Reverse Total Shoulder Arthroplasty

Purpose:
This guideline is designed to return the individual to their full activities as quickly and safely as possible, following Reverse Total Shoulder Arthroplasty. Modifications to this guideline may be necessary dependent on physician specific instruction or other procedures performed. This evidence-based guideline is criterion-based; time frames and visits in each phase will vary depending on many factors. The therapist may modify the program appropriately depending on the individual's goals for activity following this surgery.

This guideline is intended to provide the treating clinician a frame of reference for rehabilitation. It is not intended to substitute clinical judgment regarding the patient's post-operative care based on exam/treatment findings, individual progress, and/or the presence of concomitant procedures or post-operative complications. If the clinician should have questions regarding post-operative progression, they should contact the referring physician.

Precautions:
- Avoid shoulder adduction combined with internal rotation and extension past neutral for 10-12 weeks
  - If dislocation is to occur, it is typically with the combination of internal rotation and adduction in conjunction with extension
    - ⇒ Examples: tucking in a shirt, personal hygiene, etc.
- Wear sling for 4-6 weeks
- Week 4: initiate AAROM
- Week 6: initiate AROM
- Week 10: initiate strengthening

PHASE	SUGGESTED INTERVENTIONS	MILESTONES FOR PROGRESSION
Phase I Patient Education / Pre-Op	**Education:** • Anatomy, existing pathology, post-op rehab schedule, bracing, and expected progressions, post-op precautions • Instruct on Pre-Op Exercises • Prospective joint replacement • Home safety • Equipment recommendations • Overview of Hospital Stay: — Nursing care — Therapy services — Pharmacy — Discharge planning	**Goals:** • Understand pre-op exercises, instructions and overall plan of care **Criteria to Advance:** • Surgery
Phase II Weeks 0-4	**Education:** • Patient/family education and training for:	**Goals:** • Reduce pain and swelling

	— Safety with mobility/transfers — Icing and elevation (when laying in supine, use pillow under arm to support glenohumeral joint) — Home exercise program — Appropriate home modifications **Precautions:** • Use sling continuously except while doing therapy or light, protected activities – such as desk work, for 4 weeks • Wear sling while sleeping for 6 weeks • No active shoulder motion for 5 weeks, all planes • No active internal rotation for 6 weeks • External rotation range of motion limited to 0° (neutral) • Relative rest to reduce inflammation **Therapy:** • Elbow, wrist and neck active range of motion • Gripping exercises • PROM of shoulder: — Flexion: 0-120° — Abduction: 0-90° — ER (at 30° abduction): 0° — IR (at 30° abduction): 30° • Codman's/Pendulum exercises	• Maintain AROM of the elbow, wrist and neck • Protect healing of repaired tissues and implanted devices **Criteria to Advance:** • The patient must be at least 4 weeks post-operative • The patient tolerates PROM within acceptable pain levels
Phase III Weeks 4-8	**Precautions:** • Wean out of the sling slowly based on environmental safety during weeks 5 and 6 — Discontinue use of the sling by the end of week 6 • Wear sling while sleeping for 6 weeks • No active internal rotation for 6 weeks • External ROM limited to 20° weeks 5-6, then to 45° for weeks 7-8 **Therapy:** • Controlled restoration of PROM and AAROM • Initiate AAROM to tolerance • Pain-free sub-max isometrics for shoulder flexion, abduction, extension and external rotation	**Goals:** • Controlled restoration of PROM and AAROM • Activate shoulder and scapular stabilizers in a protected position of 0° to 30° of shoulder abduction • Correct postural dysfunctions **Criteria to Advance:** • Patient must be at least 8 weeks post-op • Patient can complete AAROM and shoulder isometrics without compensation and with minimal pain

