



# PALM BEACH ORTHOPAEDIC INSTITUTE

KYLE A. PETERSEN, M.D.

## Lumbar Discectomy Physical Therapy Prescription

*The intent of this protocol is to provide guidelines for rehab. It's not intended as a substitute for clinical decision making.*

If any of the following occur, contact Dr. Petersen and hold off on physical therapy:

- Any signs of infection
- Worsening of radicular symptoms, including progressive weakness
- Unexpectedly high self-reports of pain in comparison to pre-surgical state

*Patients with multi-level fusions may progress slower and more cautiously*

### Phase I (0 to 2 Weeks): Protective Phase

#### Precautions

- Avoid bending, twisting, lifting, pushing and pulling 20 pounds or more for two weeks
- Limit sitting, (including in a car for) for more than 30 minutes, take walking/standing breaks

#### Goals

- Diminish pain/inflammation and minimize lower extremity radiating symptoms (ice, modalities as needed).
- Learn correct body mechanics, transfers, positioning.
- Achieve proper muscle firing for transverse abdominis, multifidi and glutes.
- Focus on walking program. Walk at least 30 minutes a day

#### Education

- Postural Education: Sitting posture, frequent change in positions; sleeping positions
- Body Mechanics: Light lifting, transfers (include log rolling), positioning, etc.

#### Exercises

- **Walking Program:** Begin one to two times a day for 10 minutes or less. Continue to progress as tolerated to at least 30 minutes.
- **Transverse Abdominis Bracing:** 10" isometrics with normal breathing (without pelvic tilt)
- **Multifidi:** 10" isometrics with normal breathing in prone (if able to tolerate)
- **Glute Set:** 10" isometrics with emphasis on proper glute firing
- **Neural Mobilization:** Performed as needed, gentle with caution not to flare up nerve roots
- **Light Stretching:** Hip flexors, quads, hamstring, gastrocs

### Phase II (2-6 weeks): Initial Strengthening Phase

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## Precautions

- Keep spine in neutral for all strengthening and make sure to achieve proper neuromuscular control of transverse abdominis before progressing exercises.
- Lifting: Begin at 20 pounds and slowly increase to no restrictions at week six.

## Goals

- Complete light strength training with a neutral spine and correct firing of stabilization muscles
- Release soft tissue restrictions, muscle spasms, scar
- Increase aerobic endurance, no more than 30 minutes at a time
- Independent with lifting and body mechanics

## Cardio

- Walking Progression: At least 30 minutes or less
- Stationary Bike Recumbent: Can initiate at two weeks
- Stationary Bike Upright: Can initiate at four weeks (no resistance), six weeks (resistance)

## Flexibility

- Stretching: Hamstrings, gastroc/soleus, quadriceps, hip flexors, piriformis, etc.
- Neural Mobilization: Performed as needed, gentle with caution not to flare up nerve roots

## Strength

*Only initiate these once patient can complete Phase I exercises. Then begin with light resistance and slowly progress. Emphasize good posture and correct muscle firing of transverse abdominis. (This is not a complete list.)*

- **Transverse Abdominis/Multifidi Progression** (maintain neutral spine)
  - Start at table (supine, prone, quadruped) 10" isometrics
  - Progress with lower extremity/upper extremity movements (eg.: Marches, straight leg raises, upper extremity lift and lowers, planks, etc.)
  - Progress to weight bearing, balance, Swiss Ball, reformer, etc.
  - Progress to multi-planar exercises with lower extremity/upper extremity while maintaining a neutral spine only (no twisting).
- **Continue with Proper Glute Activation Exercises**
  - Eg.: prone hip extensions, bridges, side lying clams, side lying 90/90 leg lifts, side lying abduction, quadruped hip extension, bird-dog
- **Lower Extremity and Upper Extremity Strength Training** (once proper transverse abdominis and glute firing achieved)
  - Step ups, leg press, wall squats, squats, etc.
  - Balance (with transverse abdominis bracing): Single leg stance, tandem, foam, etc.
  - Upper extremity light resistive exercises (machines, Theraband, free weights)

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## Flexibility

- **Lumbar Spine:** Four weeks or less to improve lumbar extension range of motion (prone lying, prone on elbows, press ups, then stand extension (if no peripheralization))
- **Stretching:** Hamstrings, gastroc/soleus, quadriceps, hip flexors, piriformis, etc.
- **Neural Mobilization:** Performed as needed, gentle with caution not to flare up nerve roots

## Phase III (6-8 Weeks): Return to Work/Work Conditioning/ Return to Sport

## Goals

- Independent home exercise program for advanced strengthening, return to sport and work.
- Increase lower quarter flexibility and strength with focus on proper transverse abdominis and glute activation.
- Will typically be released to full activities without restrictions at six to eight weeks (when approved by Dr. Petersen).
- Possible referral to work reconditioning program.

## Education

- Explain to patient that once they have a lower back pain episode, they are predisposed to future episodes, so monitor warning signs.
- First sign of an exacerbation is stiffness. As soon as a patient notices stiffness, resume repeated movement exercise every two hours in proper direction as initially prescribed on day one.
- Explain the risk of prolonged static positions (such as sitting on plane, car) and repeated bending/lifting all day long.
- Emphasize correct form and equipment setup (eg.: elliptical, bike, walking terrain, etc.).
- Preference of Pilates over yoga. If returning to yoga, ensure it with an experienced instructor.
- When initiating running and sports below, slowly increase in the 6 to 8 week time frame.

## Strength

- Advanced core strength and stabilization exercises:
  - Progress to weight bearing, balance, Swiss Ball, reformer, etc.
  - Progress to multi-planar exercises with lower extremity and upper extremity
- Progress lower extremity/upper extremity strengthening
- Begin running, agility and plyometrics for return to sport at 6 to 8 weeks (if symptoms are stable and cleared by Dr. Petersen)

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| Activity:               | No Earlier than:  |
|-------------------------|---|
| Walking Progression     | At least 30 minutes per day   |
| Stationary Bike         | Gradual increase in resistance over 4 weeks, ok to start at 2 weeks light |
| Hiking                  | 3 weeks   |
| Outdoor Biking          | 4 weeks   |
| Pilates (neutral spine) | 4 weeks   |
| Elliptical              | 5 weeks   |
| Skiing                  | 6 weeks   |
| Yoga                    | 6 weeks   |
| Swimming                | 6 weeks (incision entirely healed)  |
| Running                 | 6 weeks   |
| Golf                    | 6-8 weeks   |
| Soccer/Basketball       | 6-8 weeks   |

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