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

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nylon sutures (removed at 2-week post-op check). Drainage common. Reinforced with pressure dressing and monitored for signs of infection.

PHASE 1 — 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 MECHNICS — 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 stepper1-2x/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.

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