St Luke's Orthopaedic Specialists

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Rehabilitation guidelines for Reverse Total Shoulder Arthroplasty

DISCLAIMER: The intent of this protocol is to provide therapists with guidelines for rehabilitation of patients that have undergone surgery with Dr. Avallone. It is from the protocol presented in **JOSPT 37 (12) 734-743** and is specific to his operative technique. **PTs are encouraged to read this article.** It is not intended to serve as a substitute for sound clinical decision making. Therapists should consult with Dr. Avallone if they require assistance in the progression of post-operative patients.

Shoulder Dislocation Precautions

Precautions should be implemented for the first 12 weeks postoperatively unless surgeon specifically advised patient or therapist differently:

- No should motion behind lower back and hip (no combined should adduction, internal rotation [IR], and extension)
- No glenohumeral (GH) joint extension beyond neutral

Progression to the next phase based on clinical criteria and time frames as appropriate.

Phase I: Immediate Postsurgical Phase, Joint Protection (Day 1 to Week 6)

- 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 (ADLs) with modifications

Precautions

- Sling is worn for 6 weeks postoperatively.
- While lying supine, the distal humerus/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 should 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 4 weeks

Days 1 to 4 (acute care therapy)

- Begin PROM in supine after complete resolution of interscalene block
  - Forward flexion and elevation in the scapular plan in supine to 90°
  - External rotation (ER) in scapular plane to available ROM as indicated by operative findings, typically around 20°-30°
  - No IR range of motion (ROM)
- AROM/active assisted ROM of cervical spine, elbow, wrist, and hand.
- Begin periscapular submaximal pain-free isometrics in the scapular plane.

Continuous cryotherapy for first 72 h postoperatively, then frequent application (4-5 times a day for about 20 min)

Days 5 to 21

- Continue all exercises as above
- Begin submaximal pain-free deltoid isometrics in scapular plane (avoid shoulder extension when isolating posterior deltoid)
- Frequent (4-5 times a day for about 20 min) cryotherapy

Weeks 3 to 6

- Progress exercises listed above
- Progress PROM
- Forward flexion and elevation in the scapular plan in supine to 120°
- ER in scapular plane to tolerance, respecting soft tissue constraints
- At 6 wk postoperatively start PROM IR to tolerance (not to exceed 50°) in the scapular plane.
- Gentle resisted exercise of elbow, wrist, and hand
- Continue frequent cryotherapy

Criteria for progression to the next phase (phase II)

- Patient tolerates shoulder PROM and AROM 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: AROM, Early Strengthening Phase (Weeks 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 stability

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Precautions
- Continue to avoid should hyperextension
- In the presence of poor should 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

Weeks 6 to 8
- Continue with PROM program
- Begin shoulder active assisted ROM/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 GH IR and ER submaximal pain-free isometrics
- Initiate gentle scapulothoracic rhythmic stabilization and alternating isometrics in supine as appropriate. Begin gentle periscapular and deltoid submaximal pain-free isotonic

Criteria for progression to the next phase (phase III)
- Improving function of shoulder
- Patient demonstrates the ability to isotonically 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

strengthening exercises, typically toward the end of the eighth week
- Progress strengthening of elbow, wrist, and hand
- Gentle GH and scapulothoracic joint mobilizations as indicated (grades I and II)
- Continue use of cryotherapy as needed
- Patient may begin to use hand of operative extremity for feeding and light ADLs

Weeks 9 to 12
- Continue with above exercises and functional activity progression
- Begin AROM supine forward flexion and elevation in the plane of the scapula with light weights of 0.5 to 1.4 kg (1 to 3 lb) at varying degrees of trunk elevation as appropriate (ie, supine lawn chair progression with progression to sitting/standing)
- Progress to gentle GH IR and ER isotonic strengthening exercises
- Enhance shoulder mechanics, muscular strength, power, and endurance

Precautions
- No lifting of objects heavier than 2.7 kg (6 lb) with the operative upper extremity
- No sudden lifting or pushing activities

Weeks 12 to 16

Continue with the previous program as indicated

Progress to gentle resisted flexion, elevation in standing as appropriate