

## **Arthroscopic Anterior Stabilization Rehab**

### ***Phase I (0-3weeks)***

Sling immobilization-MD directed  
Codmans/Pendulum exercises  
Wrist/Elbow ROM  
Gripping exercises  
FF-AAROM (supine)-limit to 90°  
ER to 0°  
Sub maximal, pain-free deltoid isometrics in neutral  
Modalities as needed  
Scapular retraction - Sitting

### ***Phase II (3-6 weeks)***

D/C sling- MD directed  
Continue FF-AAROM (wand/pulleys)  
ER-AAROM to 30°  
Manual scapular stabilization exercises-side lying  
Begin pain-free IR/ER isometrics in modified neutral  
Modalities as needed

### ***Phase III (6-8 weeks)***

8 weeks Begin Biceps/Triceps strengthening  
Progress scapular strengthening in protective arcs/emphasis on closed chain activities  
Begin isotonic IR/ER strengthening in modified neutral  
Begin latissimus strengthening-below 90° elevation  
Begin FF in plane of scapula/add weights as tolerated (emphasis on scapulohumeral rhythm)  
Continue to increase AAROM for ER and FF  
Begin upper body ergo meter below 90° elevation  
Begin humeral head stabilization exercises (if adequate strength and ROM)

## **Arthroscopic Anterior Stabilization Rehab**

### ***Phase IV (8-10 weeks)***

- Continue aggressive scapular strengthening
- Advance strengthening for deltoid, biceps, triceps and latissimus as tolerated
- Begin PNF patterns
- Continue humeral head stabilization exercises
- Advance IR/ER to elevated position if overhead athlete (must be pain-free and have good proximal strength)
- Continue UBE for endurance training
- Begin general flexibility exercises

### ***Phase V (10-14 weeks)***

- Continue full upper extremity strengthening (stress eccentrics)
- Restore normal shoulder flexibility
- Begin activity specific plyometric program (if pain-free with adequate strength base)
- Continue endurance training

### ***Phase VI (14-24 weeks)***

- Continue flexibility exercises
- Continue full strengthening program (incorporate training principles)
- Begin sport specific interval program-MD directed

## Progressive shoulder throwing program

**Guidelines:** The progressive Shoulder Throwing Program covers a period of two and one-half to three months. For lesser involved shoulder injuries, the throwing program could be accelerated as recommended by the physician, physical therapist or athletic trainer.

During warm-up, it is important to use heat prior to stretching (e.g., hot pack, whirlpool, hot shower, etc.). Heat increases circulation and activates some of the natural lubricants of the body. Perform stretching exercises after applying the heat modality and then proceed with the throwing program. Use ice after throwing to reduce cellular damage and decrease the inflammatory response to micro trauma.

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- STEP 1: Toss the ball (no wind up) on alternate days, not more than 20 feet. Tossing should be limited to 2-3 times per week, 10-15 minutes per session, for a one week period.
- STEP 2: Increase the tossing distance to 30-40 feet. Continue 2-3 times per week, 10-15 minutes per session, for one week.
- STEP 3: Lob the ball (playing catch with an easy wind-up) not more than 30 feet. Continue 2-3 times per week, 10-15 minutes per session, for one week.
- STEP 4: Increase the distance to 40-50 feet while still lobbing the ball (easy wind-up). Schedule the throwing program and strengthening program on alternate days. Increase the throwing time to 15-20 minutes per session, 2-3 times per week, for one week.
- STEP 5: Increase the distance to 60 feet while still lobbing the ball with an occasional straight throw at not more than one-half (1/2) speed. Increase the throwing time to 20-25 minutes per session, 2-3 times per week, for one week.
- STEP 6: Perform long, easy throws from the mid-outfield (150-200 feet), getting the ball barely back to home plate on 5-6 bounces. This is to be performed for 20-25 minutes per session on two consecutive days. Then rest the arm for one day.

