

## **Altru Advanced Orthopedics**

### **Total Shoulder Arthroplasty/Hemiarthroplasty/Reverse Total Shoulder Arthroplasty without subscapularis repair Protocols**

The intent of this protocol is to provide the therapist with a guideline for the post-op rehab of a patient who has had a total shoulder arthroplasty, hemiarthroplasty, or a reverse total shoulder arthroplasty without subscapularis repair. It is not intended to be a substitute for appropriate clinical decision making regarding the progression of a patient's rehab. The actual therapy plan of care must be based on the surgical approach, physical exam and findings, individual progress, any post-op complications, and/or co-morbidities. If a therapist needs assistance or has questions regarding the progression of a patient post surgically they should consult the referring surgeon.

#### **Post-op Day 1 (Hospital)**

- PROM flex in supine to tolerance
- PROM for ER gently in scapular plane through available range
- PROM IR to chest
- AROM elbow, wrist, hand
- Pendulums
- Cryotherapy
- Pt education regarding positioning and shoulder protection techniques

#### **PHASE I: 0–6 Weeks**

Precautions:

- Avoid undue stress on anterior capsule
- Protect subscapularis for 6 weeks, avoid strengthening IR and ER
- ER in scapular plane to minimize anterior strain
- No backwards extension
- No excessive stretching or sudden movements
- No supporting body weight by hand on involved side

Goals:

- Gradual increase PROM
- Decrease pain and inflammation
- Allow for soft tissue healing
- Restore elbow, wrist, and hand AROM
- Protect subscapularis repair
- Independent ADLs with modifications

Immobilization:

- Sling/immobilizer should be worn continuously for 6 weeks, except for exercise and personal hygiene

#### Therapeutic Exercise:

1. PROM
  - Gradually progress PROM in all planes as tolerated
    - IR and ER in scapular plane
    - Abduction in supine with 0° of rotation
2. AAROM
  - Begin AAROM for flex, abd, ER, IR in scapular plane as tolerated
    - flexion to tolerance with cane or table slides
3. AROM
  - Elbow, wrist, and hand AROM
  - Cervical and thoracic spine AROM
4. Scapular stabilization
  - Scapular pinch, Sternal lifts, Lawn mower done in sling

#### Manual Therapy:

- Grade I and II joint mobilizations

#### Modalities:

- Cryotherapy prn
- E-stim prn

#### **Criteria for progression to Phase II:**

- **Minimal pain and tenderness**
- **90° PROM flexion and abduction**
- **45° PROM ER in scapular plane**
- **70° PROM IR in scapular plane**

#### **PHASE II: 7-12 Weeks**

#### Precautions:

- Do not overstress healing anterior shoulder tissue
  - In supine place pillow or towel under elbow to avoid shoulder hyperextension
- ER in scapular plane to minimize anterior strain
- If poor shoulder mechanics avoid repetitive shoulder AROM exercises/activities against gravity
- No heavy lifting (no heavier than a coffee cup)
- No supporting body weight by hand on involved side
- No sudden jerking movements

#### Goals:

- Gradual restoration of full PROM

- 45° ER at 8-10 weeks
- Control pain and inflammation
- Allow continued soft tissue healing
- Gradually restore active motion
- Re-establish dynamic shoulder stability

Immobilization:

- D/C sling after 6 weeks

Therapeutic Exercise:

1. Continue previous exercises as needed
2. PROM
  - Advance all motions as tolerated
  - Advance ER in scapular plane gradually to 45° by 10 weeks post-op
  - PROM – sleeper posterior capsular stretch if IR limited beginning at 10 weeks
3. AAROM and AROM- progress as tolerated in all planes in pain free ROM
4. Submax, pain-free isometrics in neutral
5. Progress to open-chain strengthening with bands then light weights
6. Progress scapular stabilization- closed chain
  - Scapular clock
  - Weight shifting
7. Initiate rhythmic stabilization

Manual Therapy:

- Grades I-III inferior, posterior joint mobilizations, and scar tissue mobilization PRN

Modalities:

- Cryotherapy prn
- E-stim prn

**Criteria for progression to Phase III:**

- **Tolerates PROM/AAROM, and isometric program**
- **140° PROM flexion**
- **120° PROM abduction**
- **70° PROM IR in scapular plane**
- **60° PROM ER in scapular plane**
- **AROM shoulder elevation against gravity to 100° with good mechanics**

**PHASE III: 13-18 weeks**

Precautions:

- No lifting greater than 5 lbs
- No sudden lifting or pushing activities
- No sudden jerking movements

#### Goals:

- Increase active ROM of shoulder
- Gradual restoration of shoulder strength
- Optimize neuromuscular control
- Gradual return to functional activities with operative UE

#### Therapeutic Exercise:

1. Continue with Phase II exercises as needed
2. Continue PROM and AA/AROM as needed to maintain ROM, advance to stretching as appropriate
  - Begin assisted IR behind back stretch
3. Begin shoulder IR and ER strengthening in scapular plane
4. Progress deltoid strengthening
  - Begin supine with light weight at variable degrees of elevation
5. Progress axial loading and scapular stabilization
  - Wall push-up, wall washes, rocker board, BOSU

#### Manual Therapy:

- Grades I-III inferior, posterior joint mobilizations, and scar tissue mobilization PRN

#### Modalities:

- Cryotherapy prn
- E-stim prn

#### **Criteria for progression to Phase IV:**

- **Tolerates AROM and strengthening**
- **140° AROM flexion in supine**
- **120° AROM abduction in supine**
- **70° IR in supine in scapular plane**
- **60° ER in supine in scapular plane**
- **Active shoulder elevation to at least 120° against gravity with good mechanics**

#### **PHASE IV: Week 19 to 6 months**

#### Precautions:

- Avoid exercises and functional activities that stress anterior capsule and soft tissues, e.g., combined ER and abduction
- Gradual progression of strengthening
- Gradually return to more challenging functional activities

#### Goals:

- Maintain full non-painful AROM
- Improve strength, power, and endurance

- Improve tolerance of functional activities
- Progress closed chain exercises as appropriate

Therapeutic Exercise:

1. Continue with Phase III exercises as needed
2. Resistive exercises (GENTLE PROGRESSION)
  - Initiate overhead resistance with front lat pull down and overhead press
3. Plyometric exercises
  - Ball toss, rebounder, eccentric control
4. HEP strength, mobility, and function 3-4 times per week for 1-year post-op
5. 4-6 months return to recreational hobbies, gardening, sports, etc.

**Criteria for D/C from PT:**

- **Pt able to maintain nonpainful AROM**
- **Pt has maximal functional use of UE**
- **Pt has maximal muscle strength, power, and endurance**
- **Pt has returned to advanced functional activities**