

Patient Name: _____

Diagnosis: _____

Notes: _____

Lumbar Herniated Disc 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.

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

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

Goals

- Determine directional preference and provide home exercise program with exercises in that direction.
- Centralize symptoms out of lower extremity (if present), then work to abolish.
- Learn proper sitting posture with lumbar roll and proper lifting mechanics.
- 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.
- Emphasize daily walking without increasing symptoms.

Education

- Teach importance of sitting posture and they have to use a lumbar roll when sitting.
- Teach correct body mechanics (eg.: lifting, vacuuming, yard work, etc.).
- Teach how different positions and postures effect the spine.
- Explain what centralization and peripheralization are and how to monitor this to know if what they are doing is helping or aggravating themselves.
- Teach them they have to avoid or at least minimize activities that aggravate them.

Directional Preference Exercises *(repeated or static movements)*

- Attempt extension based stretches and seated posture correction first
 - Start with press ups (or prone lying, or prone on elbows if needed)
 - If unable to lay down, can do standing extensions or wall sags
 - These patients usually report at least some of the following flexion-based activities as worsening their symptoms: sitting, bending, coughing, rising from sitting, etc.
- If worse with extension exercises, attempt lateral forces
 - Eg.: side glides at the wall, press ups with hips **away** from pain, etc.
- If worse with extension and lateral forces, it's possible they are too inflamed to tolerate repeated or static movements and might need referred back to Dr. Poulter. You can also cautiously attempt flexion but follow rules below and start in supine knees to chest.
- **Follow these rules when testing patient with repeated movements. Then teach them for their home exercise program and print this on their home exercise program. Make sure they understand them.**
 - Symptoms **during** the movement that do not linger on afterwards is okay.
 - Symptoms that move up and inward towards low back is okay, should **not** radiate outwards and down further than when you start.
 - Make sure to go **as far as you can** during exercise.
 - Could take more than 10 reps. If it's helping keep going.
 - It is very important to get in often during the day (every two hours). Two to three sets a day is **not** enough.
 - If you are having symptoms, attempt exercise as soon as possible to attempt immediate symptom relief.

Taping

- Leukotape in an 'X' over lower lumbar region to minimize flexion forces and teach patient what upright posture is (you can add vertical strips as well if needed for re-enforcement).
 - Also good for acute pain. Do **not** tape as tight on these patients.

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.

Cardio *(as long as it doesn't produce or increase symptoms, let pain be the guide)*

- Stationary bike, walking, swimming

Phase II

Goals

- Maintain minimal to no pain for a minimum of one week before adding moderate resistance to strengthening.
- Maintain minimal to no pain for a minimum of two weeks before having patient return to normal activities of daily living, lifting, etc. and heavier resistance strengthening.
- Patient able to activate co-contraction of transverse abdominis and multifidi regularly during daily activities, especially in situations where they anticipate or experience pain.
- Maintain directional preference exercises a minimum of two times a day and continue use of lumbar roll long term in sitting.
- 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.)*

- Maintain neutral spine throughout. No flexion based strength (eg.: sit ups).
- Emphasis on extension based strength.
 - Bridges, prone extensions, scapula rows and extensions, quadruped stabilization, etc.
- Preferred to stabilize with body weight only. If using resistance, only light resistance. No heavy weights or bands yet.
 - Planks, quadruped, balance, swiss ball exercises, bridges, etc.
- **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

- **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)*

- Stationary bike, walking, elliptical

Aquatic Physical Therapy *(or exercises if patient has access to a pool)*

- No rotation or flexion during exercises.
- Walking all directions, balance, lower extremity and upper extremity strengthening. Maintain transverse abdominis bracing throughout.

Phase III

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

Transverse Abdominis/Multifidi Progressions *(maintain neutral spine)*

- **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, running
- Swimming

Return to Sport *(must be cleared by Dr. Poulter first)*

- Gradual progressive return to sports following parameters outlined by Dr. Poulter.
- **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 five days per week
 - **Week 4:** 60 to 120 minutes of participation up to five 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).