Shoulder Arthroscopy - Large / Massive Rotator Cuff Repair Evidence-Based Rehabilitation Protocol

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More protective rehabilitation following arthroscopic repair of a large or massive rotator cuff tear. Tissue quality, retraction, fatty infiltration, repair tension, revision status and concomitant procedures may substantially alter the timeline.

Phase	Timing*	Goals / criteria	Rehabilitation focus / precautions
1. Protection / immobilization	0-6 weeks	Maximize tendon-to-bone healing; control pain; preserve distal mobility; avoid stress across repair.	**Sling:** full time, typically ~6 weeks. PROM only within surgeon-defined limits; gentle flexion/scaption and ER at side. No active shoulder elevation, active ER against gravity/resistance, lifting, pushing, pulling, or weight bearing through arm. Pendulums only if permitted and truly passive.
2. Begin assisted motion	6-8 weeks	Gradually restore motion without pain, shrugging or repair stress; maintain good scapular control.	Wean sling around 6 weeks as directed. Begin gentle AAROM; progress PROM cautiously. Pulleys/wand/table slides as tolerated. Avoid aggressive stretching, sudden movements and resisted cuff work.
3. Active motion	8-12 weeks	Establish pain-free AROM with minimal compensation; continue gradual ROM gains.	Progress AAROM -> AROM. Emphasize quality of motion, scapular mechanics and deltoid control. Light isometrics may begin if approved, but avoid significant cuff resistance.
4. Initiate strengthening	12-16 weeks	Functional ROM; controlled active elevation; minimal pain; no reactive symptoms.	Begin low-load cuff and scapular strengthening: gentle ER/IR, rows, serratus, scaption and closed-chain stabilization. Progress volume before load. Avoid high-force eccentric or overhead resistance early.
5. Progressive strength / endurance	4-6 months	Near-full ROM; steadily improving cuff strength/endurance; good scapulohumeral rhythm.	Progress resistance carefully, including overhead work only after basic cuff strength and control are established. Add functional and occupational loading gradually.
6. Advanced function / return	6-9+ months	Full functional ROM; durable strength gains; no pain with higher-level tasks; adequate endurance for sport/work.	Progress heavy labor, overhead sport, advanced plyometrics and throwing only after objective criteria are met. Massive repairs often require 6-9+ months before unrestricted high-demand activity.

*Timelines are guardrails. Progression should reflect tear size, tissue quality, repair tension, fixation, symptoms, ROM, strength, and functional demands. Surgeon-specific restrictions supersede this protocol.

Key Precautions

• **Sling:** typically 6 weeks; some repairs warrant longer protection based on tissue quality, fixation and repair tension.

• **No active shoulder elevation for roughly 6-8 weeks** unless specifically cleared.

• **ROM:** restore gradually and avoid aggressive stretching. Early stiffness is often preferable to stressing a tenuous repair.

• **Strengthening:** no meaningful resisted cuff strengthening until approximately 12 weeks; progress slowly thereafter.

• **High-risk repairs:** revision surgery, marked fatty infiltration, poor tissue quality, substantial retraction, high-tension repair, or subscapularis involvement may require even slower progression.

• **Inflammation control:** persistent night pain, increasing pain with progression, or next-day flare should prompt reduced load and reassessment.

Suggested Return-to-Activity / Sport Criteria

• Full or near-full functional ROM without pain or significant compensation.

• No pain with resisted cuff testing and no reactive symptoms after higher-load exercise.

• Objective ER/IR and elevation strength preferably ≥90% of the uninvolved side before unrestricted high-demand sport/work, while recognizing some massive tears may not regain full symmetry.

• Good scapular control and humeral-head mechanics during repeated elevation and overhead loading.

• Adequate cuff endurance and fatigue resistance, not strength alone.

• Successful progression through work/sport-specific loading without pain or loss of function.

• For throwing/overhead athletes, completion of a structured interval return program.

• Heavy labor, collision sport and repetitive overhead activity generally delayed until at least 6 months and often 6-9+ months.

References / Evidence Base

1. American Academy of Orthopaedic Surgeons. Management of Rotator Cuff Injuries Clinical Practice Guideline. 2025.

2. Thigpen CA, et al. The American Society of Shoulder and Elbow Therapists' consensus statement on rehabilitation following arthroscopic rotator cuff repair. J Shoulder Elbow Surg. 2016.

3. Mazuquin BF, et al. Effectiveness of early versus delayed rehabilitation following rotator cuff repair: systematic review and meta-analysis.

4. Littlewood C, et al. Rehabilitation following rotator cuff repair: current concepts and evidence synthesis.

Clinical note: This protocol is intended as a general surgeon/PT framework. Repair configuration, tissue quality, concomitant biceps/labral procedures, revision status, and patient-specific factors may require modification.

Return to Work

Work level	Typical timing*
Desk / sedentary work	1-2 weeks
Light duty / no lifting with operative arm	6-8 weeks
Moderate lifting	4-5 months
Heavy labor or repetitive overhead work	Typically 6-9+ months and criteria-based

*Timelines are approximate and assume uncomplicated healing. Return to lifting, repetitive use, or overhead work should be based on pain-free functional ROM, adequate rotator cuff/scapular strength and endurance, safe task-specific mechanics, and the physical demands of the patient's job. High-tension repairs, poor tissue quality, revision repairs, or substantial fatty infiltration may require a slower progression.