Lumbar Laminectomy 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. Poulter 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

Phase I (0 to 2 Weeks): Protective Phase

Therapy
- First visit at two weeks post-op (outpatient)

Precautions
- Avoid bending and twisting, lifting, pushing and pulling 20 pounds or more for two weeks.
- Limit sitting, including the car, to no more than 30 minutes at a time (standing/walk breaks).
- No extension range of motion, nor rotation exercises for eight weeks.

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, increasing tolerance to at least 10 minutes, two times a day.

Education
- **Postural Education:** Upright sitting posture with lumbar roll at all times, frequent changes in positions and sleeping positions
- **Body Mechanics:** Lifting, transfers (include log rolling), positioning, etc.
Exercises

- **Walking Program:** Begin one to two times a day for ten minutes. Progress as tolerated.
- **TA Bracing:** 10” isometrics with normal breathing (without pelvic tilt)
- **Multifidi:** 10” isometrics with normal breathing in prone (if able to tolerate)
- **Glute Sets:** 10” isometrics with emphasis on proper glute firing (not hamstring)
- **Light Stretching:** Hip flexors, quads, hamstring, gastrocs

**Phase II (2 to 6 Weeks): Initial Strengthening Phase**

**Therapy**
- One to two times a week, for four or more weeks

**Precautions**
- Keep spine in neutral for strengthening with a focus on proper neuromuscular control, do not progress without good control.
- **Lifting Restrictions:** Begin at 20 pounds and slowly increase to no restrictions at week six.
- No extension range of motion, no rotation exercises for eight weeks.

**Goals**
- Complete light strengthening with a neutral spine and correct firing of stabilization muscles
- Able to tolerate at least 30 minutes of cardio a day
- Release soft tissue restrictions/muscle spasm (monitor incision region)
- Independent with body and lifting mechanics

**Cardio**
- **Walking Progression:** At least 30 minutes or more
- **Stationary Bike Recumbent:** Can initiate at two weeks

**Strength**
- Only initiate these once patient can complete Phase I exercises. Then begin with light resistance and slowly progress. Emphasize good posture during each exercise 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 upper extremity/lower extremity movements (eg. marches, straight leg raises, upper extremity lift and lowers, planks, etc.)
- **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
- **Upper Extremity/Lower 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)

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

**Aquatic Physical Therapy** *(more than three weeks if available once incision has healed)*
- No rotation and transverse abdominis bracing during all exercises
- Walking all directions, balance, upper extremity/lower extremity strengthening
Phase III (6 to 8 Weeks): Progression to Advanced Strengthening

Therapy
• One to two times a week (as needed for return to sport or work)

Precautions
• No extension range of motion, no rotation exercises for eight weeks

Goals
• Independent home exercise program for advanced strengthening, return to sport and work.
• Increase lower quarter flexibility and strength with focus on proper transversus abdominis and glute activation.
• Typically released to full activities without restrictions at six to eight weeks (when approved by Dr. Poulter).

Strength
• Advanced core strength and stabilization exercises:
  • Progress to weight bearing, balance, Swiss Ball, Reformer, etc.
  • Progress to multi-planar exercises with upper extremity/lower extremity
  • Progress upper extremity/lower extremity strengthening
  • Begin running, agility and plyometrics for return to sport after 8 to 12 weeks (if symptoms stable and cleared by Dr. Poulter)
  • Possible referral to work reconditioning program

Flexibility
• **Lumbar Spine:** More than eight weeks to improve lumbar extension range of motion, but avoid end-range
  • Eg.: prone lying, prone on elbows, press-ups, and/or standing extensions (if no peripheralization)

Cardio
• Time frames may vary per patient, consult with Dr. Poulter if you have questions (eg.: an avid cyclist with proper bike fit might start sooner).
• Emphasize correct form and equipment setup (eg. elliptical, bike, walking terrain, etc.).
• Preference of Pilates over yoga. Once returning to Yoga, ensure it with an experienced instructor.
• When initiating running and sports below, slowly increase in the 8 to 12 week time frame.

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<thead>
<tr>
<th>Activity</th>
<th>No Earlier Than:</th>
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<tbody>
<tr>
<td>Walking</td>
<td>Continue to progress</td>
</tr>
<tr>
<td>Stationary Bike</td>
<td>Add resistance</td>
</tr>
<tr>
<td>Swimming</td>
<td>Six weeks</td>
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<tr>
<td>Pilates</td>
<td>Six weeks</td>
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<tr>
<td>Hiking</td>
<td>Six weeks</td>
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<tr>
<td>Elliptical</td>
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<table>
<thead>
<tr>
<th>Activity</th>
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<tbody>
<tr>
<td>Outdoor Biking</td>
<td>Six weeks</td>
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<tr>
<td>Skiing</td>
<td>Eight weeks</td>
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<td>Yoga</td>
<td>Eight weeks</td>
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<td>Running</td>
<td>8 to 12 weeks</td>
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<tr>
<td>Soccer/Basketball</td>
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<td>Golf</td>
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