

## Physical Therapy Protocol: Pectoralis Tendon Repair

**Patient Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Surgery:** \_\_\_\_\_ **Surgery Date:** \_\_\_\_\_

### PHASE I - IMMEDIATE POST-OPERATIVE PHASE (WEEKS 0-2)

**Goals**

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

**Exercises**

- No exercise until end of 2nd week

**Sling**

- Sling immobilization for 2 weeks
- Passive rest for full 2 weeks
- Allow soft tissue healing to begin uninterrupted
- Allow acute inflammatory response to run normal course

Week	ER @ 0° Shoulder Add.	Fwd Flexion	Abd
2	0	45	30
3	5	50-55	35
4	10	55-65	40
5	15	60-75	45
6	20	65-85	50
7	25	70-95	55
8	30	75-105	60
9	35	80-115	65
10	40	85-125	70
11	45	90-135	75
12	50	95-145	80

### PHASE II - INTERMEDIATE POST-OPERATIVE PHASE (WEEKS 3-6)

**Goals**

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

**Week 2**

- Sling immobilization until 3rd week
- Begin passive ROM per guidelines (Table)
  - External rotation to 0 beginning 2nd week
  - Increasing 5 degrees per week
  - Forward flexion to 45 degrees
  - Increasing 5-10 degrees per week

**Week 3**

- Wean out of sling immobilizer - week 3
- Continue passive ROM per guidelines (Table)
  - Begin abduction to 30 degrees
  - Increasing 5 degrees per week
- Begin gentle isometrics to shoulder/arm EXCEPT pectoralis major
- Scapular isometric exercises

**End of Week 5**

- Gentle submaximal isometrics to shoulder, elbow, hand, and wrist
- Active scapular isotonic exercises
- Passive ROM per guidelines (Table)
  - Flexion to 75 degrees
  - Abuction to 35 degrees
  - External rotation at 0 degrees of abduction to 15 degrees

### **PHASE III - LATE POST-OPERATIVE PHASE (WEEKS 6-12)**

#### Goals

- 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 isotonics
- Begin sub maximal isometrics to pectoralis major in a shortened position progressing 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
  - Shoulder flexion to 180 degrees
  - Shoulder abuction to 180 degrees
  - Shoulder external rotation to 105 degrees
  - Shoulder internal rotation to 65 degrees
- Progress strengthening exercises
  - Isotonic exercises with dumbbells
  - Gentle 2-handed sub maximal plyometric drills
    - Chest pass
    - Side-to-side throws
    - BodyBlade
    - Flexbar
    - Total arm strengthening

### **PHASE IV - ADVANCED STRENGTHENING PHASE (WEEKS 12-16+)**

#### 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 50% of prior 1 repetition 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 ROM
- Don't rush strengthening
- Normalize arthrokinematics
- Utilize total arm strengthening

Adapted from Manske et. al. N Am J Sports Phys Ther. 2007 Feb; 2(1): 22–33.