

## **Orthopaedic Sports Specialists, P.C.**

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# **Open Pectoralis Major Repair**

## **Post Operative Rehabilitation Protocol:**

### **Precautions:**

Excessive passive ER  
Forceful IR or adduction  
Forceful pushing motions  
Rate of progress based on tissue quality

### **Phase I - Immediate Postoperative Phase**

#### Goals:

Protect the surgical procedure  
Minimize the effects of immobilization  
Diminish pain and inflammation  
Establish baseline proprioception and dynamic stabilization

#### Weeks 0-2

Sling for comfort (4 weeks)  
May wear immobilizer for sleep (4 weeks) \*\*physicians decision  
Elbow/hand ROM  
Gripping exercises  
Passive ROM and active assistive ROM (L-bar)

- Flexion to tolerance 0-90 degrees (week 1)
- Flexion to tolerance 0-100 degrees (week 2)
- ER at 30 degrees abduction scapular plane to 0 degrees (week 1)
- ER at 30 degrees abduction to 10-15 degrees (week 2)
- Isometrics (sub-maximal, sub-painful) ER, Abduction, Flexion, Extension

## Weeks 3-4

Gradually progress ROM

- Flexion to 115 degrees
- ER at 45 degrees abduction scapular plane to 0 degrees
- IR at 45 degrees abduction in scapular plane to 45-60 degrees

Initiate light isotonic for shoulder musculature (No IR strengthening)

Initiate scapular isotonic

- Tubing for ER
- Rhythmic stabilization drills
- Active ROM, full can, abduction, prone rowing

## Weeks 5-6

Progress ROM as tolerance allows

- Flexion to 160 degrees (tolerance)
- ER/IR at 45 degrees abduction:
  - IR to 75 degrees
  - ER to 25-30 degrees

Joint mobilization as necessary

Continue self-capsular stretching (light)

Initiate isometric IR submaximal

Progress all strengthening exercises

- Continue isotonic strengthening
- Dynamic stabilization exercises
- Wall stabilization

## **Phase II - Intermediate Phase:**

Goals:

- Reestablish full ROM
- Normalize arthrokinematics
- Improve muscular strength
- Enhance neuromuscular control

## Week 8

Progress ROM as tolerance allows

- ER/IR @ 90 degrees abduction
- ER @ 90 degrees abduction to 45-50 degrees
- IR @ 90 degrees to 70 degrees

## Week 9

Progress ROM as tolerance allow

- ER/IR @ 90 degrees abduction
- ER @ 90 degrees abduction to 75-80 degrees
- Flexion to 170 degrees

Continue all stretching exercises

- Joint mobilization, capsular stretching, passive and active stretching

Continue strengthening exercises

- Throwers ten program (for overhead athlete)
- Isotonic strengthening for entire shoulder complex
- May begin light biceps and IR isotonics
- Neuromuscular control drills
- Isokinetic strengthening

## Week 10

Progress ER @ 90 degrees abduction to 90 degrees

Progress to full flexion

## Week 11-14

Continue all flexibility exercises

Continue all strengthening exercises

- May begin to increase weight for biceps and IR

May initiate light isotonic machine weight training (week 16)

## **Phase III - Advanced Strengthening Phase (Months 4-6)**

Goals:

Enhance muscular strength, power and endurance

Improve muscular endurance

Maintain mobility

### *Criteria to Enter Phase III*

- 1) *Full ROM*
- 2) *No pain or tenderness*
- 3) *Satisfactory stability*
- 4) *Strength 70-80% of contralateral side*

#### Week 14-20

Continue all flexibility exercises

- Self capsular stretches (anterior, posterior and inferior)
- Maintain ER flexibility

Continue isotonic strengthening program

Emphasis muscular balance (ER/IR)

Continue PNF manual resistance

May continue plyometrics

Initiate interval sport program (physician approval necessary) week 16

#### Weeks 20-24

Continue all exercise listed above.

Continue and progress all interval sport program (throwing off mound)

#### Phase IV - Return to Activity Phase (Months 6-9)

Goals:

Gradual return to sport activities

Maintain strength and mobility of shoulder

#### *Criteria to Enter Phase IV*

- 1) *Full non-painful ROM*
- 2) *Satisfactory stability*
- 3) *Satisfactory strength (isokinetic)*
- 4) *No pain or tenderness*

#### Exercises

Continue capsular stretching to maintain mobility

Continue strengthening program

- Either throwers 10 or fundamental shoulder exercise program

Return to sport participation (unrestricted)