

# Comprehensive Orthopaedics, S. C.

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## ROTATOR CUFF REPAIR PROTOCOL

### MINI-ARTHROTOMY PROTOCOL

This rehabilitation protocol is for rotator cuff tears performed through a mini-arthrotomy protocol. This surgery includes a small deltoid splitting incision which permits repair of the rotator cuff defect while minimizing trauma to the shoulder joint.

The goal of this rehabilitation program is to return the patient/athlete to their activity/sport as quickly and safely as possible. The patient/athlete must achieve certain criteria to progress through the program. The ultimate goal is restore full pain free range of motion and a return to normal activities.

Total length of the rehabilitation program will vary depending on factors such as:

1. Acute or chronic condition.
2. Severity of tear.
3. Strength and range of motion status prior to surgery.
4. Age and general health of the patient.
5. The performance and activity demands that the patient will return to.

### PHASE I - IMMEDIATE POST-OP TIME PERIOD (POD 1 through discharge from the hospital)

1. Patient Immobilization - (Abduction Shoulder Brace)  
Sling with arm placed at side of body or 45-60 degrees of abduction. Performed with neutral rotation. (Position may vary with severity of tear.)
2. Range of motion
  - Passive Range of Motion
  - Rope and Pulley
  - T-Bar Exercises
  - Pendulum Exercises

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Shoulder elevation, sagittal and scapular planes emphasized. Progress coronal elevation carefully. ER/IR (Begin at 20 degrees abduction).

- Gentle joint mobilization (Grades I, II)
- Elbow, Wrist, Hand Range of Motion
- Cervical Range of Motion exercises to prevent neck stiffness.
- Isometrics as tolerated
- Hand putty

#### Decrease Pain/Inflammation

- Ice 15-20 minutes per hour
- NSAID
- Other modalities as needed

### PHASE II – EARLY MOTION PHASE

(POD 1 to Week 6)

Time Period: Hospital discharge to 3 weeks post-surgery

- Goals:
1. Increase Range of Motion
  2. Decrease Pain/Inflammation
  3. Minimize Muscular Atrophy

#### Range of Motion

- ~~Passive Range of Motion (Progress to AAROM)~~
- ~~Rope and Pulley~~
  - Flexion/Extension to 90 degrees
  - Abduction to 90 degrees
- ~~T-Bar~~
  - Flexion/Extension
  - ER to tolerance with arm abducted to 30 degrees
- ~~Pendulum Exercises~~
- ~~Joint Mobilization (Grades I, II)~~
  - Scapulothoracic, Sternoclavicular, and Acromioclavicular joints
- Continue Elbow, Wrist, Hand Range of Motion

#### Strengthening

- Isometrics (Submax) – Augment with E-Stim Abduction, ER, IR, Flex
- Hand Putty
- Shoulder Shrugs

#### Decrease Pain/Inflammation

- Ice
- Other modalities as needed

### Week Three:

- Goals:
1. Increase Range of Motion
  2. Promote Healing
  3. Regain and Improve Muscle Strength

#### Range of Motion

- Range of Motion exercises continued (Progress ER/IR range of motion from 40 degrees abduction to 90 degrees abduction)
- Continue Joint Mobilization

#### Strengthening

- Isometrics (submax to maximal)
- Linear Manual Techniques for scapular muscles
- Continue shoulder shrugs
- Initiate elbow flexion/extension isotonic
- Initiate surgical tubing for ER/IR at 30 degrees abduction

#### Promotion of Healing

- Modalities as indicated
- Ice post treatment session

### PHASE III - INTERMEDIATE PHASE (Week 6 to 10)

- Goals:
1. Normalize Range of Motion
  2. Normalization of Arthrokinematics
  3. Increase Strength/Endurance

#### Criteria to Progress to Next Phase

1. Normal Range of Motion
2. Minimal Pain/Tenderness
3. 4/5 Muscle Strength Flexion, ER, IR

### Week Six:

#### Range of Motion

- Continue Shoulder Range of Motion exercises and T-Bar

#### Strength

- ER, IR with tubing

- ~~Dumbbell Isotonic Exercises – Shoulder Flexion, Abduction, Extension, ER, IR~~
- ~~Initiate UBE~~
- ~~Diagonal PNF patterns manually.~~
- ~~Continue Joint Mobilization (Advance Grades)~~

Decrease Pain/Inflammation

- Modalities as needed

Week Eight:

Range of Motion

- ~~Continue Range of Motion Exercises~~

Strength

- ~~Continue Isotonics/tubing exercises for rotator cuff/deltoid muscles~~
- ~~Initiate empty calcification exercises~~
- ~~Begin dumbbell program for scapular muscles~~
- ~~Initiate wall push-ups for serratus anterior~~
- ~~Continue PNF Patterns~~
- ~~Continue upper extremity endurance exercises~~
- ~~Continue neuromuscular control exercises~~

Decrease Pain/Inflammation

- Modalities as needed
- Ice post treatment session as needed

Week Ten:

Advance all exercises to tolerance

**PHASE IV – ADVANCED STRENGTHENING PHASE**

(Month 4 to 6)

Dynamic Strengthening Phase

- Goals:
1. Normalization of muscle strength/power/endurance
  2. Improve neuromuscular control
  3. Prepare patient/athlete to return to pre-injury activity level

Criteria to Progress to Phase IV

1. Full, pain free, range of motion
2. No pain or tenderness

### 3. Strength 70-80% versus contralateral side

#### Range of Motion

- Continue range of motion exercises as needed to maintain full range of motion
- Self scapular stretches
- T-Bar (flex, ER at 90 degrees, IR at 90 degrees)

#### Strengthening

- Initiate tubing exercises:
  - Diagonal patterns
  - Biceps
  - ER/IR
  - Scapulothoracic
- Initiate isokinetic exercises and/or test
- Continue Isotonics
  - Deltoid
  - Supraspinatus
  - Triceps
- Continue PNF diagonals manually or with tubing

#### Month Five:

#### Strength

- Continue Isokinetic Exercises
  - Continue dumbbell program with emphasis on eccentrics and supraspinatus/deltoid muscles
- Initiate plyometrics for rotator cuff (slow/fast sets, ER/IR, 90/90)
- Continue PNF diagonals with tubing or Isokinetics
- Medicine Ball exercises (Progress from below shoulder level to overhead)
- Isokinetic testing (Shoulder strength should be 80% before sports specific activities started)

#### Neuromuscular Control

- Continue exercises under 4 months
- Throwing Program started when:
  1. Full, pain free range of motion
  2. Isokinetic exam that fulfills criteria to throw.
  3. Pass clinical exam
  4. No pain/tenderness
- Initiate Interval Program
- Upper extremity strengthening and stretching continued on a maintenance basis