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## Pectoralis Major Repair Rehab Protocol

### Phase I – Immediate Post-operative Phase (Weeks 0 to 2)

#### Goals

- Protect healing repaired tissue
- Decrease pain and inflammation
- Establish limited range of motion (ROM)

#### Exercises

- Home wrist and elbow range of motion exercises

#### Sling

- Sling immobilization for two weeks
- Passive rest for full two weeks
- Allow soft tissue healing to begin uninterrupted
- Allow acute inflammatory response to run normal course

### Phase II – Intermediate Post-operative Phase (Weeks 3 To 6)

#### Goals

- Gradually increase ROM
- Promote healing of repaired tissue
- Minimize muscular atrophy

#### Week 2

- Use sling immobilization until the third week post-op
- Begin passive ROM
  - External rotation to 0°
    - From there, increase by 5° per week
  - Forward flexion to 45°
    - From there, increase by 5 to 10° per week

#### Week 3

- Starting at week three, wean out of sling immobilizer
- Continue passive ROM
  - Begin abduction up to 30°
    - From there, increase by 5° per week
- Begin gentle isometrics to shoulder/arm **EXCEPT** pectoralis major (shoulder flexion, internal rotation and adduction)
- Scapular isometric exercises

#### End of Week 5

- Gentle submaximal isometrics to shoulder, elbow, hand and wrist
- Active scapular isotonic exercises
- Passive ROM
  - Flexion to 75°
  - Abduction to 35°
  - External rotation at 0° of abduction to 15°

### **Phase III – Late Post-operative Phase (Weeks 6 to 12)**

#### **Goals**

- Restore and maintain full ROM
- Promote soft tissue healing
- Gradually increase muscle strength and endurance

#### **Week 6**

- Continue passive ROM to full
- Continue gentle sub maximal isometrics progressing to isotonic
- Begin sub maximal isometrics to pectoralis major in a shortened position
  - Progress to neutral muscle tendon length
- Avoid isometrics in full elongated position

#### **Week 8**

- Gradually increase muscle strength and endurance
  - Upper body ergometer
  - Progressive resistive exercises (isotonic machines)
  - Theraband exercises
  - PNF diagonal patterns with manual resistance
- May use techniques to alter incision thickening
  - Scar mobilization techniques
  - Ultrasound to soften scar tissue

#### **Week 12**

- Full shoulder ROM in all planes
- Progress strengthening exercises
  - Isotonic exercises with dumbbells
  - Gentle two-handed sub maximal plyometric drills
    - Chest pass side-to-side throws
    - BodyBlade
    - Flexbar
    - Total arm strengthening

### **Phase IV – Advanced Strengthening Phase (Weeks 12 to 16 and beyond)**

#### **Goals**

- Full ROM and flexibility
- Increase muscle strength and power and endurance
- Gradually introduce sporting activities

#### **Exercise**

- Continue to progress functional activities of the entire upper extremity
- Avoid bench press motion with greater than 25% of prior 1 rep max (RM)
  - Gradually work up to 50% of 1 RM over next month.
- Stay at 50% prior 1 RM until 6 months post-operative, then progress to full slowly after 6 month time frame

#### **Keys**

- Don't rush or force ROM
- Don't rush strengthening
- Normalize arthrokinematics
- Utilize total arm strengthening

*Reference: Manske RC, Prohaska D. "Pectoralis Major Tendon Repair Post Surgical Rehabilitation." North American Journal of Sports Physical Therapy. 2007; 2:22-33.*