

Postoperative Rehabilitation for Rotator Cuff Repair

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Phase I- Passive Range of Motion: 0-6 weeks

Goals:

To protect the tendon repair while gently gaining motion and preventing formation of adhesions (scar tissue) which might limit motion.

Reduce inflammation and pain.

Prior to 6 weeks post op no active motion of the arm is permitted, as it may pull on the repair and disrupt the attachment of the tendon to the bone

Immobilization:

You need to keep your arm in your sling/immobilizer, and remove it only for bathing and your exercises.

You may loosen it so that your elbow can straighten (but keep palm up).

Immobilization of the shoulder joint is typically up to 4 weeks, followed by a gradual weaning from the sling in controlled environments from your 4th thru 6th weeks following surgery.

(Specific timeframes are adjusted based on size of tear, integrity of tissue and repair, and surgeon preference.)

Precautions:

No active range of motion (AROM) of your shoulder, even if you have minimal to no pain or other symptoms.

Avoid pushing yourself up from a lying or seated position with your arm.

Avoid aggressive and painful passive range of motion (PROM) or stretching that provokes muscle guarding / spasm.

First 3 weeks

1. Patient education: posture, joint protection, positioning, and hygiene
2. Pendulum hangs, no active movement of shoulder
3. Elbow, wrist, and hand active range of motion (AROM), no weights. Only PROM of elbow if concomitant biceps tenodesis/tenotomy performed.
4. Passive forward elevation (PFE) in the plane of scapula to 90 -100 degrees
5. Passive external rotation (PER) with elbow 'near' the side of the body to 30 degrees. May be adjusted base on location of the tear and intraoperatively determined 'safe zone' of ER.
6. Early PROM activities should include only those activities with low RC EMG activity. (i.e. no pulleys, cane ther ex, or self PROM at this time.)
7. Begin active and manual scapula strengthening exercises

Weeks 3 and 4

1. Progress Pendulum Hangs to Pendulum mobility, discomfort to be the guide
2. Progress scapula strengthening
3. Progress PFE and PER to tolerance
4. May begin joint mobilizations grade I & II for pain relief / relaxation as indicated for all shoulder girdle joints (GH, SC, AC, ST)
5. May allow aquatic therapy for active assisted range of motion (AAROM), if incisions well healed, no swimming strokes.

Additional Recommendations

- Activity modification/restriction
- Proper use of sling
- Scar management
- Modalities PRN
- MD prescribed or over the counter medications
 - We do not advise NSAIDS for at least 12 weeks post operatively, as it may diminish healing of the rotator cuff. (This is currently being investigated)

Phase II: 6-12 weeks

Goals:

P/AA/AROM as needed to normalize ROM.

Establish basic rotator cuff and scapula neuromuscular control within available ROM.

Introduction of light waist level functional activities

Precautions:

Continue education regarding avoiding heavy lifting or quick sudden movements.

Counsel about using the upper extremity for appropriate ADL's in pain free ROM; starting with waist level activities, progressing to shoulder level activities, then overhead activities.

Weeks 6-12

1. Continue previous exercises in Phase I as needed
2. Progress passive ROM PFE and PER
3. Progress joint mobilizations to grades III & IV to address capsular restrictions as indicated for all shoulder girdle joints (GH, SC, AC, ST)
4. Begin PROM in other planes (be careful to minimize direct passive tension on the repair)
 - Horizontal adduction
 - Functional Internal Rotation only PRN

- ER at multiple angles of abduction (45, 75, 90 degrees)
5. Progress to AAROM as tolerated (focus on proper mechanics).
- Forward elevation
 - If using pulleys then ensure adequate shoulder ROM and mechanics present (i.e. > 120 degrees of forward elevation)
 - Flexion
 - Abduction in the scapular plane
 - ER
 - Progress AAROM program to AROM with emphasis on good shoulder mechanic
 - Begin musculature activation exercises, which activate the shoulder girdle musculature without creating significant muscular force. (i.e. supported AROM activities, then unsupported AROM activities, then on to light resistance, including resistance to the scapula musculature)
 - Scapular/glenohumeral joint mobilization as indicated to regain full passive ROM • Initiate posterior capsule stretching cross body adduction stretching as indicated
 - Address scapulothoracic and trunk mobility limitations. Ensure normal cervical spine ROM and thoracic spine extension to facilitate full upper extremity ROM.
 - When appropriate (i.e. good AROM mechanics and pain free) initiate base strengthening program for deltoid, non-repaired segments of rotator cuff, and scapula musculature
 - Light resistive band exercises in pain free range of motion
 - Scapula strengthening program
 - Begin low level closed chain program

Phase III- Strengthening: 12+ weeks

Goals

This is the initial strengthening phase of rehabilitation.