Repeat this sequence 3 times over a 9 day period. Progress to the next step if able to complete the throwing sequence without pain or discomfort, i.e.,

THROW two days  
REST one day  
THROW two days  
REST one day  
THROW two days  
REST one day

If problems arise, contact your therapist, athletic trainer or physician.

STEP 7: Perform long, easy throws from the deepest portion of the outfield, with the ball barely getting back to home plate on numerous bounces. This is to be performed for 25-30 minutes per session on two consecutive days. Then rest the arm for one day. Repeat the same routine over a 9 day period and progress to the next step if there is no pain or discomfort.

STEP 8: Execute stronger throws from the mid-outfield, getting the ball back to home plate on 1-2 bounces. This should be performed approximately 30 -35 minutes per session on two consecutive days. Rest the arm for one day. Repeat the same routine 3 times over a 9 day period. If there is no pain or discomfort, progress to the next step.

STEP 9: Perform short, crisp throws with a relatively straight trajectory from the short outfield on one bounce back to home plate. These throws should not be performed more than 30 minutes on two consecutive days. Rest one day. Repeat this sequence over a 9 day period.

Continue with your body conditioning program (i.e., strength, flexibility, and endurance). Days in which strengthening and throwing programs occur on the same day, schedule the throwing program in the morning and the strengthening program in the afternoon.

If you are able to throw without pain or discomfort, proceed to the next step.

STEP 10: Return to throwing from your normal position (e.g., from the mound if you are a pitcher). The throw should be at one-half to three-fourths speed, with emphasis on technique and accuracy. Throw for two consecutive days then rest the arm for one day. A throwing session should not be more than 25 minutes. Repeat this step over the next 9 days, then advance to the next step if there is no pain or discomfort.

STEP 11: Throw from your normal position at three-fourths to full speed. This should be done following the same 9 day sequence, throwing for two consecutive days and resting for one day. Throwing sessions should not be more than 30 minutes.

STEP 12: Simulate a game day situation. Warm-up with the appropriate number of pitches and throw for your average number of innings. Take the usual rest breaks between innings. Repeat this simulation two to four times with a three to four day rest period in between. Return to the normal pitching regimen or routine based on input from the team doctor, physical therapist, athletic trainer, coach, and most important of all, the athlete.

## Rotator Cuff Repair Rehabilitation Protocol (Post Arthroscopic Repair)

**Note to Therapists:** *Please ask patients to bring arthroscopic photos with them for your review and contact our office regarding Operative reports or any questions. This protocol may be adjusted for patients on an individual basis.*

### Phase I: Immediate post surgical phase (day 1-10)

Goals: Maintain integrity of the repair  
Gradually increase **Passive ROM**  
Diminish pain and inflammation  
Prevent muscular inhibition

#### Day 1-6

- Sling/Abduction brace
- **Passive Supine** ROM (No Pendulums)
  - Flexion to tolerance 0-140<sup>0</sup>
  - ER 0-40<sup>0</sup> with wand 5 times a day 20 repetitions
- Active Elbow/Wrist/Hand (E/W/H) gripping and ROM exercises
- Scapular depression and Retraction (Sitting)
- Neck/Upper quarter stretching
- Cryotherapy for pain and inflammation (ice 15-20 minutes every hour)
- Sleeping (in sling or brace)

#### Day 7 - 10

- Continue use of sling
- Progress passive ROM to tolerance
  - Flexion to at least 140<sup>0</sup> supine
  - ER in scapular plane to 35-45 deg.
  - IR in scapular plane to 35-45 deg.
- Continue Active E/W/H ROM exercises
- Neuromuscular Re-education (to prevent Shldr/Scap hiking) use mirror
- Continue Submaximal isometrics
  - Flexion with bent elbow
  - Extension with bent elbow
  - Abduction with bent elbow
  - ER/IR with arm in scapular plane
- Continue use of ice for pain control (at least 6-7 times daily)
- Sleeping (in brace)

