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## PHYSICAL THERAPY PROTOCOL ANATOMIC TOTAL SHOULDER ARTHROPLASTY

### Procedure

Date of Surgery: \_\_\_\_\_ R L B/L Anatomic Total Shoulder Arthroplasty

Additional Procedures: \_\_\_\_\_

### Plan

Physical Therapy for R L B/L Shoulder 2-3x per Week x 12 Weeks

### General Guidelines

The intent of this protocol is to provide the physical therapist with a guideline/treatment protocol for the postoperative rehabilitation management for a patient who has undergone an anatomic Total Shoulder Arthroplasty (TSA). It is not a substitute for a physical therapist's clinical decision making regarding the progression of a patient's postoperative rehabilitation based on the individual patient's physical exam/findings, progress, and/or the presence of postoperative complications. If the physical therapist requires assistance in the progression of a postoperative patient who has had TSA the therapist should consult with the referring surgeon.

The *scapular plane* is defined as the shoulder positioned in 30 degrees of abduction and forward flexion with neutral rotation. ROM performed in the scapular plane should enable appropriate shoulder joint alignment.

**Surgical Considerations:** The surgical approach needs to be considered when devising the postoperative plan of care.

- Unless stated otherwise by the surgeon a RSA is completed via deltopectoral approach, which minimizes surgical trauma to the anterior deltoid.
- An incision is made from the coracoid, extending 5cm distally along the deltopectoral groove. The cephalic vein is mobilized and the deltoid is gently retracted laterally. Meticulous care is taken to protect injury to the deltoid muscle. The biceps tendon is released and later tenodesed. If intact, the subscapularis tendon is peeled off the lesser tuberosity allowing for exposure of the humeral head.

**Delayed Start of Therapy:**

- The start of this protocol is delayed 2-4 weeks for a revision surgery.
- In the case of delayed start to physical therapy adjust below timeframes so that day 1 is the first day of physical therapy.

### PHASE I (surgery to 4 weeks after surgery)

#### Appointments

- Physician appointment within 1 week of surgery
- Rehabilitation appointments begin within 1 week of surgery

#### Rehabilitation Goals

- Reduce pain and swelling in the post-surgical shoulder
- Maintain active range of motion of the elbow, wrist and neck
- Protect healing of repaired tissues and implanted devices

#### Precautions

- Use sling continuous except while doing therapy or light, protected activities – such as desk work, for 4 weeks
- Wear sling while sleeping for 6 weeks
- No active shoulder motion for 4 weeks, all planes
- No active internal rotation for 6 weeks
- External rotation range of motion limited to 20 degrees
- Relative rest to reduce inflammation

#### Suggested Therapeutic Exercise

- Elbow, wrist, and neck active range of motion
- Ball squeezes
- Passive and active assistive range of motion for shoulder flexion and abduction to patient tolerance
- Codmans/Pendulum exercises
- Pain free submax isometrics for shoulder flexion, abduction, extensions and external rotation

#### Cardiovascular Fitness

- Walking and/or stationary bike with sling on
- No treadmill

#### Progression Criteria

- The patient must be at least 4 weeks post-operative

### PHASE II (begin after meeting Phase 1 criteria, usually 4-8 weeks after surgery)

#### Appointments

- Rehabilitation appointments are usually one time every week

#### Rehabilitation Goals

- Controlled restoration of passive and active assistive range of motion
- Activate shoulder and scapular stabilizers in a protect position of 0 degrees to 30 degrees of shoulder abduction
- Correct postural dysfunctions

#### Precautions

- Wean out of the sling slowly based on the safety of the environment during weeks 5 and 6. Discontinue use of the sling by the end of week 6.
- Wear sling while sleeping for 6 weeks
- No active internal rotation for 6 weeks
- External rotation range of motion limited to 30 degrees weeks 5 and 6, then to 45 degrees for weeks 7 and 8

#### Suggested Therapeutic Exercise

- Passive and active assistive range of motion for the shoulder in all cardinal planes. (Shoulder internal rotation should be passive only until 6 weeks)
- Pain free, progressive, low resistance to patient tolerance
- Gentle shoulder mobilizations as needed
- Scapular strengthening with the arm in neutral
- Cervical spine and scapular active range of motion
- Postural exercises
- Core strengthening

#### Cardiovascular Fitness

- Walking and stationary bike

- No treadmill or stairs master
- Avoid running and jumping

Progression Criteria

- The patient must be at least 8 weeks post-operative

### **PHASE III (begin after meeting Phase 11 criteria, usually 8 weeks after surgery)**

Appointments

- Physician appointment 8 to 10 weeks after surgery
- Rehabilitation appointments are one time every 1-2 weeks

Rehabilitation Goals

- Functional shoulder active range of motion in all planes
- Normal (rate 5/5) strength for shoulder internal rotators and external rotators with the shoulder in 0 degrees of abduction
- Correct any postural dysfunction

Precautions

- External rotation range of motion limited to 60 degrees

Suggested Therapeutic Exercise

- Shoulder internal rotation and external rotation with theraband or weights that being at 0 degrees of shoulder abduction – gradually increase shoulder abduction as strength improves
- Open kinetic chain shoulder rhythmic stabilizations in supine. (stars or alphabet exercises)
- Gentle closed kinetic chain shoulder and scapular stabilization drills – wall ball circles and patterns
- Proprioceptive neuromuscular facilitation patterns
- Side lying shoulder flexion
- Scapular strengthening
- Active, active assist, and passive range of motion at the shoulder as needed
- Core strengthening
- Begin truck and hip mobility exercises

Cardiovascular Fitness

- Walking and stationary bike
- No treadmill, Stairmaster or swimming
- Avoid running and jumping until the patient has full rotator cuff strength in a neutral position due to forces that can occur at landing

Progression Criteria

- The patient must be at least 12 weeks post-operative

### **PHASE IV (begin after meeting Phase III criteria, usually 12 weeks after surgery)**

Appointments

- Physician appointment 12 weeks after surgery
- Rehabilitation appointments are one time every 2-3 weeks

#### Rehabilitation Goals

- Normal (rated 5/5) rotator cuff strength and endurance at 90 degrees of shoulder abduction and scaption
- Advance proprioceptive and dynamic neuromuscular control retraining
- Achieve maximal shoulder external rotation (no limitations)
- Correct postural dysfunctions with work and sport specific tasks
- Develop strength and control for movements require for work or sport

#### Precautions

- Post-rehabilitation soreness should alleviate within 12 hours of the activities

#### Suggested Therapeutic Exercise

- Multi-plane shoulder active range of motion with a gradual increase in the velocity of movement while making sure to assess scapular rhythm
- Shoulder mobilizations as needed
- Rotator cuff strengthen in 90 degrees of shoulder abduction and overhead (beyond 90 degrees of shoulder abduction)
- Scapular strengthening and dynamic neuromuscular control in open kinetic chain and closed kinetic chain positions
- Core and lower body strengthening

#### Cardiovascular Fitness

- Walking, stationary bike, and Stairmaster
- No treadmill or swimming
- May begin light jogging and running if that patient has normal (rated 5/5) rotator cuff strength in neutral and normal shoulder active range of motion

#### Progression Criteria

- Full shoulder active range of motion in all planes and multi-plane movements
- Normal (rated 5/5) strength at 90 degrees of shoulder abduction