Scott Adrian, M.D.
Advanced Orthopaedic Associates

2778 N. Webb Rd.
Wichita , KS 67226

316-631-1600
Fax: (316) 631-1671
1 (800) 362-0591

POSTOPERATIVE REHABILITATION FOLLOWING PECTORALIS MAJOR TENDON REPAIR

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

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 2) 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 2) 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 sub-maximal isometrics to shoulder, elbow, hand and writs Active scapular isotonic exercises Passive ROM per guidelines Flexion to 75 degrees Abduction 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 isotonic exercises 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 abduction 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

Range of Motion Guidelines Following Pectoralis Major Repair

Week	ER@0°	Forward Flexion	Abduction
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

ER = External rotation