominis bracing (lunges, squats, step ups, etc.)
- **Balance:** Progress with BOSU, dynamic balance, etc.
- **Swiss Ball:** Advanced exercises (continue extension and rotation precautions)

Cardio *(as long as it doesn't produce or increase symptoms, let pain be the guide)*
- Stationary bike, walking, elliptical, swimming, Pilates, hiking, running

Return to Sport *(must be cleared by Dr. Poulter first)*
- Gradual progressive return to sports following parameters outlined by the physician,
- **Goal:** Reaching full participation over a month, as long as there is no recurrence of pain. Do **not** start full practices or games right away.
- **Guideline:** Increase participation about 20 to 25 percent per week, avoiding participation on consecutive days for the first two weeks. For example:
  - **Week 1:** 20 to 30 minutes of participation every other day
  - **Week 2:** 30 to 60 minutes of participation every other day
  - **Week 3:** 30 to 60 minutes of participation up to 5 days per week
  - **Week 4:** 60 to 120 minutes of participation up to 5 days per week
- Do not participate in drills or sports that have risk of trauma from collisions or falling. Limit activities and repetitions of activities that require repetitive arching or rotation of the back (diving, throwing, serving, rebounding).