

## **Phase I – Immediate Post-Surgical (0-4 weeks):**

### Goals:

- Patient and family independent with:
- Joint protection
- Passive range of motion (PROM)
- Assisting with putting on/taking off sling and clothing
- Assisting with home exercise program (HEP)
- Cryotherapy
- Promote healing of soft tissue / maintain the integrity of the replaced joint.
- Enhance PROM.
- Restore active range of motion (AROM) of elbow/wrist/hand.
- Independent with activities of daily living (ADL's) with modifications.
- Independent with bed mobility, transfers and ambulation or as per pre-admission status.

### Precautions:

- Sling is worn for 3-4 weeks postoperatively and only removed for exercise and bathing once able. The use of a sling often may be extended for a total of 6 weeks, if the current rTSA procedure is a revision surgery.
- While lying supine, the distal humerus / elbow should be supported by a pillow or towel roll to avoid shoulder extension. Patients should be advised to "always be able to visualize their elbow while lying supine."
- No shoulder AROM.
- No lifting of objects with operative extremity.
- No supporting of body weight with involved extremity.
- Keep incision clean and dry (no soaking/wetting for 2 weeks); No whirlpool, Jacuzzi, ocean/lake wading for 4 weeks.

### Acute Care Therapy (Day 1 to 4):

- Begin PROM in supine after complete resolution of interscalene block.

- o Forward flexion and elevation in the scapular plane in supine to 90 degrees.
- o External rotation (ER) in scapular plane to available ROM as indicated by operative findings. Typically around 20-30 degrees.
- o No Internal Rotation (IR) range of motion (ROM).
- Active/Active Assisted ROM (A/AAROM) of cervical spine, elbow, wrist, and hand.
- Begin periscapular sub-maximal pain-free isometrics in the scapular plane.
- Continuous cryotherapy for first 72 hours postoperatively, then frequent application (4-5 times a day for about 20 minutes).
- Insure patient is independent in bed mobility, transfers and ambulation
- Insure proper sling fit/alignment/ use.
- Instruct patient in proper positioning, posture, initial home exercise program
- Provide patient/ family with written home program including exercises and protocol information.

Day 5 to 21:

- Continue all exercises as above (typically 2-3 times per day).
- Begin sub-maximal pain-free deltoid isometrics in scapular plane (avoid shoulder extension when isolating posterior deltoid.)
- Frequent (4-5 times a day for about 20 minutes) cryotherapy.

3 Weeks to 6 Weeks:

- Progress exercises listed above.
- Progress PROM:
- o Forward flexion and elevation in the scapular plane in supine to 120 degrees.
- o ER in scapular plane to tolerance, respecting soft tissue constraints.
- Gentle resisted exercise of elbow, wrist, and hand.
- Continue frequent cryotherapy.

Criteria for progression to the next phase (Phase II):

- Tolerates shoulder PROM and isometrics; and, AROM- minimally resistive program for elbow, wrist, and hand.
- Patient demonstrates the ability to isometrically activate all components of the deltoid and periscapular musculature in the scapular plane.

Phase II –Active Range of Motion / Early Strengthening Phase (Week 6 to 12):

Goals:

- Continue progression of PROM (full PROM is not expected).
- Gradually restore AROM.
- Control pain and inflammation.
- Allow continued healing of soft tissue / do not overstress healing tissue.
- Re-establish dynamic shoulder and scapular stability.

Precautions:

- Due to the potential of an acromion stress fracture one needs to continuously monitor the exercise and activity progression of the deltoid. A sudden increase of deltoid activity during rehabilitation could lead to excessive acromion stress. A gradually progressed pain free program is essential.
- Continue to avoid shoulder hyperextension.
- In the presence of poor shoulder mechanics avoid repetitive shoulder AROM exercises/activity.
- Restrict lifting of objects to no heavier than a coffee cup.

- No supporting of body weight by involved upper extremity.

Week 6 to Week 8:

- Continue with PROM program.
- At 6 weeks post op start PROM IR to tolerance (not to exceed 50 degrees) in the scapular plane.
- Begin shoulder AA/AROM as appropriate.
  - o Forward flexion and elevation in scapular plane in supine with progression to sitting/standing.
  - o ER and IR in the scapular plane in supine with progression to sitting/standing.
- Initiate gentle scapulothoracic rhythmic stabilization and alternating isometrics in supine as appropriate. Minimize deltoid recruitment during all activities / exercises.
- Progress strengthening of elbow, wrist, and hand.
- Gentle glenohumeral and scapulothoracic joint mobilizations as indicated (Grade I and II).
- Continue use of cryotherapy as needed.
- Patient may begin to use hand of operative extremity for feeding and light activities of daily living including dressing, washing.

Week 9 to Week 12:

- Continue with above exercises and functional activity progression.
- Begin gentle glenohumeral IR and ER sub-maximal pain free isometrics.
- Begin gentle periscapular and deltoid sub-maximal pain free isotonic strengthening exercises. Begin AROM supine forward flexion and elevation in the plane of the scapula with light weights (1-3lbs. or .5-1.4 kg) at varying degrees of trunk elevation as appropriate. (i.e. supine lawn chair progression with progression to sitting/standing).
- Progress to gentle glenohumeral IR and ER isotonic strengthening exercises in sidelying position with light weight (1-3lbs or .5-1.4kg) and/or with light resistance resistive bands or sport cords.

Criteria for progression to the next phase (Phase III):

- Improving function of shoulder.
- Patient demonstrates the ability to isotonicly activate all components of the deltoid and periscapular musculature and is gaining strength.

Phase III – Moderate strengthening (Week 12 +)

Goals:

- Enhance functional use of operative extremity and advance functional activities.
- Enhance shoulder mechanics, muscular strength and endurance.

Precautions:

- No lifting of objects heavier than 2.7 kg (6 lbs) with the operative upper extremity
- No sudden lifting or pushing activities.

Week 12 to Week 16:

- Continue with the previous program as indicated.
- Progress to gentle resisted flexion, elevation in standing as appropriate.

Phase IV – Continued Home Program (Typically 4 + months postop):

☑ Typically the patient is on a home exercise program at this stage to be performed 3-4 times per week with the focus on:

- ☑ Continued strength gains
- ☑ Continued progression toward a return to functional and recreational activities within

limits as identified by progress made during rehabilitation and outlined by surgeon and physical therapist.

Criteria for discharge from skilled therapy:

- Patient is able to maintain pain free shoulder AROM demonstrating proper shoulder mechanics. (Typically 80 – 120 degrees of elevation with functional ER of about 30 degrees.)
- Typically able to complete light household and work activities.