#### Precautions:

1. No lifting of objects
2. No excessive shoulder extension
3. No excessive stretching of sudden movements
4. No supporting of body weight by hands \*\*w/transfer in/out of chair/bed
5. Keep incision clean and dry

## **Rotator Cuff Repair Rehabilitation Protocol (Post Arthroscopic Repair)**

### **Phase II:** *Protection phase (day 11- week 6)*

- Goals:
- Allow healing of soft tissue
  - Do not overstress healing tissue
  - Gradually restore full passive ROM (week 4-5)
  - Reestablish dynamic shoulder stability
  - Decrease pain and inflammation

#### Day 11 - 14

- Continue use of sling
- Passive ROM to tolerance supine
  - Flexion 0 - 170 deg.
  - ER at least 45 deg. to normal for opposite side.
  - IR in 45 deg. abduction to 45 deg.
- Dynamic stabilization drills; i.e., rhythmic Humeral head stabilization drills
  - ER/IR in scapular plane
  - Flexion/extension at 90 deg. flexion
- Continue all isometric contractions
- Overhead pulleys (**Passive motion only**)
- Continue use of cryotherapy as needed
- Continue all precautions

#### Week 3 - 4

- Patient should exhibit full passive ROM
- Continue scapular stabilization Ex and initiate scap. strengthening
  - resistive retraction, rows (caution: Not if pt. had biceps tenodesis)
- Initiate Active ER supine in scapular plane using wand to stretch at terminal range
- Initiate isotonic elbow flexion
- Self capsular stretches
- Continue use of ice as needed
- May use heat prior to ROM exercises
- May use pool for light ROM exercises (passive only no resistive Ex)
- Continue sling

#### Week 5 - 6

- Discontinue use of sling and may use heat prior to exercise
- AAROM and stretching exercises
- AA Flex with Active Ext to neutral and AA Abduction with Active Adduction
- Initiate AROM exercises
  - Shoulder flexion scapular plane
  - shoulder abduction
- Active exercise program
  - ER side-lying
  - Side-lying IR
  - Prone Rowing
  - Prone horizontal abduction
  - Biceps curls
  - Start UBE (upper body ergometer) below 90 deg. elevation

#### Precautions:

1. No heavy lifting of objects
2. No excessive behind-the-back movements
3. No supporting of body weight by hands and arms
4. No sudden jerking motions

## **Rotator Cuff Repair Rehabilitation Protocol (Post Arthroscopic Repair)**

### **Phase III:** *Intermediate phase (week 7-14)*

Goals: Full active ROM (week 8 - 10)  
Dynamic shoulder stability  
Gradual restoration of shoulder strength and power  
Gradual return of functional activities

#### Week 7

- Continue stretching and PROM (as needed to maintain full ROM)
- Continue dynamic stabilization drills
- Initiate isotonic strengthening program pain-free
  - ER/IR supine
  - Prone rowing
  - Prone horizontal abduction
  - Prone extension
  - Elbow flexion
  - Elbow extension

\* Patient must be able to elevate arm without shoulder or scapular hiking before initiating isotonics; if unable, continue humeral head/scapular stabilization Ex.

#### Week 8 - 13

- Continue all exercise listed above
- ER side-lying
- Lateral raises\*
- Full can in scapular plane\*
- If physician permits, may initiate light functional activities

#### Week 14

- Continue all exercise listed above
- Progress to fundamental shoulder exercises

### **Phase IV:** *Advanced strengthening phase (week 15-22)*

Goals: Maintain full non-painful ROM  
Enhance functional use of UE  
Improve muscular strength and power  
Gradual return to functional activities

#### Week 15

- Continue ROM and stretching to maintain full ROM
- Continue shoulder strengthening to fundamental shoulder exercises
- Initiate interval golf program (if appropriate)
- May initiate shoulder plyometrics

#### Week 20

- Continue all exercises listed above
- Progress golf program to playing golf (if appropriate)
- Initiate interval tennis program (if appropriate)
- May initiate swimming