Pectoralis Major Repair Protocol

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The "No Tension" Rule

The pectoralis major repair is under significant tension even at rest. To prevent "cheese-wiring" of the sutures through the tendon, the following rules apply for the first **6 weeks**:

- **No Active Adduction:** No "squeezing" the arm toward the chest or across the body.
- **No Resisted Internal Rotation:** No pushing inward against resistance.
- **No Passive Extension:** The elbow must never travel behind the plane of the body.
- **Sling Compliance:** The sling must be worn 24 hours a day for the first 4 weeks (except for hygiene and exercises).

Phase I: Immediate Post-Operative / Protection (Weeks 0–2)

Goals: Protect the surgical repair, control swelling, and maintain distal mobility.

- **Sling Use:** Continuous wear including sleep.
- **Range of Motion (Strictly Controlled):**
    - **Passive Forward Elevation:** Goal of 90 degrees in the scapular plane.
    - **Passive External Rotation:** Limit to 0 degrees (Neutral) to prevent stretching the repair.
- **Exercises:**
    - **Pendulums:** Gentle small circles, 3 times daily.
    - **Distal AROM:** Full active motion of the wrist, hand, and elbow.
    - **Scapular Setting:** Squeezing the shoulder blades together to maintain postural control.
    - **Grip Strengthening:** Squeeze ball for 1 minute, 3 times daily.

Phase II: Early Mobilization (Weeks 2–6)

Goals: Gradually increase passive range of motion while avoiding repair stress.

- **Sling:** * Weeks 2–4: Continuous wear.
    - Weeks 4–6: Wean from sling for light daily activities at waist level (e.g., eating, typing).
- **Motion Progression (Passive to Active-Assisted):**
    - **Passive Forward Elevation:** Gradually increase to 120 degrees by week 6.
    - **Passive External Rotation:** Gradually increase to 20 to 30 degrees by week 6.
    - **Elbow AROM:** Perform full active elbow flexion and extension (without weights).
- **Strengthening:**
    - **Isometrics:** Initiate submaximal, pain-free isometrics for the deltoid and rotator cuff.
    - **Note: No** pectoralis major isometrics until after week 6.

Phase III: Strengthening Phase (Weeks 6–12)

Goals: Restore full active range of motion and initiate light resistance.

- **Sling:** Discontinue completely.
- **Motion Progression:**
    - **Active ROM:** Progress to full active range of motion in all planes.
    - **Passive Stretching:** Initiate gentle horizontal abduction stretching to restore chest flexibility.
- **Strengthening (Isotonic):**
    - **Rotator Cuff:** Resistance bands for Internal and External Rotation.
    - **Pectoralis Major:** Initiate very light resisted adduction (e.g., squeezing a soft ball between the elbow and ribs).
    - **Upper Body:** Seated rows and lat pulldowns (staying in front of the head).
- **Precaution:** Avoid any "fly" movements or wide-grip reaching.

Phase IV: Advanced Loading & Return to Sport (Weeks 12–24+)

Goals: Restore power, maximize hypertrophy, and return to heavy lifting/athletics.

- **Strengthening Progression:**
    - **Weeks 12–16:** Initiate light chest press (start with 5 to 10 pounds). Use a "narrow grip" to reduce stress on the insertion.
    - **Weeks 16–20:** Progress toward standard bench press. Ensure a slow, controlled eccentric (lowering) phase.
- **Return to Sport/Work:**
    - **Golf:** 12 weeks.
    - **Tennis/Throwing:** 16 to 20 weeks.
    - **Heavy Bench Press/Contact Sports:** 6 months (contingent on strength testing).
- **Discharge Criteria:**
    - Symmetrical pectoralis major contour and strength (at least 80 percent of the uninvolved side).

Clinical Pearls for the Therapist

1. **The "Visual" Check:** Monitor for any bunching or "webbing" at the axilla (armpit). If the patient notes a change in the shape of the chest muscle, contact the surgeon.
2. **Avoid Excessive Stretching:** While restoring range is important, over-stretching into horizontal abduction in the first 12 weeks can lead to a "lengthened" repair, which reduces power.
3. **Kinetic Chain:** Pectoralis major repairs often involve significant bruising/swelling in the biceps and core. Ensure thoracic spine and rib cage mobility are addressed to support global shoulder health.