Pectoralis Major Repair Protocol

- **6-10 visits over 4 months**
- Emphasis is on high repetition, low weight free weight program
- Address muscular and capsular dysfunction, including posterior capsule tightness, if indicated at 3 months
- Address scapular mal-positioning if indicated
- Minimal to no pain during or after exercises, although fatigue is OK
- **No passive ROM (PROM) or pulleys unless specifically indicated by the physician**

**Modalities:**

A. Ice following exercises
B. No phonophoresis/iontophoresis
C. No ultrasound
D. Transfrictional massage for tendonitis (only if indicated by physician)
E. Soft-tissue techniques (only if indicated by physician)

**Stage I (weeks 0-6)**

2-4 visits,

I. Patient is to wear a sling for 1st 4 weeks post-operatively

II. Range of Motion (ROM)
A. Codman’s (pendulum) exercises
B. Elbow and wrist ROM
C. Grip strengthening
D. Precautions:
   1. No passive range of motion (PROM)
   2. No resisted shoulder IR or adduction until 12 weeks post-op.
   3. No IR behind back until 9 weeks post-op.
   4. No abduction beyond 60° until 9 weeks post-op.
   5. No ER in neutral position beyond 45° until 9 weeks post-op.
   6. No ER in abducted position until 13 weeks post-op.

III. Patient is to remove the sling at the 5th week post-operatively

IV. At 5 weeks begin Strengthening/ROM
A. AAROM (wand exercises) Forward Flexion (FF) in IR to 90°, start with flexion in supine and progress to flexion in standing – utilize wand to initiate motions
B. Scapular stabilization exercise #1

V. Goals:
A. Minimize post-operative stiffness while protecting the repair during the early phase of
Stage II (weeks 7-12)
3-6 visits

I. Weeks 7-8: Continue to address ROM: AAROM to 75% of predetermined limits
   A. Advance AAROM as tolerated to:
      1. Forward Flexion to 140°
      2. External Rotation to 45°
      3. Abduction to 60°

II. Weeks 9-12: Strengthening/ROM
   A. Shoulder isometrics #1,3 and 5
   B. Advance FF as tolerated without resistance
   C. Advance abduction as tolerated without resistance
   D. Initiate AAROM and AROM with IR behind back

III. Goals:
    Full AROM to predetermined limits with gradual progressive strengthening program

Stage III (week 13-6 months)

I. Strengthening
   A. Begin resisted weight training starting off light with a gradual progression.
   B. Incorporate rotator cuff strengthening program and scapular stabilization into the general workout

This protocol provides you with general guidelines for the rehabilitation of patients following a pectoralis major repair or transfer. Specific changes in the program will be made by the physician as appropriate for an individual patient. If you have any questions regarding the progress of the patient, the physician should be contacted.
PENDULUM EXERCISES (CODMAN’S)

1. Pendulum Exercises

Bend forward at the waist, (back parallel to ground is ideal). Allow involved arm to hang down, perpendicular to the floor. Keep arm and shoulder muscles relaxed. Move arm slowly, increasing the arc as tolerated. This technique should cause only minimal pain.

Perform _______ repetitions
_______ times per day.

1. Front to back
2. Side to side
3. Clockwise circles

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1. Pendulum Exercises

Bend forward at the waist, (back parallel to ground is ideal). Keep arm and shoulder muscles relaxed. Move arm slowly, increasing the arc as tolerated. This technique should cause minimal pain. Motions: Front to Back, Side to Side, Clockwise Circles, Counterclockwise Circles

Perform _____ repetitions _____ times per day.

2. Flexion in Supine

Slowly raise arm overhead, keeping elbows straight.

Hold _____ seconds.

Perform _____ repetitions _____ times per day.
WAND EXERCISES (AAROM)

3. Flexion In Standing

Keep elbow straight throughout each repetition. Slowly push affected arm up. Hold _____ seconds.

Perform _____ repetitions _____ times per day.

4. Extension

Keep elbow straight throughout each repetition. Slowly push affected arm back. Hold _____ seconds.

Perform _____ repetitions _____ times per day.
5. **Abduction**

Keep elbow straight.
Slowly push affected arm up.

____ leading with thumb

or ____ palm facing down.

**Hold _____ seconds.**

**Perform _____ repetitions**

_____ times per day.

6. **Internal Rotation**

Hold wand behind you.
Slowly raise hands up then
slowly return to starting position.

