

# Total Shoulder Arthroplasty and Hemiarthroplasty

## PHASE 1 (Immediate Post-Operative Phase): Generally 0-3 Weeks Post-Op

### Rehabilitation Goals

- Protect surgical repair
- Reduce swelling, minimize pain
- Maintain UE ROM in elbow, hand and wrist
- Gradually increase shoulder PROM
- Minimize muscle inhibition

### Precautions

- No shoulder AROM
- No reaching behind back, especially in to internal rotation
- No excessive shoulder external rotation or abduction
- No lifting of objects
- No supporting of body weight with hands
- Place small pillow/towel roll under elbow while lying on back to avoid shoulder hyperextension

### Sling

- Neutral rotation
- Use of abduction pillow in 30-45 degrees abduction
- Use at night while sleeping

### Rehabilitation

- Swelling Management
  - Ice, compression
- Range of motion/Mobility
  - PROM: ER  $\leq$  30 degrees in the scapular plane, IR to belt line in scapular plane, Flex/Scaption to tolerance, ABD  $\leq$  90 degrees, pendulums, table slides
  - AAROM: Active assisted shoulder flexion
  - AROM: elbow, hand, wrist
- Strengthening (Week 2)
  - Periscapular: scapular retraction, standing scapular squeeze, low rows
  - Ball squeeze

### Criteria to Progress

- $\geq$  50% shoulder PROM flex, scaption as compared to contralateral side
- $\leq$  90 degrees of shoulder ABD PROM
- $\leq$  30 degrees of shoulder ER PROM in scapular plane
- $\geq$  70 degrees of IR PROM in scapular plane
- Palpable muscle contraction felt in scapular musculature
- Pain  $<$  4/10
- No complications with Phase I


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# Total Shoulder Arthroplasty and Hemiarthroplasty

## PHASE 2 (Immediate Post-Operative Phase): Generally 4-6 Weeks Post-Op

### Rehabilitation Goals

- Continue to protect surgical repair
- Reduce swelling, minimize pain
- Gradually increase shoulder PROM
- Minimize substitution patterns with AROM and AAROM
- Improve periscapular muscle activation/strength
- Initiate RTC (external rotators) activation

### Sling

- Use at night while sleeping
- Gradually start weaning sling over the next two weeks during the day

### Precautions

- No excessive shoulder external rotation or abduction
- No lifting of objects heavier than a coffee cup
- No supporting of body weight with hands
- Place small pillow/towel roll under elbow while lying on back to avoid shoulder hyperextension

### Rehabilitation (Continue Phase I)

- Range of motion/Mobility
  - PROM: Full with exception of ER  $\leq 30$  degrees in scapular plane and  $\leq 90$  degrees ABD
  - AAROM: shoulder flexion with cane, cane external rotation stretch, washcloth press, seated shoulder elevation with cane
  - AROM: supine flexion, salutes, supine punch
- Strengthening
  - Rotator cuff: external rotation isometrics
  - Periscapular: Row on physioball, serratus punches
  - Elbow: Biceps curl, resistance band bicep curls and triceps
- Motor control
  - ER in scaption and Flex 90-125 (rhythmic stabilization)
- Stretching
  - Sidelying horizontal ADD

### Criteria to Progress

- $\geq 75\%$  shoulder PROM flex, scaption, as compared to contralateral side
- $\geq 75\%$  shoulder PROM IR in scapular plane as compared to contralateral side
- 30 degrees of shoulder PROM ER in scapular plane
- 90 degrees of shoulder PROM ABD
- Minimal substitution patterns with AAROM
- AROM shoulder elevation to 100 degrees with minimal substitution patterns
- Pain  $< 4/10$
- No complications with Phase II


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# Total Shoulder Arthroplasty and Hemiarthroplasty

## PHASE 3: Generally 7-8 Weeks Post-Op

### Rehabilitation Goals

- Do not overstress healing tissue (especially the anterior capsule)
- Minimize pain
- Maintain PROM
- Improve AROM
- Progress periscapular and RTC strength
- Return to full functional activities

### PRECAUTIONS

- No lifting of heavy objects (>10 lbs)
- Discontinue Sling

### Rehabilitation (Continue Phase 1-2)

- Range of motion/Mobility
  - Full ROM in all planes
  - AAROM: incline table slides, ball roll on wall, wall climbs, pulleys
  - AROM: seated scaption, seated flexion, supine forward elevation with elastic resistance to 90 deg
- Strengthening
  - Rotator cuff: internal rotation isometrics, side-lying external rotation,
  - Standing external rotation w/ resistance band, standing internal rotation w/ resistance band, internal rotation, external rotation,
  - Periscapular: Resistance band shoulder extension, resistance band seated rows, rowing, lawn mowers, robbery
- Motor control
  - IR/ER and Flex 90-125 (rhythmic stabilization)
  - Quadruped alternating isometrics and ball stabilization on wall
  - PNF-D1 diagonal lifts, PNF-D2 diagonal lifts
- Stretching
  - IR behind back with towel, sidelying horizontal ADD, sleeper stretch, triceps and lats

### Criteria to Progress

- Minimal to no substitution patterns with shoulder AROM
- Pain < 4/10



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# Total Shoulder Arthroplasty and Hemiarthroplasty

## PHASE 4: Generally 9-12 Weeks Post-Op

### Rehabilitation Goals

- Do not overstress healing tissue (especially the anterior capsule)
- Maintain pain-free PROM
- Continue improving AROM
- Improve dynamic shoulder stability
- Gradually restore shoulder strength and endurance

### Precautions

- No lifting of heavy objects (> 10 lbs)
- Avoid exercises that put stress on the anterior shoulder capsule (ie: shoulder ER above 80 degrees of ABD)

### Rehabilitation (Continue Phase 1-3)

- Range of motion/mobility
  - Full ROM in all planes
- Strengthening
  - Rotator cuff: increase resistance rotator cuff exercise
  - Periscapular: Push-up plus on knees, “W” exercise, resistance band Ws, dynamic hug, resistance band dynamic hug, prone shoulder extensionIS, resistance band forward punch, forward punch, tripod, pointer
- Motor control
  - Resistance band PNF pattern, PNF – D1 diagonal lifts w/ resistance, diagonal-up, diagonal-down  
Wall slides w/ resistance band

### Criteria to Progress

- Supine AROM Flex  $\geq 140$  degrees
- Supine AROM ABD  $\geq 120$  degrees
- Supine AROM ER in scapular plane  $\geq 60$  degrees
- Supine AROM IR in scapular plane  $\geq 70$  degrees
- AROM shoulder elevation to 120 degrees with minimal substitution patterns
- Performs all exercises demonstrating symmetric scapular mechanics
- Pain < 2/10


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# Total Shoulder Arthroplasty and Hemiarthroplasty

## **PHASE 3: Generally 13-20 Weeks Post-Op**

### **Rehabilitation Goals**

- Maintain pain-free ROM
- Improve shoulder strength and endurance
- Enhance functional use of upper extremity

### **Rehabilitation (Continue Phases 1-4)**

- Strengthening
  - Rotator cuff: External rotation at 90 degrees, internal rotation at 90 degrees, resistance band standing external rotation at 90 degrees, resistance band standing internal rotation at 90 degrees
  - Periscapular: T and Y, “T” exercise, push-up plus knees extended, wall push up
- Motor Control
  - Progress ball stabilization on wall to overhead alternating isometrics/rhythmic stabilization
  - Clearance from MD and ALL milestone criteria have been met
  - Maintains pain-free PROM and AROM
  - Performs all exercises demonstrating symmetric scapular mechanics
  - QuickDASH



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