

The goal of this protocol is to provide a clinical guideline for the post-surgical course of physical therapy for a patient who has had a lumbar fusion surgery. This is not intended to substitute clinical decision making regarding the patient's proper progression based on evaluation findings, individual progress, and if/when post-operative complications arise. If a clinician requires assistance in the progression of a post-surgical patient the surgeon should be consulted.

**GENERAL GUIDELINES:****Surgical incision care:**

- While you are in the hospital, you will wear a dry gauze dressing. Once your incision is no longer draining, you may take off the dressing and leave the incision open to air.
- Do not apply any ointments or lotions to the incision while it is healing.
- YOU MAY NOT BATHE IN A TUB, SWIM, OR USE A HOT TUB UNTIL YOUR INCISION IS HEALED AND UNTIL YOU HAVE SEEN YOUR SURGEON.

**Sexual activity:**

- You can resume sexual activity when you are feeling up to it. You may find certain positions will be more comfortable than others. Caution and common sense are recommended for positions
  - IF IT HURTS OR CAUSES DISCOMFORT, PLEASE DON'T DO IT.

**Driving:**

- You can drive when you feel up to driving and are not taking narcotic pain medications or after clearance by your surgeon. This is usually 4 to 6 weeks after a lumbar fusion. Narcotic pain medications will delay your reflex time. Begin with short trips first and get out of the car every 30 to 45 minutes to walk around and reposition.

**Return to work:**

- Most patients will feel tired and weak after surgery. You will begin to feel yourself after 2 to 3 weeks and improve over the following weeks. You should tell your employer you will be out of work for approximately 8 to 12 weeks but may be able to return earlier than that.

**GENERAL PROGRESSION OF ACTIVITIES OF DAILY LIVING (ADLs)**

- Full healing takes > 6 months. Patients are cautioned not to overdo their activities before this time.
- Walking is the best activity you can do for the first 6 weeks after surgery. You should start out slowly and work up to walking 30-45 minutes at least twice a day.
- Do not be surprised if you require frequent naps during the day. Between the narcotic pain medications you will be discharged with and the stress your body has undergone in surgery, you will be tired.
- Don't forget about your restrictions for the first 6-12 weeks after surgery. You need to avoid bending, lifting, and twisting (BLTs). You also need to avoid lifting objects greater than 5 lbs and pushing or pulling objects greater than 10 lbs. All movements should be "conversational" range of motion which is small and painfree movements.

- Lifting and activity restrictions will be gradually removed as the healing process takes place. Remember to keep your spine in the neutral position and maintain good posture throughout the day.

**LIFTING TECHNIQUE RECOMMENDATIONS:**

- You will need proper technique to lift light objects. Proper technique is essential for reducing pain and discomfort. The best way to lift an object is as follows:
  1. Stand close to the object, with feet firmly planted, and in a wide stance.
  2. Bend your knees and keep your back straight.
  3. Make sure you have a secure grip on the object and keep the object as close to you as possible.
  4. Lift the load by slowly straightening your knees and avoid jerking your body.
  5. When standing upright, shift your feet to turn instead of twisting

**SLEEPING AFTER SURGERY:**

- The best sleeping position to reduce your pain after surgery is either on your back with your knees bent and a pillow under your knees or on your side with your knees bent and a pillow between your legs. If side sleeping provides the most benefit, then make sure your legs rest on top of each other with your knees bent or have your top leg slightly forward. Avoid resting your top knee on the bed and sleeping with your arms under your neck and head. A pillow placed behind the body and tucked under the back and hips can help you from rolling out of this position. Both positions decrease the pressure on the spinal discs and low back. **SLEEPING ON YOUR STOMACH IS NOT RECOMMENDED.**
- Changing positions in bed can be very difficult for people after surgery. To reduce discomfort, always use the log roll when turning. A log roll means to keep your back straight and avoid twisting when rolling from side to side and onto your back.

***Rehabilitation Progression*****PRE-SURGICAL PHYSICAL THERAPY VISIT:**

- Core instruction
- Proper Lifting Technique Instruction
- Gentle Neural Mobilization Instruction
- Ergonomic Positioning Instruction: Sitting, Sleeping
- General Instructions for Icing and Wearing a brace
- Recommendation: Pre-Surgical Nutritional Consultation
  - anti-inflammatory diet, supplements to promote bone healing/bone health
- Recommended Supplies: Long Shoe horn, Reacher/Long Grabber, Large lumbar ice pack

**PHASE I: Weeks 0-2: Protective Therapy Phase: Minimal Physical Activity**

**Goals:**

- Adhere to post-surgical precautions
  - Avoid bending, lifting > 5lbs, twisting, pushing/pulling > 15lbs
  - Limit sitting to no more than 30 minutes at a time
- Protect incisions, Manage pain/inflammation

**Exercises:**

- Gentle Core Strengthening, Nerve Mobilizations, Gentle Stretching, and Daily walking: begin with several shorter walks each day and progress to longer walks as able.
- Learn correct body mechanics for light lifting, transfers (log rolling), positioning, etc.
- Ice for pain relief

**PHASE II: Weeks 2-8: Body Movement / Aquatic Therapy****Criteria to advance to Phase II:**

- Clearance to begin aquatic therapy after appropriate incision healing

**Goals:**

- Continue to adhere to post-surgical precautions
- Promote pain free movement
- Regain normal movement and motor control
- Proper recruitment of core musculature
- Retrain poor postures and body mechanics

**Exercises:**

- Gait retraining
- Hip Range of motion (ROM)
- Soft Tissue Mobilization
- Joint Mobilizations to adjacent segments
- Neural mobility to ease numbness and tingling sensations
- Lower Extremity Stretching
- Gluteal/Hip Strengthening
- Core strengthening. Progress as able

**Phase III: Weeks 8-12 (2-3 months): Land Therapy****Criteria to advance to Phase III:**

- Normal gait mechanics
- Understanding/awareness of neutral spine body mechanics
- Good foundational core strength/coordination
- Good neural mobility



**Goals:**

- Increase cardiovascular and muscular endurance
- Ability to handle normal body loading with patient's daily activities
- Good exercise technique and form with all exercises

**Exercises:**

- Begin Aerobic exercise program (low impact): Biking, Walking, Elliptical
- Soft tissue mobilization
- Joint mobilizations
- Progress Postural strengthening
- Progress Flexibility exercises
- Progress Range of motion (ROM) exercises

**Phase IV: Weeks 12-20 (3-5 Months): Functional Land Therapy**

**Criteria for advancement to Phase IV:**

- Graduate from post-surgical precautions (after Surgeon follow-up XRs)
- Good postural awareness
- Good body mechanics with daily activities
- Good strength and technique with foundational exercises
- Low level pain ratings with ADLs

**Goals:**

- Increase body load tolerance in preparation for higher-level functional activities

**Exercises:**

- Progression of Phase II Exercises
- Begin Dynamic Lifting Program
- Progression of weights/load with strengthening program
- Functional Training specific to patient's ADLs/Recreational Activities
- Sports Specific Training for Athletes

**Phase V: Weeks 20-52: (5 Months-1 Year):**

**Criteria for advancement to Phase V:**

- Low pain levels
- Good Hip ROM, Adjacent joint mobility

**Goals:**



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- Progress patient to higher level functional activities and sports
- Transition to Fitness Center Program

**Exercises:**

- Return to sport (i.e. golf, tennis, skiing)
- Begin fitness center program
- Maintain healthy lifestyle