



# Massive Rotator Cuff Repair

## Post-Operative Rehabilitation Protocol

### Sling

Must be worn *at all times* except when sleeping or performing PT/HEP exercises.

### Range of Motion

	PROM	PROM → AAROM	AAROM → AROM
Flexion	0-8 weeks Max: 90°	8-10 weeks Max: as tolerated	10+ weeks Max: as tolerated
Extension	0-8 weeks Max: as tolerated	8-10 weeks Max: as tolerated	10+ weeks Max: as tolerated
Abduction	0-8 weeks Max: as tolerated	8-10 weeks Max: as tolerated	10+ weeks Max: as tolerated
External Rotation	0-8 weeks Max: 30°	8-10 weeks Max: as tolerated	10+ weeks Max: as tolerated
Internal Rotation	0-8 weeks Max: as tolerated	8-10 weeks Max: as tolerated	10+ weeks Max: as tolerated

### Resisted/Isotonic Strengthening

Begin at 14-weeks post-op. Avoid overhead strengthening until 22+ weeks post-op.

### Return to Sport

No earlier than 6-8 months post-op. Must meet Return-to-Sport criteria outlined in protocol below.

\*\* As tolerated = pain level during exercise is no greater than 2/10 above baseline. Avoid "pushing into pain".

\*\* If subscapularis repair was performed, then ER to neutral for 4 weeks. Unrestricted PROM at 4-6 weeks.

## 0-8 weeks

- Shoulder abduction sling at all times x 6 weeks
  - Exception:* May remove sling for showering, but should maintain arm in sling position
- Active ROM Elbow, Wrist and Hand
- Grip strengthening
- True Passive (ONLY) ROM Shoulder to be initiated in PT at 2 weeks post-op. **NO ACTIVE MOTION.**
  - PROM in flexion to max of 90° in scapular plane.
  - PROM in ER to max of 30° in scapular plane. If subscapularis repair performed, then ER PROM to neutral for 4 weeks.
  - PROM in IR/Abduction/Extension to tolerance.
  - Gentle joint mobilizations (in 30° of abduction in scapular plane) for pain modulation until 4 weeks post-op. Progress as tolerated to address post-operative stiffness.
  - Supine Elevation in Scapular plane = 140°

## Shoulder Abduction Sling

Sling on at all times x 6 weeks. Take off only for exercises and hygiene.

## ROM Restrictions

PROM only beginning POD 1.  
**No AROM** until 6 weeks.



## 0-8 weeks

- Pendulums
- Thoracic mobility exercises.
- Unresisted scapular stabilization exercises (side-lying on uninvolved side with arm supported; seated; standing): retractions, circles, etc.
- No Pulley/Canes until 10 weeks post-op (these are active motions).
- **Criteria to progress to next phase:** Flexion PROM to at least 120°, ER PROM to at least 30° with minimal pain.

## 8-14 weeks

- Advance from PROM to AAROM weeks 8-10
  - Supine dowel exercises, incline table slides, side-lying supported flexion.
  - Deltoid isometrics in neutral (submaximal to tolerance)
  - Address thoracic mobility.
- Advance from AAROM to AROM weeks 10-14
  - Begin pulleys at week 10 (ensuring proper form)
  - ER/IR Isometrics in neutral (submaximal to tolerance)
  - Progress to resisted scapular strengthening exercises.
  - May begin horizontal adduction and functional IR (hand behind the back) at week 11. Do not push beyond light stretch sensation.
- Elevation in scapular plane and external rotation to tolerance.
- Light stretching at end ranges
- Cuff Isometrics with the arm at the side
- Upper Body Ergometer
- **Criteria to progress to next phase:** FULL flexion and ER PROM, Flexion AROM to at least 115° or more with proper glenohumeral rhythm, Ability to perform light, non-repetitive activities of daily living or work tasks below shoulder level without difficulty/pain.

## 14+ weeks

- Advance to full ROM as tolerated with passive stretching at end ranges. Maintain full PROM.
- Continue grade III and IV joint mobilizations (in maximally available ER and abduction) as indicated.



## 14+ weeks

- Advance strengthening as tolerated: isometrics, bands, and light weights (1-5lbs); 8-12 reps for 2-3 sets per rotator cuff, deltoid, and scapular stabilizers. No overhead strengthening until 22 weeks post-op.
- Only do strengthening 3x/week to avoid rotator cuff tendonitis.
- Begin eccentrically resisted motions, plyometrics (ex. weighted ball toss), proprioception (ex. body blade)
- Initiate weight-bearing exercises (incline shoulder taps/weight-shifting→quadruped→full)
- Limit long-lever (elbow extended) resistance > 2 lbs. with abduction-based exercises.
- Progress scapular strengthening.
- Begin sports related rehab at 4½ months, including advanced conditioning.
- **Criteria to progress to discharge PT:**
  - Full AROM as compared to uninvolved side.
  - Pain-free with activities of daily living.
  - >80% RTC strengthening as compared to uninvolved side using handheld dynamometer (may consider testing ER at varying degrees of abduction based on sport-specific goals).
- **Criteria to progress to sport-specific training or jobs requiring heavy manual labor:**
  - Criteria listed above.
  - ER/IR Ratio between 65-70%
  - ER/BW Ratio 15%
  - IR/BW Ratio 25%

## 22+ weeks

- Return to sport phase. Cannot fully return to sport until at least 6 months post-op.
- Progress with sport-specific strength and endurance exercises or interval training program (depends on sport involved).
- Proprioception training (alternating isometrics in sport-specific positions).
- Plyometric-based exercises (progress from two-hand to one-hand movements, work through frontal/sagittal/transverse planes).



## **6+ months**

- Return to throwing at 6 months post-op.
- Throw from pitcher's mound at 9 months post-op.
- Collision sports at 9 months post-op.
- MMI is usually at 12 months post-op.

## **Criteria to Return to Unrestricted Play**

- >90% sport-specific testing as compared to uninvolved side.
- <37 on Tampa Scale of Kinesiophobia.
- >90% strength as compared to uninvolved side.  
>100% if affected side is dominant arm.



Exercise	Week															
	1	2	3	4	5	6	7	8	9	10	12	16	20	24		
<b>Initial Exercises:</b>																
Active ROM: Elbow, Wrist, & Hand																
Pendulums																
Supine Elevation in Scapular Plane (140°)																
Scapular Stabilization																
Deltoid Isometric in Neutral																
Passive ROM																
Pulley/Cane Exercises																
Maintain Sling																
<b>Advanced Exercises:</b>																
Begin Assisted Active ROM																
Begin Active ROM																
Cuff Isometrics																
Light Stretching at End Ranges																
Upper Body Ergometer																
Eccentrically Resisted Motions/Plyometrics																
Sports-related Rehab																
<b>Cardiovascular Exercises:</b>																
Bike																
Elliptical Trainer																
Rowing																
Stair Stepper																
<b>Agility Exercises:</b>																
Running Progression																
Functional Sports Test																
<b>High Level Activities:</b>																
Golf Progression																
Return to Throwing																
Return to Throwing @ Pitcher's Mound at <b>9 months</b>																
Return to Full/Collision Sport at <b>9 months</b> post-op.																