

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 isotonics for shoulder musculature (No IR strengthening)
- Initiate scapular isotonics
 - 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

- 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)

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

- 1) Full non-painful ROM
- 2) Satisfactory stability
- 3) Satisfactory strength (isokinetics)
- 4) 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)