

# Rotator Cuff Repair with Bioinductive Implant Rehabilitation Protocol

## Phase I: Immediate Post-operative (Day 1 to Week 2)

### Goals

- Gradually increase passive range of motion
- Diminish pain and inflammation
- Prevent muscular inhibition

### Brace

- Sling for comfort as needed (wean by two weeks)

### Exercises

- Pendulum exercises four to eight times daily (flexion, circles)
- Active assisted range of motion exercise
  - Wand external rotation/internal rotation in scapular plane
  - Pulleys for flexion and scaption
- Passive range of motion
  - Flexion/Abduction to tolerance
  - External rotation/internal rotation in scapular plane
- Elbow/hand gripping and range of motion exercises
- Submaximal and pain-free isometrics
  - Flexion
  - Abduction
  - External rotation
  - Internal rotation
  - Extension
- Cryotherapy with elevation for pain and inflammation every hour for 20 minutes

### Functional Activities

- No lifting of objects more than a pound
- No excessive stretching or sudden movements
- Keep incision clean and dry

### ROM

- Progress passive range of motion to tolerance with expectations by week two:
  - Flexion to at least 115°
  - External rotation in scapular plane to 45° to 55°
  - Internal rotation in scapular plane to 45° to 55°
- May initiate external rotation/internal rotation tubing at 0° abduction, if patient exhibits necessary active range of motion

## Phase II: Protection (Week 2 to Week 5)

### Goals

- Allow healing of soft tissue
- Do **not** overstress healing tissue
- Gradually restore full passive range of motion (weeks two to three)
- Re-establish dynamic shoulder stability
- Decrease pain and inflammation

### Exercises

- May initiate external rotation/internal rotation tubing at 0° abduction, if patient exhibits necessary active range of motion
- Passive range of motion to tolerance
  - Flexion: 0° to 145° to 160°
  - External rotation: 90° abduction to at least 75° to 80°
  - Internal rotation: 90° abduction to at least 55° to 60°
- Active assisted range of motion to tolerance
  - Flexion
  - External rotation/internal rotation in scapular plane
  - External rotation/internal rotation at 90° abduction
  - Initiate internal rotation behind back (week three)
- Dynamic stabilization drills
  - Rhythmic stabilization drills
  - External rotation/internal rotation in scapular plane
  - Flexion/extension at 100° flexion
- Continue isotonic external rotation/internal rotation with tubing
- Initiate active exercise prone rowing and elbow flexion
- Initiate active exercise flexion and abduction at day 15
- Initiate scapular muscular strengthening program
- Initiate sidelying external rotation strengthening (light dumbbell)
- Initiate isotonic elbow flexion
- May use pool for light range of motion exercises
- Continue cryotherapy for pain management

## Weeks 3 to 4

### ROM

- Patient should exhibit full passive range of motion, nearing full active range of motion

## Week 5

### Functional Activities

- No heavy lifting of objects over five pounds
- No supporting of body weight by hands and arms
- No sudden jerking motions

### Exercises

- Begin sleeper stretch
- Patient should exhibit full active range of motion
- Continue active assistive range of motion and stretching exercises
- Progress isotonic strengthening exercise program
  - External rotation tubing
  - Sidelying external rotation
  - Prone rowing

- Prone horizontal abduction
- Shoulder flexion (scapular plane)
- Shoulder abduction
- Biceps curls

## Phase III: Intermediate (Weeks 6 to 12)

### Goals

- Gradual restoration of shoulder strength and power
- Gradual return to functional activities

### Week 6

#### Functional Activities

- If Dr. Kendall permits, may initiate **light** functional activities

#### Exercises

- Continue stretching and passive range of motion (as needed to maintain full range of motion)
- Continue dynamic stabilization drills
- Progress isotonic strengthening program
  - External rotation/internal rotation tubing
  - External rotation sidelying
  - Lateral raises
  - Full can in scapular plane
  - Prone rowing
  - Prone horizontal abduction
  - Prone extension
  - Elbow flexion
  - Elbow extension

### Weeks 8 to 10

#### Exercises

- Continue all exercise listed above
- Progress isotonic strengthening program
  - Empty can raises
  - Overhead shoulder press (begin without weight)
- Progress to independent home exercise program (fundamental shoulder exercises)
- Initiate interval golf program (slow rate of progression)

## Phase IV: Advanced Strengthening (Weeks 12 to Month 5)

### Goals

- Maintain full non-painful active range of motion
- Enhance functional use of upper extremity
- Improve muscular strength and power
- Gradual return to functional activities

### Week 12

#### Exercises

- Continue range of motion and stretching to maintain full range of motion
- Self-capsular stretches
- Progress shoulder strengthening exercises

- Fundamental shoulder exercises
- Initiate swimming or tennis program (if appropriate)

## **Week 15**

### **Exercises**

- Continue all exercises listed above
- Progress golf program to playing golf (if appropriate)

## **Phase V: Return to Activity (Months 5 to 8)**

### **Goals**

- Gradual return to strenuous work activities
- Gradual return to recreational sport activities

## **Month 5**

### **Exercises**

- Continue fundamental shoulder exercise program (at least four times weekly)
- Continue stretching, if motion is tight
- Continue progression to sport participation