Cervical Fusion 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

Progress patients with multi-level fusions slower and more cautiously.

Phase I (0 to 6 Weeks): Protective Phase

Therapy
- One to two visits (if appropriate)

Precautions
- Avoid bending, twisting, lifting, pushing and pulling 25 pounds or more for six weeks.
- Limit sitting, including in the car, to no more than 30 minutes at a time (standing/walk breaks).
- No passive stretching. Gentle flexion, extension, retraction active range of motion in pain-free range only.
- No specific cervical rotation or side bend active range of motion in home exercise program for 12 weeks (normal movements with activities of daily livings are okay).
- Bracing:
  - 1 Level Fusion: No brace
  - 2 Level Fusions: Four weeks
  - 3+ Level Fusions: Six weeks

Goals
- Diminish pain/inflammation and minimize upper extremity radiating symptoms (ice, modalities as needed).
- Learn correct posture, body mechanics, transfers.
- Focus on walking program, increasing tolerance to 30 minutes, two times a day.
Education
- **Postural Education**: Sitting posture with lumbar roll at all times; frequent change in positions; avoid prolonged flexion (books, phones, tablets, etc.); sleeping positions
- **Body Mechanics**: Light lifting, transfers (include log rolling), positioning, etc.
- **Driving**: When off narcotic pain medicine and out of collar

Exercises
- **Cardio**: Zero to two weeks - walking or stationary bike two times a day, 10 minutes each to start
- **Deep Cervical Flexors**: Emphasis on neuromuscular control, 10” isometrics to start
- **Scapular Retractions**: Emphasis on neuromuscular control (eliminate shrug)
- **Isometrics**: Zero to four weeks - gentle cervical extensions, flex, rotation, side bend
- **Cervical Active Range of Motion**: Gentle, pain-free range only
- **Light Stretching**: Only pecs (eg.: supine over towel) and seated thoracic extensions

Aquatic Physical Therapy *(less than four weeks if available once incision has healed)*
- Transverse abdominis bracing during all exercises and good head position.
- Walking all directions, balance, lower extremity strengthening (no upper extremity resistance strength until six weeks).

**Phase II (6 to 12 Weeks): Strengthening Phase**

**Therapy**
- Starting at week six, two to three times per week, four or more times a weeks

**Precautions**
- Keep spine in neutral and good posture for strengthening with a focus on proper neuromuscular control.
- Radiographically healed at three months, progress as tolerated.

**Goals**
- Patient to have proper neuromuscular control and posture with stabilization and strength exercises
- Initiate light strengthening and progress to independent with long term home exercise program
- Release soft tissue restrictions/muscle spasm/scar
- Body mechanics review
- Increase aerobic endurance to 30 minutes

**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 scapula stabilizers and transverse abdominis. (This is not a complete list.)*
- **Postural/Scapula Strengthening**
  - Prone scapula strengthening
  - Theraband rows, extensions, external rotation, horizontal abductions, etc.
  - Transverse abdominis isometrics first, then progression
  - Machine rows, lat pull down (keep bar in front of head), free motion machine, etc.
- **Cervical Postural Strengthening**
  - Prone on elbows, quadruped, modified plank position with 10” retraction isometrics
  - Swiss Ball: seated, quadruped stabilization exercises
  - Seated retraction against Theraband
- **Aquatic Exercises**
  - Can add upper extremity flexion/extension, upper extremity abduction/adduction, biceps, triceps, rows
Cardio
- Should be continued to be done daily working up to at least 30 minutes per day (emphasis on walking or stationary bike to start).
- 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.).
- When initiating running and sports below, slowly increase in the four to six month time frame.

<table>
<thead>
<tr>
<th>Activity</th>
<th>No Earlier Than:</th>
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<tbody>
<tr>
<td>Walking Progression</td>
<td>At least 30 minutes a day</td>
</tr>
<tr>
<td>Stationary Bike</td>
<td>Two weeks</td>
</tr>
<tr>
<td>Elliptical</td>
<td>Four weeks</td>
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<tr>
<td>Hiking</td>
<td>Four weeks</td>
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<tr>
<td>Pilates (Neutral Spine)</td>
<td>Four weeks</td>
</tr>
<tr>
<td>Running (Neutral Spine)</td>
<td>6 to 12 weeks</td>
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<table>
<thead>
<tr>
<th>Activity</th>
<th>No Earlier Than:</th>
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<tbody>
<tr>
<td>Yoga</td>
<td>Three months</td>
</tr>
<tr>
<td>Outdoor Biking</td>
<td>Three months</td>
</tr>
<tr>
<td>Swimming</td>
<td>Three months</td>
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<tr>
<td>Skiing</td>
<td>Four months</td>
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<tr>
<td>Golf</td>
<td>Four to six months</td>
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<tr>
<td>Soccer/Basketball</td>
<td>Four to six months</td>
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Flexibility
- **Stretching**: Pecs, thoracic extensions
- **Neural Mobilization**: Performed as needed, gentle with caution not to flare up nerve roots
- **Cervical Active Range of Motion**: Gentle, no overpressure

Manual Therapy
- Soft tissue mobilization, joint mobilization on non-operative joints as needed

**Phase III (12+ Weeks): Return to Work/Work Conditioning/Return to Sport (if applicable)**
- No aggressive rotation or side bend range of motion
- Functional/sport/job drills may begin now with supervision
- Possible referral to work reconditioning program