

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)