

Lisa Kaplin, DO

REVERSE TOTAL SHOULDER REPLACEMENT REHAB

Deltoid function: The deltoid and periscapular muscles provide the stability and motion of the shoulder. This is the foundation of shoulder rehabilitation after this procedure.

- **Range of motion:**

Patients and therapists must have a realistic goal of ROM gains. This is determined on a case by case basis. Normal or full ROM should not be expected.

- **Joint protection:** A higher risk of shoulder dislocation exists with the RTSA and therefore, the precautions must be followed.
- No shoulder extension beyond neutral – avoid combination of adduction and IR for first three months postoperatively
- Adduction and IR place the shoulder at risk for dislocation; therefore, avoiding these activities (i.e. tucking in a shirt, personal hygiene) in the postoperative phase should be stressed. The purpose of this protocol is to provide a guideline for the postoperative management of patients with the RTSA. For any questions, the therapist should consult the referring surgeon.

Phase I – Immediate Postoperative Surgical Phase (Day 1-6 weeks):

Goals:

- Joint protection, progressive shoulder PROM
- Family/independent living with:
 - Joint protection - PROM - Assisting with sling use and clothing - Assisting with HEP - Cryotherapy
- Progressive restoration active range of motion (AROM) of elbow/wrist/hand.
- Promote healing of soft tissue / maintain integrity of replaced joint
- Independence with ADLs Precautions:
- Sling x 4-6 weeks per surgeon decision.

May be used up to 8 weeks if revision or fracture surgery.

- In supine position, elbow must be supported with pillow to prevent shoulder extension. Patient should always see their elbow.
- **NO shoulder AROM.**
- NO lifting of objects with operative extremity and no supporting body weight.
- Keep incision clean and dry (no soaking/wetting for 2 weeks); No whirlpool, Jacuzzi, ocean/lake wading for 4 weeks.

Immediate Care Therapy (Day 1 to 4):

- Begin PROM in supine/bed after resolution of block:
- FF to 90 degrees in scapular plane
- ER in scapular plane to 20-30 degrees
- NO Internal Rotation!



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- Start Active/Active Assisted ROM (A/AAROM) of cervical spine, elbow, wrist, and hand.
- Utilize continuous cryotherapy for the first 72 hours postoperatively, then frequent application (4-5 times a day for about 20 minutes).
- Gain patient independence in terms of bed mobility, transfers, and ambulation
- Give patient/family HEP. Please teach patient to avoid position of dislocation: Extension/IR Day 5 to 21:
- Start 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:

- Continue with above exercises
 - Progress PROM with goal of: FF 120, ER to tolerance in scapular plane respecting soft tissue constraints and being sensitive to end-feel.
- Tablewalks, pendulums, shrugs, scapular retractions avoiding shoulder extension -Resisted wrist exercises, grip exercises -Gentle elbow resistance exercises
- Criteria for progression to the next phase (Phase II):
- Satisfactory PROM, deltoid and periscapular isometrics.
 - 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 Phase (Week 6 to 10-12):

Goals:

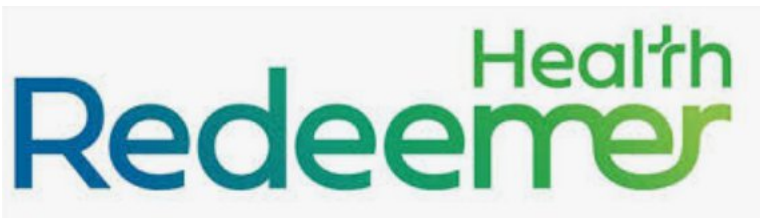
- Progress PROM though full PROM is not expected
- Gradually restore AROM.
- Control pain and inflammation.
- Allow continued healing of soft tissue / do not overstress healing tissue.
- Re-establish dynamic shoulder and scapular stability.

Precautions:

- Continue to avoid shoulder hyperextension and internal rotation
- In patients with poor mechanics, avoid repetitive AROM exercises.
- Restrict lifting of objects to no heavier than a coffee cup. Still no supporting body weight.
- 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.

Week 6 to Week 8:

- Continue PROM and start PROM IR to tolerance (not to exceed 50 degrees) in scapular plane.
- Start shoulder AA/AROM to tolerance, progress from supine to standing position.
- Start ER and IR isometrics (sub-maximal and pain free)
- Start scapulothoracic rhythmic stabilization and alternating isometrics in supine as appropriate



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- 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 and progress above 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 side lying position with light weight (1-3lbs) 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 HEP 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 rehab 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.)
- Able to complete light household and work activities.