

Lumbar Fusion

Precautions: Avoid flexion ROM and exercises; For 3 months, avoid rotation and extension beyond neutral; Avoid ROM at fusion level; Avoid excessive loading and distraction; For 2-4 weeks, no driving and only for short intervals after consulting physician; For 4 weeks, avoid lifting >5#; For 4 weeks, sitting for 20 minute intervals then progress slowly to 30-40 minutes several times per day

Phase I (0 – 4 weeks post-op)

- Wound care: Observe for signs of infection
- Modalities: prn for pain and inflammation
- Brace:
 - No brace for 1 level
 - For 2 or more levels or osteoporotic bone, use soft brace
- Exercises:
 - Ambulation progression as tolerated with use of assistive device as needed; Progressing to treadmill when ambulating independently
 - Progress to ¼ to ½ mile or 10-30 minutes, 1-2x/day
 - Bed mobility
 - Log rolling
 - Place pillow between knees in sidelying and pillow under knees when supine
 - Include isometric transversus abdominis contraction with all exercises
 - Ankle pumps, Quad sets, Glut sets, Heel slides, SLR, SAQ, LAQ, Isometric hip adduction, Hooklying knee fall out, Seated hip abduction, Scapular retraction

Phase II (4 – 8 weeks post-op)

- Wound care: Begin scar management techniques when incision is closed
- Modalities: prn for pain and inflammation (ice, IFC)
- Brace: For 6-8 weeks, continue per physician recommendation
- Exercises:
 - Continue isometric transversus abdominis contraction with all exercises
 - Cardiovascular exercises 20-30 minutes
 - Mini squats, Lunges, Step ups, Wall press (single/double leg), Sidelying CLAM shells/reverse CLAM shells
 - Balance progression (SLS, SLS eyes closed, SLS UE movement)
 - Supine neutral spine with arm and leg movements (marching, dying bug)
 - Theraband exercises (rows and lat pull downs)
 - Push up progression (wall to table to floor)
 - Stretching of hamstrings, quads, gastroc/soleus, and hip flexors



- Body mechanics and lifting technique
- Aquatic therapy

Phase III (8 weeks – 12 weeks post-op)

- Wound care: Continue as in Phase II
- Modalities: prn for pain and inflammation (ice, IFC)
- Exercises:
 - Continue isometric transversus abdominis contraction with all exercises
 - Supported bike, Retro treadmill
 - Wall slides, Bridges
 - Advanced core stabilization exercises with emphasis on prone and quadruped positions
 - Bird/dog
 - Advance UE and LE resistive activities
 - Consider FCE as needed

Phase IV (12+ weeks post-op)

- Return to function, work simulated activities with progression of lifting, pushing, and pulling
- Bridge progression (UE to 90 degrees to alternating knee extension to unilateral)
- Prone walk out on swiss ball
- Planks, as tolerated, starting from knees
- Work conditioning program as needed
- At 6 months post-op, begin rotational and supine flexion stretching

Adapted From:

- 1) Center for Spinal Disorders Rehabilitation Department. Cervical Fusion Protocol. IMS Orthopedics, Issada Thongtrangan, MD.
- 2) Center for Sports Medicine & Orthopaedic Rehabilitation Services. Lumbar Fusion Protocol.
- 3) Consulted with Brian Braaksma, MD. Rockford Orthopedic Spine Care.