	• Initiate rhythmic stabilization drills at 6 weeks • Activate shoulder and scapular stabilizers in a protected position of 0° to 30° of shoulder abduction • Correct postural dysfunctions • Can initiate AROM at week 6: — Supine or side lying flexion — Salutes — Supine serratus punch • Periscapular strengthening — Scapular retraction — Standing scapular setting — Supported scapular setting — Low row — Inferior glide • Elbow: — Bicep curl — Resistance band bicep curls — Triceps	
Phase IV Weeks 8-12	**Precautions:** • External rotation ROM limited to 60° • No lifting greater than 10 lbs. **Therapy:** • PROM: full in all planes, gradual PROM IR in scapular plane </= 50° • AROM, AAROM, and PROM at the shoulder • Deltoid strengthening – progression of the Jankins exercises • Seated shoulder elevation with cane with active lowering, ball roll on wall • Open kinetic chain shoulder rhythmic stabilizations in supine — Stars or alphabet exercises — IR/ER in scaption plane — Flexion at 90-125° in supine • Gentle closed kinetic chain shoulder and scapular stabilization drills — Wall ball circles and patterns • Proprioceptive neuromuscular facilitation patterns — D1 diagonal lifts and D2 Diagonal lifts • Scapular strengthening	**Goals:** • Functional shoulder AROM in all planes • Shoulder flexion >140° • Normal (rated 5/5) strength for shoulder internal rotators and deltoid • Correct any postural dysfunction **Criteria to Advance:** • Patient must be at least 12 weeks post-op • No compensation patterns with AROM • Minimal pain with AROM

	— Row on aerobics ball, serratus punches, etc. • Supine shoulder flexion with resistance band to 90° <u>Weeks 9-11:</u> • Periscapular strengthening: — Resistance band shoulder extension — Seated resistance band rows — Rowing — Lawnmowers — Quadruped with active shoulder flexion — Bird dogs — Robbery exercises	
Phase V Weeks 12-16	**Precautions:** • Weeks 12-16: no lifting greater than 15 lbs. **Therapy:** • Multi-plane shoulder AROM with a gradual increase in the velocity of movement while making sure to assess scapular rhythm • Shoulder mobilizations as needed • Rotator cuff strengthening in 90° of shoulder abduction and overhead — Beyond 90° of shoulder abduction • Scapular strengthening and dynamic neuromuscular control in open kinetic chain and closed kinetic chain positions • Core and lower body strengthening • Periscapular: — Push-up plus on knees — "W" exercise & resistance band Ws — Prone shoulder extension Is — Dynamic hug & resistance band dynamic hug — Forward punch & resistance band forward punch — T and Y exercises • Continue gradually increasing resisted flexion and scaption in functional positions	**Goals:** • Normal strength and endurance of deltoid at 90° shoulder abduction and scaption • Advance proprioceptive and dynamic neuromuscular control retraining • Achieve 75° of shoulder external rotation • Correct postural dysfunctions with work and sport-specific tasks • Develop strength and control for movements required for work or sport **Criteria to Advance:** • Full shoulder active range of motion in all planes and multi-plane movements • Normal (rated 5/5) strength of shoulder
Phase VI Weeks 16+	**Therapy:** • Multi-plane shoulder AROM with a gradual increase in the velocity of movement while making sure to assess scapular rhythm	**Goals:**

	• Shoulder mobilizations as needed • Rotator cuff strengthening in 90° of shoulder abduction and in provocative and work and/or sport-specific positions, including: — Eccentric strengthening — Endurance and velocity-specific exercises • Scapular strengthening and dynamic neuromuscular control in overhead positions and work/sport-specific positions • Work and sport-specific strengthening • Core and lower body strengthening • Swimming program or overhead racquet program as needed • Rotator cuff strengthening in 90° of shoulder abduction and overhead — Beyond 90° of shoulder abduction • Scapular strengthening and dynamic neuromuscular control in open kinetic chain and closed kinetic chain positions	• Normal strength and endurance of deltoid at 90° of shoulder abduction and scaption • Advance proprioceptive and dynamic neuromuscular control retraining • Correct postural dysfunctions with work and sport specific tasks • Develop strength and control for movements required for work and/or sport • Develop work capacity cardiovascular endurance for work and/or sport **Criteria to Discharge:** • Patient may return to sport after receiving clearance from the orthopedic surgeon and the PT/AT • Return to sport decisions are based on meeting the goals of this phase