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Biceps Tenotomy Protocol

The intent of this protocol is to provide the therapist with guidelines of the post-operative rehabilitation course. It should not be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam findings, individual progress, and/or the presence of post-operative complications. The therapist should consult the referring physician with any questions or concerns.

Progression to the next phase based on Clinical Criteria and/or Time Frames as Appropriate.

Phase I – Passive Range of Motion Phase (starts approximately post op weeks 1- 2)

Goals:
- Minimize shoulder pain and inflammatory response
- Achieve gradual restoration of passive range of motion (PROM)
- Enhance/ensure adequate scapular function

Precautions/Patient Education:
- No active range of motion (AROM) of the elbow
- No excessive external rotation range of motion (ROM) / stretching. Stop when you feel the first end feel.
- Use of a sling for discomfort, wean out of the sling as discomfort allows.
- Ace wrap or tubi-grip around upper arm/bicep – (from hand to upper arm for 2 weeks)
- No lifting of objects with operative forearm/shoulder
- Keep incisions clean and dry

- Patient education regarding limited use of upper extremity despite the potential lack of or minimal pain or other symptoms

Activity**:**

- Shoulder pendulum hang exercise
- PROM elbow flexion/extension and forearm supination/pronation
- AROM wrist/hand
- Begin pain free shoulder PROM all planes of motion
- Scapular retraction and clock exercises for scapular mobility progressed to scapular isometric exercises.
- Ball squeezes
- Sleep with sling as needed to support operative shoulder, place a towel under the elbow to prevent shoulder hyperextension
- Frequent cryotherapy for pain and inflammation
- Patient education regarding postural awareness, joint protection, positioning, hygiene, etc.
- May return to computer based work.

Milestones to progress to phase II:

- Appropriate healing of the surgical incision
- Full PROM of shoulder and elbow
- Completion of phase I activities without pain or difficulty

Phase II – Active Range of Motion Phase (starts approximately post op week 2-4)

Goals:

- Minimize shoulder pain and inflammatory response
- Discharge use of sling
- Achieve gradual restoration of AROM
- Begin light waist level functional activities

Precautions:

- No lifting with affected upper extremity

Activity:

- Progress shoulder PROM to active assisted range of motion (AAROM) and AROM all planes to tolerance
- Lawn chair progression for shoulder
- Active elbow flexion/extension and forearm supination/pronation
- Glenohumeral, scapulothoracic, and trunk joint mobilizations as indicated (Grade I - IV) when ROM is significantly less than expected. Mobilizations should be done in directions of limited motion and only until adequate ROM is gained.
- Begin incorporating posterior capsular stretching as indicated
- Cross body adduction stretch
- Side lying internal rotation stretch (sleeper stretch)
- Continued Cryotherapy for pain and inflammation
- Continued patient education: posture, joint protection, positioning, hygiene, etc.

Milestones to progress to phase III:

- Full AROM of shoulder and elbow
- Appropriate scapular posture at rest and dynamic scapular control with ROM and functional activities
- Completion of phase II activities without pain or difficulty

Phase III - Strengthening Phase (starts approximately post op week 4-6)

Goals:

- Normalize strength, endurance, neuromuscular control
- Return to chest level full functional activities

Precautions:

- Do not perform strengthening or functional activities in a given plane until the patient has near full ROM and strength in that plane of movement
- Patient education regarding a gradual increase to shoulder level activities

Activity:

- Continue A/PROM of shoulder and elbow as needed/indicated
- Initiate biceps curls with light resistance, progress as tolerated
- Initiate resisted supination/pronation
- Begin rhythmic stabilization drills
- External rotation (ER) / Internal Rotation (IR) in the scapular plane
- Flexion/extension and abduction/adduction at various angles of elevation
- Initiate balanced strengthening program
    - Initially in low dynamic positions
    - Gain muscular endurance with high repetition of 30-50, low resistance 1-3 lbs)
    - Exercises should be progressive in terms of muscle demand / intensity, shoulder elevation, and stress on the anterior joint capsule
    - Nearly full elevation in the scapula plane should be achieved before beginning elevation in other planes
    - All activities should be pain free and without compensatory/substitution patterns
    - Exercises should consist of both open and closed chain activities

- Push up plus (wall, counter, knees on the floor, floor)
- Cross body diagonals with resistive tubing IR resistive band (0, 45, 90 degrees of abduction Forward punch
    - No heavy lifting should be performed at this time
- Initiate full can scapular plane raises with good mechanics
- Initiate ER strengthening using exercise tubing at 30° of abduction (use towel roll)
- Initiate sidelying ER with towel roll
- Initiate manual resistance ER supine in scapular plane (light resistance)
- Initiate prone rowing at 30/45/90 degrees of abduction to neutral

arm position
- Begin subscapularis strengthening to focus on both upper and lower fiber segments
- Continued cryotherapy for pain and inflammation as needed

Milestones to progress to phase IV:
- Appropriate rotator cuff and scapular muscular performance for chest level activities
- Completion of phase III activities without pain or difficulty

Phase IV – Advanced Strengthening Phase (starts approximately post op week 6+)

Goals:
- Continue stretching and PROM as needed/indicated
- Maintain full non-painful AROM
- Return to full strenuous work activities
- Return to full recreational activities

Precautions:
- Avoid excessive anterior capsule stress
- With weight lifting, avoid military press and wide grip bench press

Activity:
- Continue all exercises listed above
  - Progress to isotonic strengthening if patient demonstrates no compensatory strategies, is not painful, and has no residual soreness
- Strengthening overhead if ROM and strength below 90 degree elevation is good
- Continue shoulder stretching and strengthening at least four times per week
- Progressive return to upper extremity weight lifting program emphasizing the larger, primary upper extremity muscles (deltoid, latissimus dorsi, pectoralis major)
  - Start with relatively light weight and high repetitions (15-25)
- May initiate pre injury level activities and vigorous sports if appropriate and cleared by MD

Milestones to return to overhead work and sport activities:
- Clearance from MD
- No complaints of pain
- Adequate ROM, strength and endurance of rotator cuff and scapular musculature for task completion
- Compliance with continued home exercise program