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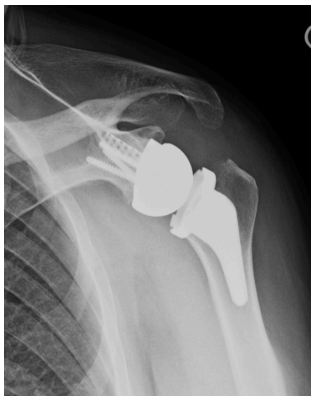
# REVERSE TOTAL SHOULDER ARTHROPLASTY PROTOCOL



The intent of this protocol is to provide the therapist with a guideline for the post- operative rehabilitation course of a patient that has undergone a Reverse Total Shoulder Arthroplasty (rTSA). It is not intended to be a substitute for appropriate clinical decision-making regarding the progression of a patient's post-operative course. The actual post-surgical physical therapy management must be based on the surgical approach, physical exam/findings, individual progress, and/or the presence of post-operative complications. If a therapist requires assistance in the progression of a post-operative patient, they should consult with Dr. Simovitch or his Physician Assistant, Nathaniel Newara, PA-C at (561) 657-4610.

Passive Range of Motion (PROM): PROM for patients who have undergone rTSA is defined as ROM that is provided by an external source (therapist, instructed family member, or other qualified person) with the intent to gain ROM without placing undue stress on either soft tissue structures and / or surgical site.

- **PROM is not Stretching!!!**

The **scapular plane** is defined as the shoulder positioned in 30 degrees of abduction and forward flexion with neutral rotation. ROM performed in the scapular plane should enable appropriate shoulder joint alignment

**Shoulder Dislocation Precautions*:**

- No Shoulder motion behind back. (No combined shoulder adduction, internal rotation, and extension)

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•No glenohumeral extension beyond neutral
•Functionally, no shoulder movement behind the back until 6 weeks

*Above precautions should be implemented for 6 weeks post operatively unless Dr. Simovitch specifically advises patient or therapist differently
Progression to the next phase based on clinical criteria and time frame as appropriate.

## Phase I – Immediate Post Surgical (Day 1 – 6 weeks):

Goals:

- Patient's family independent with:
  - -Joint Protection
  - -PROM
  - -Assisting with don / doff sling and shirt
  - -Assisting with prescribed home exercise program
- •Promote healing of soft tissue
- •Maintain integrity of replaced joint
- •Gradually increase PROM of shoulder
- •Restore active range of motion (AROM) of elbow/wrist/hand
- •Patient independent with the use of conservative measures of pain control:
  - -Appropriate posture / positioning
  - -Use of cryotherapy
  - -Deep breathing / relaxation
- •Independent with ADL's with modifications and compensations to maintain the integrity of the replaced joint.

Precautions:

- • Sling is worn for 3 -4 weeks postoperatively except during physical therapy and home exercises. Sling is worn when sleeping and weaned after the third week. The use of a sling may be extended for a total of six weeks, often in a revision setting or with extenuating circumstance. This will be communicated to patient if applicable.
- •While lying supine, the distal humerus / elbow should be supported by a pillow or a towel roll. Avoid shoulder hyperextension / anterior capsule stretch / subscapularis stretch. Patients should be advised to "always be able to see their elbow when lying supine."
- •No shoulder AROM
  - •No lifting of objects with operative extremity
  - •No stretching or sudden movements (particularly external rotation)
  - •No supporting of body weight by hand on involved side
  - •Keep incision clean and dry (no soaking) for 2 weeks. After 48 hours

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shower water can run over incision if closed with dermal glue. No whirlpool, Jacuzzi, ocean/lake wading for 4 weeks.

**Day One to Four (Acute Care Therapy)**

•Most patients s/p rTSA will begin the below PROM program post operative day #1; however, shoulder PROM for any patients having had a revision and / or having poor bone stock will be based on Dr. Simovitch's assessment of the integrity of the surgical repair. It is common for the start of PROM of the shoulder to be delayed up to 4 weeks post op in these cases. This is rare.

•Begin PROM in supine.
- •Forward flexion in supine to tolerance (not to exceed 120º).
- •Elevation in the scapular plane in supine to tolerance (not to exceed 90º). No pure abduction PROM.
- •External rotation (ER) in the scapular plane to 45º
- •No Internal Rotation (IR) ROM behind back.
- •Active / Active Assisted ROM (A/AAROM) of elbow, wrist, and hand.

•Begin peri-scapular sub-maximal pain-free isometrics in the scapular plane.
•Continuous cryotherapy for the first 72 hours postoperatively, then frequent application (4-5 times a day for about 20 minutes).
•Patient education regarding proper positioning, posture cues, and dislocation precautions.

