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## Open Pectoralis Major Repair

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

### I. **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

## II. 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)

**III. 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**

Full ROM  
No pain or tenderness  
Satisfactory stability  
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)

**IV. 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**

Full non-painful ROM  
Satisfactory stability  
Satisfactory strength (isokinetics)  
No pain or tenderness

**Exercises**

Continue capsular stretching to maintain mobility  
Continue strengthening program

- Either throwers ten or fundamental shoulder exercise program

Return to sport participation (unrestricted)