Adam Lindsay, MD, M.S.
Shoulder Arthroplasty, Sports Medicine,
Orthopedic Trauma Surgery
www.lindsaysportsmed.com
(**P**) - 541.322.2251 - DIRECT LINE

St. Charles Center for ORTHOPEDICS & NEUROSURGERY

Therapist Rehabilitation Protocol
Latissimus Dorsi Tendon Transfer (Subscapularis)

General Instructions for Therapists:

- Formal therapy is to begin **6** weeks after the surgery for this protocol. Until then, the patient performs elbow, forearm, and hand range of motion at home.
- The patient should work with their therapist 1-3X per week until released by the surgeon.
- Do not add or skip any part of this program. If you have concerns please contact me or my office.
- The transfer must be protected from active contraction and stretch into internal rotation behind the back. **No active or active-assisted shoulder motion until 8 weeks.**

Sling Wear:

- A sling is to be worn for 8 weeks after surgery. Patients must wear their sling **at all times** for the first 8 weeks after surgery, this does include while they are sleeping. Patients may only remove the sling to perform therapy exercises and for showering.

Ice:

- The use of ice or a cold flow system is encouraged for at least the first week after surgery, 3-4 times per day, to help control pain and inflammation.

Wound Care:

- The dressing may be removed on post-op day #3.
- Sutures are all underneath the skin and will dissolve on their own.

Activity Restrictions:

- Showering: Post-op day #3
- Deskwork: When comfortable with sling
- Driving: Not until sling is off at 8 weeks
- Using arm for Activities of Daily Living: 8 weeks (light use only)
- Lifting/Carrying: 5 pound limit from 8-12 weeks
- Using arm to reach behind back (internal rotation): 12 weeks
- Resisted strengthening: 12 weeks (isometrics), 16 weeks (isotonics)
- Sport/Heavy Activity: When finished with therapy program

Questions/Concerns:

- Therapists – if you have questions or concerns, please contact me directly or contact my office. Email is best for non-urgent issues.

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Exercise Program

- The exercise program is divided into four time-dependent phases. Do not advance into the next phase until the appropriate time after surgery.
- Exercises should be performed 3 times daily, supervised by a therapist 1-3X/week, and at home on the other days.

PROTOCOL OVERVIEW

All time points are based on time since surgery:

Phase 1: Protected Range of Motion 0-8 Weeks
The arm stays in the sling. Elbow, forearm, and hand motion begin immediately. Pendulum exercises are held until 4 weeks. At 6 weeks, passive range of motion begins with the patient supine and relaxed: external rotation to 30° and scapular plane elevation to 120°. A family member should be instructed to perform these at home. Active scapular mobility exercises begin at 6 weeks with the shoulder musculature kept relaxed.

Phase 2: Progressive Range of Motion 8-12 Weeks
The sling is discontinued. Active assisted range of motion (pulleys, wand, supine gravity assisted) progresses to active range of motion in all planes **except internal rotation behind the back**. Passive range of motion and capsular stretching progress as tolerated. The scapular stabilizers are isolated and strengthened. No resisted training of the rotator cuff or shoulder.

Phase 3: Early Strengthening 12-16 Weeks
Lifting restrictions are discontinued and internal rotation behind the back is allowed. Isometric rotator cuff and shoulder strengthening begins. Active range of motion should be brought equal to passive range of motion.

Phase 4: Resisted Exercise >16 Weeks
Isotonic strengthening begins with elastic bands, hand weights, and Hughston's exercises, along with a home rotator cuff strengthening program. Work and recreational activities are simulated as rotator cuff strength and endurance improve.

PROTOCOL

PHASE 1 (Surgery to 8 weeks after surgery)
Protected Range of Motion: Exercises are performed 3 times per day.

- **Immediately:** Elbow, forearm, and hand range of motion out of the sling.
- **4 weeks:** Begin pendulum exercises. The patient uses the torso to move the arm by rocking body weight, without using the muscles around the shoulder to initiate movement.
- **6 weeks:** Begin passive range of motion. The patient lies supine and relaxes while the therapist (or an instructed family member at home) moves the arm.
    - External rotation to 30°
    - Scapular plane elevation to 120°
- **6 weeks:** Begin active scapular mobility exercises. The shoulder musculature must be kept relaxed.
- **Avoid** all active and active assisted shoulder exercises, including pulley, wand, and supine assisted exercises.

PHASE 2 (To start 8 weeks after surgery)
Progressive Range of Motion 8-12 Weeks:

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- Discontinue the sling.
- Reinforce the **5 pound** lifting restriction with the patient.
- Begin active assisted and active range of motion, including pulleys, wand, and supine gravity assisted exercises. Emphasize all motions **except internal rotation behind the back until 12 weeks.**
- Isolate and strengthen the scapular stabilizers.
- Progress passive range of motion and capsular stretching as needed – elevation and external rotation as tolerated.
- **Avoid** resisted training or strengthening of the rotator cuff and shoulder. Avoid active range of motion in positions of subacromial impingement.

PHASE 3 (To start 12 weeks after surgery)
Early Strengthening 12-16 Weeks:

- Discontinue formal lifting restrictions.
- Begin progressive rotator cuff and shoulder strengthening with **isometrics** initially.
- Equate active and passive range of motion. Encourage normal scapulohumeral mechanics during active shoulder motion.
- Continue to emphasize the scapular stabilizers.

PHASE 4 (To start 16 weeks after surgery)
Resisted Exercise >16 Weeks:

- Begin isotonic strengthening (Theraband, dumbbells, Hughston's exercises, etc.).
- Include a home rotator cuff strengthening program. Continue to emphasize the scapular stabilizers.
- Simulate work/recreational activities as rotator cuff strength and endurance improve.