**Day Five to Twenty-One (Post-Acute Care Program):**

•Continue PROM as above
•Educate patient with appropriate progression of A/AAROM of elbow, wrist and hand.
•Continue peri-scapular sub-maximal pain free isometrics
•Begin sub-maximal pain free deltoid isometrics in scapular plane
•Frequent (4-5 times a day for about 20 minutes) cryotherapy
•Patient education as above
•Cervical AROM program with emphasis on cervical thoracic neutral positioning as needed

**WEEK 3 to WEEK 6:**

**•Can begin to wean from sling. Should be out and resume ADLs by week 4**
·Continue PROM:
- Forward elevation in supine to tolerance

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- PROM elevation in the scapula plane in supine to tolerance

- ER in scapular plane to tolerance, respecting soft tissue constraints, typically to 45º
- At 6 weeks post op start PROM IR to tolerance (not to exceed 50 degrees) in the scapula plane at 60º of abduction. It is ok to begin gradual movement of hand behind back.
- AROM progressed to gentle resisted exercise of elbow, wrist, and hand to tolerance
- Progress peri-scapular and deltoid sub maximal pain-free isometrics (Avoid shoulder hyperextension when isolating the posterior deltoid)
- Continue frequent cryotherapy
- Continue patient education
- Continue to provide / progress therapeutic exercises / positioning to correct any postural cervical thoracic dysfunction

Criteria for progression to the next phase (Phase II):
•Tolerates shoulder PROM and AROM for elbow, wrist, hand
•Patient demonstrates the ability to isometrically activate all components of the deltoid and periscapular musculature in the scapular plane

## Phase II – Active ROM / Early Strengthening (Weeks 6-12):

Goals:

- Continue progression of PROM (remember that normal / full PROM will not be expected)
- Gradually restore AROM
- Control pain and inflammation
- Allow continued healing of soft tissue / Do not overstress healing tissue
- Re-establish dynamic shoulder stability

Precautions:

- Continue lying supine with a pillow or towel placed behind the elbow to avoid shoulder hyperextension
- In the presence of poor shoulder mechanics avoid repetitive shoulder AROM exercises / activity
- Restrict heavy lifting of objects to no heavier than a coffee cup
- No supporting of body weight by hand on involved side
- No sudden jerking motions

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**WEEK 6 to WEEK 8:**

·Continue with PROM

- •Begin shoulder AA/AROM as appropriate
  - -Forward flexion and elevation in scapular lane in supine with progression to sitting / standing
  - -ER and IR in scapular plane in supine with progression to sitting / standing
- •Begin gentle glenohumeral IR and ER sub-maximal pain free isometrics in 0 degrees rotation and neutral extension
- •Initiate gentle scapulothoracic rhythmic stabilization and alternating isometrics in supine as appropriate.
- •Begin gentle periscapular and deltoid sub-maximal pain-free isotonic strengthening exercises, typically toward the end of the 8th week (avoid shoulder hyperextension)
- •Progress strengthening of elbow, wrist and hand with slight resistance (2-4 lbs.)
- •Gentle glenohumeral and scapulothoracic joint mobilizations as indicated (Grade I and II)
- •Continue use of cryotherapy PRN
- •Patient may begin to use hand of operative extremity for feeding and light activities of daily living less than 2 pounds resistance

**WEEK 9 to WEEK 12:**

- •Continue with program as above
- •Continue light functional activities
- •Begin active supine forward flexion and elevation in the plane of the scapula with light weights (1-3 lbs.) at varying degrees of trunk elevation as appropriate (i.e. supine lawn chair progression with progression to sitting / standing)
- •Progress to gentle glenohumeral IR and ER isotonic strengthening exercises (remember the rotator cuff is absent or deficient so minimal IR or ER motor control may exist)
- •Progress peri-scapular and deltoid isotonic strengthening exercises (Continue to avoid shoulder hyperextension)
- •Progress elbow, wrist, and hand exercises with resistance
- •Continue gentle glenohumeral and scapulothoracic joint mobilization as above
- •Continue use of cryotherapy PRN

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Criteria for progression to next phase:

- Tolerates shoulder A/AA/PROM program
- AROM and gentle resistance (2-3 lbs.) program for elbow, wrist, and hand
- Patient demonstrates the ability to isotonically activate all components of the deltoid and periscapular musculature.

## Phase III – Moderate strengthening (Week 12+):

Goals:

- Maintain pain-free appropriate shoulder mechanics
- Enhance functional use of the operative extremity and advance functional activities
- Enhance muscular strength, power and endurance

Precautions:

- No lifting of objects heavier than six pounds (6 lbs.)
- No sudden lifting or pushing activities
- No sudden jerking motions
- Avoid exercises and functional activities that put stress on anterior capsule and surrounding structures

**WEEK 12 to WEEK 16**

- Continue PROM as needed to maintain ROM
- Progress AROM / strengthening exercises / activity
- Progress to gentle resisted flexion

## Phase IV – Advanced strengthening (weeks 12 to 6 months):

- Typically patient is on home exercise program at this stage to be performed 3-4 times per week
- Progress strengthening program
- Return to functional activities
- Return to recreational hobbies, gardening, etc. within restrictions / limits as identified by progress made during rehab and outlined by Dr. Simovitch and therapist
- Will provide golf progression

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Criteria for discharge from skilled therapy:

- •Patient able to maintain pain free shoulder AROM demonstrating proper shoulder mechanics (typically 80 to 120º of elevation with functional ER of about 30º)
- •Maximized functional use of the operative extremity. (Typically, able to complete light household and work activities)
- •Maximized muscular strength, power, and endurance

NOTES:_____
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