

## **Reverse Total Shoulder Arthroplasty**

### **Delto-pectoral Interval Approach**

**Precautions:** Avoid IR, adduction, and extension (tucking in a shirt or performing bathroom/personal hygiene is particularly dangerous during post-op phase) – “always be able to see your elbow”

For 12 weeks:

- No IR or motion behind the back (IR/add/ext)
- No extension beyond neutral (towel behind elbow while supine)

#### **Phase I (1 – 5 days post-op)**

- Bed mobility & transfer training without UE
- Modalities: prn for pain and inflammation
- Sling: Ultrasling worn continuously except in therapy or during exercise sessions
- ROM:
  - Pendulums 4 ways
  - AROM of forearm, wrist, hand, and cervical
- Soft tissue mobilization for cervical, cuff, and periscapular

#### **Phase II (5 days – 4 weeks post-op)**

- Wound care: Monitor site / scar management techniques
- Modalities: prn for pain and inflammation
- Sling: Ultrasling worn continuously except in therapy or during exercise sessions
- PROM: Not initiated until post-op week 4

#### **Phase III (4 weeks – 10 weeks post-op)**

- Sling:
  - Until 4 weeks post-op, Ultrasling worn continuously, except in therapy or during exercise sessions. Remove abduction pillow at 4 weeks.
  - Until 6 weeks post-op, Sling must continue to be worn outdoors or in public settings and when sleeping
- ROM: At 4 weeks post-op, begin with PROM, progressing to AAROM, and then AROM

- PROM:
  - Gradually progress flexion and scaption to 120 degrees, ER to 30-45 degrees, IR in scapular plane only, abduction to 90 degrees
  - Continue to follow dislocation precautions
  - At 8 weeks: Stretch horizontal adduction, lats, triceps. Grade I-II GH joint and scapular thoracic joint mobilizations
- AAROM:
  - May begin and progress to AROM depending on stability and movement pattern quality for progression to AROM.
  - Begin flexion and scaption supine providing greater scapular stability, then progress to seated and standing position
  - IR, ER, and scapular retraction must be performed with UE in a protected position in the scapular plane where the patient is able to see their elbow at all times (avoiding adduction and extended position with IR)
  - At 8 weeks begin to use involved UE for eating, dressing
- Strengthening:
  - Until 12 weeks, NO resisted IR
  - May begin gentle pain-free sub-max isometrics for the deltoid and periscapular musculature with the humerus in a protected position in scapular plane
- Strengthening of elbow, wrist, and hand
- 4 weeks: periscapular muscle activation, deltoid activation
- 7-8 weeks: rhythmic stabilization, progress deltoid and scapular strength/endurance

#### **Phase IV (10+ weeks post-op)**

- ROM:
  - At 10 weeks,
    - Continue to progress as above
    - Until 12 weeks, follow dislocation precautions
  - At 12 weeks,
    - Gradually progress ROM as tolerated
- Strengthening: Do not begin until appropriate AAROM/AROM control is achieved
  - At 10 weeks,
    - PNF D1/D2

- Begin gradual light resistance for flexion, abduction, and ER. Extension to neutral
- Until 12 weeks, No resistance for IR
- At 12 weeks,
  - May begin resisted IR with isometrics gradually progressing resistance with light bands and weights
  - Advance strengthening as tolerated for rotator cuff, deltoid, and scapular stabilizers
  - May begin closed-chain exercises and eccentric strengthening
- Goals at 16 weeks:
  - Continue to progress with ultimate goal of 80°-140 degrees of elevation and 30 degrees of ER, ≤ 50 degrees IR in scapular plane or back pocket
  - Functional level: Goal is for patient to be able to complete light household work within 10-15# lifting limit with bilateral UEs

Adapted From:

- 1) Romeo A. Reverse total shoulder (reverse ball and socket) protocol. Midwest Orthopedics at RUSH. Chicago, 2008.
- 2) Beacon Orthopedics & Sports Medicine protocol
- 3) Brigham and Women's Hospital protocol;  
<https://www.brighamandwomens.org/assets/BWH/patients-and-families/rehabilitation-services/pdfs/shoulder-reverse-total-shoulder-arthroplasty-protocol.pdf>
- 4) <https://www.massgeneral.org/assets/mgh/pdf/orthopaedics/sports-medicine/physical-therapy/rehabilitation-protocol-for-reverse-shoulder-arthroplasty.pdf>
- 5) <http://watsonorthopaedics.com/home/rehab-protocols/shoulder/reverse-total-shoulder-replacement-rehab/>