Sports & Orthopaedic Specialists
PECTORALIS MAJOR REPAIR PROTOCOL

This protocol provides appropriate guidelines for the rehabilitation of patients following pectoralis major repair or transfer. The protocol draws evidence from the current literature and accounts for preferences of the surgeons at Sports & Orthopaedic Specialists. The program may be modified by the referring provider for an individual patient. If questions arise regarding the application of the protocol or the progress of the patient, contact Sports & Orthopaedic Specialists:

Main line: (952) 946-9777 Physical therapy: (952) 914-8631

PRECAUTIONS

Pectoralis Major Repair/Transfer

-ER (0 abduction): 0° max until **4** weeks postop. 20° max until **8** weeks. Symmetrical at **6-8** months.
-ER (90 abduction): 0° max until **6** weeks postop.
-IR: No IR behind back until 6 weeks postop. No resisted IR until **12** weeks postop.
-Extension: No extension behind mid-axillary line until **6** weeks postop.
-Horizontal Adduction: No resisted horizontal adduction until **12** weeks postop.

PT FREQUENCY & DURATION

-Ten to sixteen physical therapy visits over 4-6 months
-Begin physical therapy 4+ weeks after surgery or as instructed by surgeon

REHAB PRINCIPLES

-Focus on active engagement of the patient through patient education and therapeutic exercise. Establish a home exercise program that can be progressed gradually throughout the postoperative period.

-Respect tissue healing**.** The surgeons at Sports & Orthopaedic Specialists uniformly prefer a slow progression of postop patients with minimal postoperative pain.

-Postoperative pain may be experienced. However physical therapy, including the home exercise program, should result in minimal to no symptom exacerbation. The patient should call the PT for recommendations if pain increases during or after exercise.

-The therapeutic exercises listed in this protocol convey the appropriate load for the shoulder given the time elapsed since surgery in regards to tissue healing. It is acceptable for a patient to progress more slowly. However, it is not acceptable for a patient to progress more quickly unless expressly indicated by the surgeon.

-Recommended max of 6 exercises for home exercise program. Select a well-rounded program that targets each area of insufficiency identified during physical exam.

MODALITIES

Cold Therapy / Ice**:** Instruct patient to use ice daily until pain free or 8 weeks after surgery.
Other Modalities**: DO NOT USE**

MANUAL THERAPY
-No passive range of motion (physiologic/long arc). **DO NOT USE**
-NO joint mobilization. **DO NOT USE**
-Soft tissue techniques to upper trapezius/levator scapula are permitted

THERAPEUTIC ACTIVITY AND PATIENT EDUCATION
Patient education is very important in getting the patient to take an active role in therapy and recovery. Educate the patient at the appropriate level regarding:

-Anatomy of the shoulder girdle
-Basics of surgical procedure in layman's terms
-Surgical precautions
-Shoulder girdle mechanics: Typical and pathomechanical
-The inhibitory effect of pain on the rotator cuff
-Avoidance of pain provoking activities
-Effect of posture on shoulder girdle mechanics
-Preferred positioning of the shoulder during sleep

THERAPEUTIC EXERCISE
-If a pectoralis major tendon TRANSFER was performed, a primary rehab principle is the coupling of ER with adduction.

-Free Weights: Use the following age guidelines to establish a maximum weight for rotator cuff strength/conditioning ONLY when the protocol calls for the use of free weights.

For patients over 60 years old:
No external weights for rotator cuff strength/conditioning (Ex: Side lying external rotation, full can)

For patients aged 40-60:
Progress from two ounces to four, then a max of eight ounces for rotator cuff strength/conditioning.

For patients under 40 years old:
Progress from two ounces to four, then of eight ounces. A max of 16 ounces can be used for rotator cuff strength/conditioning.

-Exercise Band: **DO NOT USE**
The use of Yellow Theraband®, the least resistive color in the Theraband series, results in 2.9 pounds of resistance when elongated by 100%. In addition, length-tension principles of muscle function do not align with exercise band properties; the muscle is asked to provide maximum force at a shortened and inefficient length. Therefore, exercise band use is not permitted for use during rotator cuff conditioning.

-Pulleys: **DO NOT USE**

PECT MAJOR REPAIR PROTOCOL

REHABILITATION PROGRESSIONS

For the pectoralis major repair, the surgeon determines the length of time in a sling based on basic principles of tissue healing as well the size of the tear and tissue quality. Four weeks in a sling is typical after a pectoralis major repair. However, the surgeon may extend the time in sling to protect the repair if the tear is larger or tissue quality is poor. If the patient is instructed to wear a sling for more than 4 weeks, the therapist should delay this protocol by the number of weeks in a sling beyond 4.

A PDF file containing instructions and pictures for each exercise referenced in this protocol can be printed from the Sports & Orthopaedic Specialists website. "Therapeutic Exercise Handout"
www.sportsandortho.com/minneapolis/rehabilitation-center

WEEK 0-4 (CONTINUOUS USE OF SLING):

-Patient receives postop instructions after surgery that include:

-Wear sling continuously for 4+ weeks as instructed by surgeon. Sling may be removed to shower & dress.

-Begin pendulum exercises the day after surgery. Ten reps in each direction four times per day.

-AROM of the elbow, wrist, and hand.

-Application of ice with shoulder ice wrap (Bird & Cronin).