You should have full range of motion by this point with good shoulder stability

During this phase you will gradually restore shoulder strength, power, and endurance

You will return to normal functional activities of dialing living, full work and modified recreational activities during this phase.

Counsel in importance of gradually increasing stress to the shoulder while returning to normal ADL's, work, and recreational activities including lifting, repetitive and overhead activities.

Weeks 12+

1. Neuromuscular Re-education:

- Dynamic stabilization exercises
- Light PNF for cuff /deltoid/scapula (rhythmic stabilization or slow reversal hold)

- Open chain kinesthetic awareness drills (ROM replication, etc..)
 - Closed chain activity progression
2. Strength/ Endurance/ Power:
- Initiate balanced rotator cuff strengthening program
 - Initially performed in a position of comfort with low stress to the surgical repair in the plane of the scapula (band or light weights)
 - Exercises should be progressive in terms of muscle demand / intensity
 - Exercises should also be progressive in terms of shoulder elevation
 - Nearly full elevation in the scapula plane should be achieved before elevation in other planes
 - Rehabilitation activities should be pain free and performed without substitutions or altered movement patterns
 - Program should focus on high repetitions (30-50 reps) and relatively low resistance (1-3 lbs.)
 - Progressive resisted exercises are needed to match/equal functional demands
 - Progress to advanced strengthening program (ASP) PRN
 - Not all patients need to progress to an ASP
 - Criteria to begin advanced strengthening
 - MMT at least 4/5
 - Painfree with basic ADLs and initial strengthening program
 - Full AROM elevation
 - Goal of returning to sports, heavy labor, or repetitive overhead activity
 - Use the following principles to develop exercises to gradually progress patient from current level of functioning to desired goals
 - Decrease amount of external stabilization provided to shoulder girdle
 - Integrate functional patterns
 - Increase speed of movements
 - Integrate kinesthetic awareness drills into strengthening activities
 - Decrease in rest time to improve endurance
 - Sample Exercises
 - T-band standing PNF patterns
 - T-band 90/90 ER/ IR w/ or w/out arm support
 - T-band batting, golf, or tennis forehand / backhand simulation
 - Repetitions and increase weight over the course of 6-8 weeks
3. Pain Management:
- Modalities as needed
 - Ensure appropriate use of upper extremity during ADL's
 - Ensure appropriate level of therapeutic exercises

Phase IV- Return to Sport: 16-24 weeks

Goals

During this phase you need to continue with your ROM and stretching program to maintain your motion.

You will be working on conditioning exercises for enhanced functional use of your arm.

Your rehabilitation activities will prepare you to return to higher level functional activities (i.e. sports and/or occupation).

Your therapist will help you design a program that you will continue with on your own following formal therapy.

Week 16-24

Things to Avoid:

1. No lifting of objects heavier than 10 lbs.
2. No sudden lifting or pushing activities
3. No progression into activities that are painful and/or you do not have adequate ROM and strength to do

Rehabilitation activities you will be doing during this final phase of rehab:

1. Daily home stretching program
2. 3 day per week home strengthening program
3. Progressive strengthening and endurance exercises. Continue progression of shoulder strengthening, transition to general upper extremity strengthening program. Progressive return to weight lifting program emphasizing larger, primary upper extremity muscles
4. Activity specific progression; sport, work, hobbies

Criteria for discharge from skilled therapy:

1. Clearance from surgeon and therapist
2. Minimal to no complaints of pain
3. Restoration of sufficient ROM for task completion
4. Adequate shoulder girdle endurance for desired activity
5. Regular completion of an independent strengthening program at least 3 days per week.