

## REVERSE TOTAL SHOULDER ARTHROPLASTY PHYSICAL THERAPY PROTOCOL

### **Phase I – Immediate Post Surgical Phase/Joint Protection (Day 1-6 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.
- Phase I Precautions:
  - Sling is worn for 4 weeks postoperatively. The use of a sling often may be extended for a total of 6 weeks, if the current procedure is a revision surgery.
  - While lying supine, the 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 6 weeks.
- **Acute Care Therapy (Day 1 to 4):**
  - Begin PROM supine
    - Forward flexion and elevation in the scapular plane in supine to 90 degrees.
    - External rotation (ER) in scapular plane to available ROM as indicated by operative findings. Typically around 20-30 degrees.
    - 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).
  - Ensure patient is independent in bed mobility, transfers and ambulation
  - Ensure 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.
  - 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:
    - Forward flexion and elevation in the scapular plane in supine to 120 degrees.
    - ER in scapular plane to tolerance, respecting soft tissue constraints.
    - Gentle resisted exercise of elbow, wrist, and hand.
  - Continue frequent cryotherapy.

- Discontinue sling at 4 weeks
- **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.
  - Continue to Avoid Shoulder Hyperextension
- **Precautions:**
  - 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.
- **6 Weeks:**
  - Continue 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.
    - Forward flexion and elevation in scapular plane in supine with progression to sitting/standing.
    - ER and IR in the scapular plane in supine with progression to sitting/standing.
  - Begin gentle glenohumeral IR and ER sub-maximal pain free isometrics.
  - Initiate gentle scapulothoracic rhythmic stabilization and alternating isometrics in supine as appropriate. Begin gentle periscapular and deltoid sub-maximal pain free isotonic strengthening exercises, typically toward the end of the 8<sup>th</sup>
  - 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.
- **9 Weeks:**
  - Continue with above exercises and functional activity progression
  - 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 Phase (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 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.