**Hold _____ seconds.**

**Perform _____ repetitions**

_____ times per day.
WAND EXERCISES (AAROM)

7. External Rotation
Place towel roll under elbow.
Keep elbow bent 90°.
Slowly push hand toward floor.

Hold ____ seconds.

Perform ____ repetitions
_____ times per day.
8. Adduction
Holding on to the end of the wand with the right hand, right elbow slightly flexed, left hand is on the mid shaft on the wand and pulls right shoulder across the body (for exercising an involved right shoulder, reverse hands for an involved left shoulder).

Hold ____ seconds.

Perform _____ repetitions
_____ times per day.
SHOULDER ISOMETRICS

Hold _____ seconds.

Perform _____ repetitions _____ times per day.

1. Flexion
Press hand forward into wall.

2. Extension
Press hand backward into wall.

3. Abduction
Place towel inside arm.
Push elbow into wall.
4. **Adduction**
Place towel inside arm.
Pull arm in toward body.

5. **External Rotation**
Place towel inside arm.
Press back of hand into wall.

6. **Internal Rotation**
Place towel inside arm.
Press palm of hand into wall.
SHOULDER STRENGTHENING EXERCISES

General Guidelines

1. Exercises should not be painful.
2. Perform exercises slowly.
3. Maintain the correct position.
4. Warm up prior to using weights – stretching and pendulum exercises as instructed.
5. Ice after exercise for 10-20 minutes.
6. Exercise 4 days a week.

Perform _____ repetitions.

1. Flexion

Start with arm at side, thumb forward. Raise arm to shoulder level (parallel to ground). Lower slowly to starting position.

2. Abduction

Start with arm midway between front and side of your body, thumb pointing up. Raise arm sideways to shoulder level in scapular plane. Lower slowly.
3. **Abduction**

Start with arm midway between the front and side of your body, thumb down. Raise arm diagonally to 45° level and lower slowly to starting position.

4. **External Rotation**

Lie on uninvolved side. Place a towel roll under elbow. Keep elbow bent at 90°. Squeeze shoulder blades together. Raise hand away from stomach toward the ceiling. Lower slowly to starting position.

5. **External Rotation**

Keep elbow bent at 90°. Squeeze shoulder blades together. Raise hand up. Lower slowly to starting position.
6. **Internal Rotation with Theraband**

Place Theraband in door. Squeeze shoulder blades together. Pull hand toward stomach. Slowly return to starting position.

7. **Wall Push-Ups**

Perform standing push-ups against the wall. Progress to a counter top, then to the floor with knees bent and then floor with knees straight.

8. **Biceps Curls**

Raise hand toward shoulder with palm up. Lower slowly to starting position.

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SCAPULAR STABILIZATION

General Guidelines
1. Exercises should not be painful.
2. Perform exercises slowly.
3. Maintain the correct position.
4. Ice after exercise for _____ minutes.
5. Perform _____ times per day for _____ days per week.

1. Scapular Retraction
Pull shoulder blades together and down.

Hold _____ seconds

Perform _____ repetitions.

2. Scapular Depression
Place theraband over door, squeeze shoulder blades together while pulling your arm to your side.
Slowly return to starting position.

Perform _____ repetitions.
3. **Extension**

Start with your arm hanging straight down with your thumb pointing down. Raise arm backwards and slowly return to starting position.

**Perform _____ repetitions.**

4. **Horizontal Abduction**

Start with your arm hanging straight down with your thumb pointing out, raise arm out to the side to shoulder level (parallel to ground) and then slowly return to starting position.

**Perform _____ repetitions**

5. **Proprioception (Countertop)**

Place your hands on a countertop. Slowly shift weight from one side to the other while keeping your shoulder blades flat to your back.

**Perform _____ repetitions.**

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SCAPULAR STABILIZATION

6. Proprioception (Wall)

Stand facing a wall. Keep your shoulder blades together and down and make circles with a ball in a clockwise direction. Repeat same number of reps in a counterclockwise direction.

Perform _____ repetitions.

7. Proprioception (Ball dribble)

Stand facing the wall. Keep your shoulder blades together and down and dribble to ball off of the wall. You may advance to dribbling the ball in shapes and patterns.

Perform_____ repetitions.

8. Wall Push-Ups

Perform standing push-ups against a wall. Progress to countertop, then floor with knees bent and then floor with knees straight.

Perform _____ repetitions.
9. **Proprioception (Hands & Knees)**

Get on your hands and knees. Keep your shoulder blades together and down and make circles with the platform in a clockwise direction. Repeat same number of reps in a counterclockwise direction.

**Perform _____ repetitions.**