-Remove wound dressing 2 days after surgery (or as instructed). Leave steri-strips in place.

-Ok to drive once off narcotic pain medication. Check with auto insurance regarding driving in sling.

-Ok to write, type, eat, shave, wash face, brush teeth within pain tolerance.

WEEK 5-6:

-Begin physical therapy 0-2 weeks after discontinued use of sling

-Educate the patient regarding:

-Allowable ADL's (writing, typing, self-cares, not to lift anything heavier than a coffee cup).

-No overhead reaching.

-Surgical precautions (see page 1)

-If early postoperative stiffness is noted, contact the surgeon.

-HEP 5-7x/week (up to two days off per week to allow for good/bad days)

-Ice after PT/HEP

-Appropriate exercises:

Page	Exercise	Dose
20	Ceiling punch (active or active assisted)	2x10 with goal of 2x20
22	Reverse Codman (active or active assisted)	2x10 with goal of 2x20
17	Seated ER to neutral	2x10 with goal of 2x30
18	Wings	2x10 with goal of 2x30
22	Table circles	10 with goal of 20 clockwise and counterclockwise
9	Prayer stretch	5x10" with goal of 10x10"

WEEK 7-11:

-Continue physical therapy

-Educate the patient regarding:

-Allowable ADL's, not to lift anything heavier than one pound.

-Limited overhead reaching – max of one plate/cup

-Surgical precautions (see page 1)

-If postoperative stiffness is noted, contact the surgeon.

-HEP 5-7x/week (up to two days off per week to allow for good/bad days)

-Ice after PT/HEP

-Appropriate exercises (if exercises from week 5-6 result in a max of 3/10 pain):

Page	Exercise	Dose
20	Ceiling punch (active)	2x10 with goal of 2x20
22	Reverse Codman (active)	2x10 with goal of 2x20
12	Supine protraction	2x10 with goal of 2x20
17	Seated ER – full pain free ROM	2x30
18	Wings	2x30
22	Table circles	20 clockwise and counterclockwise
9	Prayer stretch	5x10" with goal of 10x10"
13	Table press	20x3"
20	Isometric adduction	20x3" if compensatory shoulder hiking is noted

3-4 MONTHS:

-Continue physical therapy.

-Educate the patient regarding:

-ADL's as pain free

-Gradual return to activities as directed by surgeon

-If postoperative stiffness is noted, contact the surgeon.

-HEP 3-4x/week (every other day)

-Ice after PT/HEP as needed

-Appropriate exercises (if exercises from week 7-11 result in a max of 3/10 pain):

Page	Exercise	Dose
17	Side lying ER Neutral → full ROM	2x30 with goal of 2x50
19	Bear hug	20x3 seconds with gentle pressure
14	LTR	20
14	Prone I	20
15	Prone W	1-2x20
15	Prone S	1-2x20
23	Wall circles	20 CW and CCW with towel
4	Sleeper stretch	3x30 seconds

5+ MONTHS

-Continue physical therapy.

-HEP 3-4x/week (every other day)

-Ice after PT/HEP as needed

-Appropriate exercises (if exercises from month 3-4 result in a max of 3/10 pain):

Page	Exercise	Dose
17	Side lying ER	2x50. See page 3 for max weights
19	Bear hug	20x3 seconds with moderate pressure
19	Belly press	20x3 seconds
21	Full can	2x30 only when scap mechanics are good
21	Flexion	2x30 only when scap mechanics are good
15	Prone W	1-2x20
15	Superman	1-2x20
23	Wall circles	20 CW and CCW with ball
24	Bird dog	2x30-60 seconds
25	Front plank	2x30-60 seconds
25	Side plank	2x30-60 seconds
4	Sleeper stretch	3x30 seconds

-After discharge from formal physical therapy, continue HEP 2x/week until one year anniversary of surgery.

RETURN TO SPORT

WEIGHT TRAINING

-Return to modified program when rotator cuff strength is 5/5 in all planes and **cleared by physician**.

-Upper body weight training no more than 2x/week
-First do rehab exercises as part of upper body warm up
-Lift appropriate weight for 2-3 sets of 15

Acceptable Upper Body Lifts

Biceps	Curls with free weights, elbows at sides, scap set throughout
Triceps	Press down with V rope on cable column
	Bent over kick back with free weights
	No 'skull crusher' variations
Row	Seated row with cable column
	Bent over row with free weights
	Scap set during pull phase, elbows never behind body
Lat pull downs	Lean slightly back and pull bar to chest

Advise the patient that the following exercises should **NEVER** be completed after rotator cuff repair unless specifically cleared by the physician:

Dips	Incline press	Bench press	Lateral raise
Shrugs	Military press	Pushups	Pect fly

THROWING

If applicable, begin return to throw program at 6+ months when rotator cuff strength is 5/5 in all planes and **cleared by physician**.

COLLISION SPORTS

Six to nine months as **determined by surgeon**.

YOGA

-Patient may begin a modified yoga practice consisting of non-weight bearing movement patterns when scapular mechanics are good and AROM is pain free and without compensatory shoulder hiking.
-Begin weight bearing postures at five+ months once **cleared by the physician**.
-Instruct that during the sun salutation/chaturanga, the patient should bypass the low plank (downward dog → high plank on knees → hold high plank (while others in class pass through low plank) → upward dog)

OTHER SPORTS

When cleared by physician