

# Reverse Total Shoulder Arthroplasty (rTSA) Protocol

Justin J. Gent, MD

P: 847-381-0388 ext 28010

F: 847-381-0811

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## The "Safe Zone" & Dislocation Precautions

- **The Danger Position:** Strictly avoid the combination of **Internal Rotation + Adduction + Extension** (e.g., reaching for a back pocket or tucking in a shirt) for the first 12 weeks.
- **Visual Cue:** While supine, the patient must always be able to see their elbow. Use a towel roll behind the humerus to prevent extension beyond neutral.

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## Phase I: Immediate Post-Operative Phase (Weeks 0–2)

**Goals:** Protect the prosthesis, minimize inflammation, and initiate passive mobility.

- **Sling Use:** Continuous wear (including sleep) for weeks 0–2.
- **Exercises:**
  - **Distal AROM:** Active wrist, hand, and elbow motion (no weights).
  - **Pendulums:** Gentle circular motion out of sling.

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## Phase II: Early Active Phase (Weeks 2–6)

**Goals:** Discontinue sling and initiate active shoulder recruitment.

- **Sling: Discontinue at Week 2.**
- **Motion Progression:**
  - **AROM:** Initiate Active Range of Motion in the scapular plane (elevation and external rotation).
  - **Focus:** Maintain proper scapulothoracic rhythm; avoid "shrugging" to initiate lift.
  - **Passive Goals:** By week 6, strive for 120 degrees of passive forward elevation.
- **Strengthening:**
  - **Scapular Focus:** Retractions and shoulder blade "setting."

- **Deltoid Activation:** Initiate submaximal, pain-free isometrics for the anterior and middle deltoid.
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## Phase III: Controlled Loading (Weeks 6–12)

**Goals:** Establish functional active elevation and deltoid endurance.

- **Motion Progression:**
    - **AAROM:** Wand exercises and pulleys (flexion and scaption).
    - **Active Mobility:** Progress from supine to seated/standing active elevation.
    - **Internal Rotation:** Begin gentle internal rotation stretching only to the waistline.
  - **Strengthening:**
    - **Deltoid Compensation:** Evidence suggests rTSA success relies on the deltoid taking over for the rotator cuff. Begin light resistance (bands) for all deltoid heads.
    - **Kinetic Chain:** Incorporate trunk and core stability to reduce the mechanical demand on the shoulder joint.
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## Phase IV: Advanced Strengthening (Weeks 12–16+)

**Goals:** Maximize functional capacity and transition to lifetime maintenance.

- **Resisted Loading:**
    - Progress to light dumbbells (max 5 to 6 pounds).
    - Functional tasks: Rehearsing reaching into cupboards or grooming using the deltoid.
  - **Lifetime Precautions:**
    - **No "Behind the Back" Stretching:** Avoid aggressive stretching into internal rotation even in late phases.
  - **Discharge Criteria:**
    - Pain-free AROM (typically 120 to 140 degrees of elevation).
    - Functional External Rotation of 30 degrees.
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## Clinical Pearls for the Therapist

1. **Deltoid-Dominant Mechanics:** Since the rotator cuff is absent or non-functional, the therapist must focus on the deltoid as the primary motor for all elevation tasks.

2. **Scapular Stability:** A weak scapula leads to "notching" of the prosthesis. Ensure the patient has excellent serratus anterior and lower trapezius control.
3. **Early Sling Discontinuation:** Because the sling is removed at week 2, the patient must be educated strictly on "The Danger Position" (extension and internal rotation) to prevent early instability.