

LUMBAR FUSION PHYSICAL THERAPY POST OP PROTOCOL

PHASE 1

0 - 2 WEEKS | WOUND HEALING AND PROTECTION

PROCEDURE | PSIF/ALIF/LLIF/TLIF

- Typical PSIF can be done alone, or in combination with anterior, lateral lumbar, or transforaminal lumbar interbody fusion.
- Placement of one or multiple interbody devices into disc space through posterior, anterior, lateral or transforaminal approach.
- Can be with laminectomy/facetectomy (includes decompression at operative levels through midline incision) and with robotic navigation, (merges intra-operative x-ray with pre-operative CT scans to navigate instruments and screws into spine.)
- With anterior approach, ecchymosis/edema is commonly seen, can settle into groin especially in men.
- With lateral approach, anterior thigh numbness and hip flexion/quad weakness is to be expected on the same side as the lateral approach (irritation of the PSOAS and/or lumbrosacral plexus) which should improve over time.

Fusion with vertebral augmentation: Involves placement of fenestrated screws with cement pushed into the vertebral body through the distal portion of the screw. This will appear as dark, cloudy area within vertebral body on x-ray. Used in osteoporotic/osteopenic patients for increased fixation/better fusion outcomes.

Fusion with osteotomy: Involves removal of a portion of the vertebral body to allow for better correction of alignment of the spine. Typically seen in cases with fracture of the vertebral body.

Fusion with iliac fixation: Extension of the posterior fusion to include the pelvis. Occasionally involves one additional midline incision at the inferior portion of the construct. Can include 2 iliac “bolts” for true SI joint fusion.

Revision PSIF: Involves either removal/replacement of old hardware to include additional levels or leaving old hardware and tying in with additional screws/rods (z-rod, domino connectors, etc.) see op note for details.

PSIF: One midline incision, two paramedian incisions. Dermabond closure. **Minimally invasive:** No central incision to spare paraspinal muscles (heal faster).

ALIF: Anterior midline incision (performed with assistance from general surgeon to complete. Approach and wound closure). Dermabond or staple closure (staples removed 10-14 days Post-op).

LLIF: Lateral incision (left or right flank). May have multiple lateral incisions depending on number of levels. Dermabond closure.

TLIF: posterior midline incision with two “stab wounds”. (Usually combined with PSIF for fixation of surgical levels, typically with robotic navigation. Dermabond closure midline – “stab wounds” closed with nylon sutures (removed at 2-week post-op check). Drainage common. Reinforced with pressure dressing and monitored for signs of infection.

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0 - 2 WEEKS | WOUND HEALING AND PROTECTION

OBJECTIVES

Pain control, wound care and promote healing via progression of mobility.
Resume driving after 2-4 weeks or when off pain medication. Limit driving to short intervals < 30 min./time.

RESTRICTIONS

Avoid flexion motion and extension/rotation beyond neutral. NO lifting > 15 lbs. and NO impact activities for 12 weeks. Limit sitting to no longer than 30 min./time. Wear brace as directed if > 2 level fusion or osteoporotic. If prescribed – patient wears bone growth stimulator 6-12 months.

PHYSICAL THERAPY

Education

- BODY MECHANICS Bed mobility/positioning, log rolling, transfers.
- POSTURE Sitting in neutral with support, changing position every 30 min., and, how to lift < 15 lbs. for 12 (twelve) weeks.
- DRIVING Allowed when off narcotic pain medications and no leg weakness (2 - 4 weeks).

Exercises

- Stretching: Supine – hip flexors, hamstring, calves.
- Standing balance: Airex – tandem balance, lateral step off
- Functional balance: start progression of weaning off assistive device
- Mat exercises:
 - TA bracing – Isometrics
 - Glute sets – Isometrics
 - TA with marching, heel slides, SAQ, SL, Abduction
- Walking/recumbent stepper 1-2x/day for up to 10-15 minutes.

Radicular symptoms may come and go throughout recovery. Any new weakness, severe pain or global numbness should be reported to the surgeon/PA immediately.

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PHASE 2

4 – 12 WEEKS | FUNCTIONAL STRENGTH (OUTPATIENT PT)

- OBJECTIVES** Wean off pain medication to OTC management, begin scar management (when incision closed), ambulation progression to promote healing, pain free ADL tasks.
- RESTRICTIONS** No lifting > 15 lbs. for 12 weeks. Avoid extension beyond 20 degrees (as exercise), bending and twisting. Continue to wear brace (if prescribed) for driving in car – up to 8 weeks (osteoporosis). Limit flexion below knee level and knees above hip height.

PHYSICAL THERAPY

Education

- Body mechanics Review ergonomics of workstation (Issue Guidelines).
- Posture Minimize forward lean and swayback posture.

Exercises

- Stretching Hip flexors, hamstrings, gastroc/soleus.
- Balance Airex – Tandem, double leg, single leg, step overs, standing shuttle side taps/squats. BOSU: Sit to stand (hard side), balance either side.
- Gait training Progressive gait sequencing – work on decreasing reliance on assistive device and return to PLOF as balance/strength improves.
- Strength Progression of TA bracing with ball bridge, double leg/single leg, bird dog, mini squats, step ups, mini lunge (closed chain to open chain), side-lying clams, wall pushups, Theraband row and pulldowns etc. Lower extremity knee-extension and hamstring curls.

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