

SHOULDER RECONSTRUCTION ROTATOR CUFF REPAIR

Physical Therapy Protocol

INTRODUCTION

The rehabilitation program is presented in four phases. The first phase is divided into two time-dependent sections to account for the different phases in the healing process. The following phases are based upon reduction of symptoms and objective progress. Overlapping the pass is permitted (Phase I - II, Phase II - III), depending upon the progress of the patient and goals being met. During Phase I, caution must be used to not over stress the rotator cuff repair. During Phase II, the emphasis is upon strengthening, providing that nearly full active ROM has been achieved. The focus in Phase III is progressive isotonic and isokinetic exercises in preparation Phase IV, which begins skill Mastery drills for the return to the athlete's prior activity level.

PHASE I: PROTECTION

WEEKS 0-3

GOALS

- No active shoulder forward flexion and abduction is allowed during the first month to protect the rotator cuff repair and allow for sufficient healing
- Patient is immobilized using an abduction pillow during the initial 4-6 weeks
- Decrease pain and swelling (heat pack, cryotherapy, electrotherapy)

ROM EXERCISES

- Home exercises: abduction pillow may be removed for gentle passive range of motion (ROM) exercises (flexion, abduction, external rotation, and internal rotation).
- Active ROM for shoulder internal/external rotation with arms in abduction pillow and elbows extended.
- Joint mobilization (grade I and II) of the glenohumeral joint for relief of pain.
- Shoulder shrug exercise.
- Hand squeezes (i.e., ball, putty)
- Codman exercises to increase glenohumeral joint range of motion.

WEEKS 3-5

GOALS

- Patient may be placed in a sling
- Continue the use of modalities as needed to decrease pain and swelling

ROM EXERCISES

- Continue passive ROM exercises. Active-assistive to increase flexion, abduction, and external range of motion (e.g., wall climbs, wand exercises) may be added.
- Joint mobilization techniques (grade 1 and 2) as needed to decrease pain and improve ROM.
- Active shoulder extension lying prone or standing (forward flexed at the waist).
 - Avoid the shoulder extended position by preventing arm movement above the plane of the body.
- Active assisted horizontal adduction (supine) as tolerated.

PHASE II: INTERMEDIATE PHASE

WEEKS 6-8

STRENGTHENING EXERCISES

- Continue passive and active-assistive ROM exercises as needed. Add glenohumeral joint capsule stretches as necessary to improve ROM.
- Begin active shoulder ROM exercises as needed: Active Internal and external rotation exercises with the arm positioned at the side of the body and the elbow flexed 90 degrees.
- Add strengthening exercises to the elbow and wrist joint, while protecting the surgically repaired rotator cuff.
- Isometric exercises - pain free internal rotation, flexion, and extension exercises performed with the arm at the side of the body.
- Submaximal isometric shoulder exercises in all planes
- Light resistive arm ergometer exercises for ROM and light resistive strengthening

WEEKS 8-12

STRENGTHENING EXERCISES

- Tubing and TheraBand exercises. As strength improves, progress to free weights.
- External rotation: external rotation is performed inside lying with the arm at side and the elbow flexed to 90°. Perform movement through available pain-free range.
- Shoulder abduction from 0°-90° with palm facing downward position.
- Add supraspinatus strengthening exercise if adequate and pain free ROM is available.
- Shoulder flexion through available pain free range of motion.
- Horizontal abduction (prone lying or bend at the waist position) to the plane of the body
Standing tubing rowing

PHASE III: DYNAMIC STRENGTHENING PHASE - WEEKS 12-18

STRENGTHENING EXERCISES

- Progress with isotonic exercises emphasizing the rotator cuff musculature and scapular stabilizers
- Add military press exercise. This exercise should be performed with the arm anterior to the chest and not done behind the back to avoid positions of ill external rotation and increased force loads on the rotator cuff.
- Add push-up. Movement should be pain free and the and the protraction phase should be emphasized. Begin with wall push-ups

PROGRESSION

- Wall push-ups
- Modified floor push-up: hands and knees
- Military: hands and feet
- Isokinetic exercises. Isokinetic strength and endurance training (high speeds- 12- - 240 plus degrees/sec) for shoulder internal/external rotation (arm at side and elbow flexed 90 degrees in the plane of the scapula). Prerequisite strength requirements of the rotator cuff are 5-10 pounds for external rotation and 10-15 pounds for internal rotation.
- The shoulder should be pain free and not have a significant amount of swelling
- Arm ergometer exercise for endurance training
- Add total body conditioning program - strength and endurance in preparation for return to full activity. Include flexibility exercises to there body areas as needed

PHASE IV: RETURN TO ACTIVITY - WEEKS 21-28

GOALS

- Progressively increase activities to prepare patient for unrestricted functional return
- Perform isokinetic strength and endurance test (as tolerated). Suggested movement patterns for testing are shoulder internal/external rotation (arm in plane of scapula). For upper extremity athletes, isokinetic test results for the solder should demonstrate at least 110% strength and endurance, as compared to the uninvolved side, prior to progressing to sport or activity specific exercises.
- Continue upper body strengthening program with emphasis on strengthening the involved side.
- Continue total body conditioning program.
- Skill mastery. Begin practicing skills specific to the activity (work, recreational activity, sport, etc.) For example, throwing athletes (e.g., pitchers) may proceed to throwing program.

EXERCISES

- Continue tubing/dumbbell exercises outline in phase III
- Continue ROM exercises
- Initiate interval programs between 24-26 weeks (if patient is a recreational athlete)

ADDENDUM

This protocol provides general rehabilitation guidelines following orator cuff repair. It is subject to modification depending on the degree of shoulder instability/laxity, the number of rotator cuff muscles involved, the size of the tear, the amount of tendon retraction and the mot hod of repair. In addition, factor such as the time of injury (acute versus chronic condition), the length of immobilization time, the status of shoulder range of motion and strength and ultimately the demands of patient activity influence the course of postoperative rehabilitation. For any further questions, please call our office at (561) 465-8884.