

PECTORALIS MAJOR TENDON REPAIR CLINICAL PRACTICE GUIDELINE

Progression is time and criterion-based, dependent on soft tissue healing, patient demographics and clinician evaluation. Contact Ohio State Sports Medicine at 614-293-2385 if questions arise.

<p>Phase I: Weeks 1-4</p>	<ul style="list-style-type: none"> • Immobilize in sling per physician (Typically 6-8 weeks) • Pendulums • Wrist and elbow ROM • Avoid active movement in all directions
<p>Goals to Progress to Next Phase</p>	<ol style="list-style-type: none"> 1. Decrease pain 2. Minimal to no edema
<p>Phase II: Weeks 4-6</p>	<ul style="list-style-type: none"> • Begin PROM: avoiding abduction, ER • Scapular clocks, retraction, depression, protraction • Scapular PNF • Scapular mobility • Begin table weight shifts for weight bearing through UEs • Grades I-II (anterior, posterior, distraction) oscillatory joint mobilizations • Stationary bike with immobilizer
<p>Goals to Progress to Next Phase</p>	<ol style="list-style-type: none"> 1. 75-100% PROM, except ER- keep to no more than 30-40 degrees 2. Sleeping through the night
<p>Phase III: Weeks 6-8</p>	<ul style="list-style-type: none"> • Initiate AAROM-progress to AROM as tolerated toward 8th week • Can push PROM ER beyond 40 degrees • Grade III sustained joint mobilizations for capsular restriction • Isometrics-flexion, extension, abduction, ER, horizontal abduction • Progress scapular strengthening • Can progress weight bearing to quadruped, tripod (1UE +2LE) • Avoid active adduction, horizontal adduction, IR
<p>Goals to Progress to Next Phase</p>	<ol style="list-style-type: none"> 1. 75-100% full AAROM without pain 2. AAROM flexion, abduction, ER, IR without scapular or upper trap substitution 3. Tolerate PRE's for scapular stabilizers and shoulder complex 4. No reactive effusion

Phase IV: Weeks 8-12	<ul style="list-style-type: none"> • Gain full ROM through stretching and grade III mobilizations • Active flexion, abduction, adduction strengthening -avoid IR/flexion/horizontal adduction • Progress scapular strengthening and progress rotator cuff strengthening avoiding IR • Begin submax pectoralis strengthening • Wall pushups progressing to table pushups, uneven surfaces • Dynamic stabilization, perturbations, weight bearing planks on hands • Active ER, horizontal abduction- not to end range
Goals to Progress to Next Phase	<ol style="list-style-type: none"> 1. Full AROM 2. Increased strength/ proprioception with exercise without an increase in symptoms
Phase V: Weeks 12-24	<ul style="list-style-type: none"> • Progress scapular and rotator cuff strengthening- including IR • Single arm pectoralis major strengthening- therabands then progress to dumbbell bench press with light weight/ high reps, avoiding a wide grasp, and end range ER/ABD. • Pushups- avoiding humeral abduction beyond frontal plane • Progress into UE plyometrics- eg. wall taps, chest pass (bilateral) • PNF D1, D2
Goals to Progress to Next Phase	<ol style="list-style-type: none"> 1. Tolerate high level of strengthening and plyometrics without an increase in symptoms 2. Tolerate/progress single arm strengthening of pec 3. No pain with any strengthening activities
Phase VI: Months 6-9	<ul style="list-style-type: none"> • Discourage 1RM for bench press • Prepare for return to sport <ul style="list-style-type: none"> ○ Use of One-Arm Hop Test as outcome measure for return to sport- reliable for comparing performance in injured and contralateral uninjured UEs
Goals to Progress to Return to Sport	<ol style="list-style-type: none"> 1. Sufficient score on functional test- isokinetic or one arm hop test- to allow safe return to sport

References

- Petilon J, Carr DR, Sekiya JK, Unger DV. Pectoralis major muscle injuries: evaluation and management. *Journal of the American Academy of Orthopaedic Surgeons*. 2005; 13:59-68.
- Shepsis AA, Grafe MW, Jones HP, Lemos MJ. Rupture of the pectoralis major muscle outcome after repair of acute and chronic injuries. *American Journal of Sports Medicine*. 2000; 28(1):9-15.
- Uhl TL, Carver TJ, Mattacola CG, Mair SD, Nitz AJ. Shoulder musculature activation during upper extremity weight bearing exercise. *Journal of Orthopaedic and Sports Physical Therapy*. 2003; 33:109-117.
- Hintermeister RA, Lange GW, Schultheis JM, Bey MJ, Hawkins RJ. Electromyographic activity and applied load during shoulder rehabilitation exercises using elastic resistance. *American Journal of Sports Medicine*. 1998; 26(2): 210-220.
- Fees M, Decker T, Snyder-Mackler L, Axe MJ. Upper extremity weight training modifications for the injured athlete: a clinical perspective. *American Journal of Sports Medicine*. 1998; 26(5):732-742.
- Falsone SA, Gross MT, Guskiewisc KM, Schneider RA. One-arm hop test: reliability and effects of arm dominance. *Journal of Orthopaedic and Sports Physical Therapy*. 2002; 32:98-103.



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