

Biceps Tenodesis

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PHASE I: PASSIVE ROM PHASE (Weeks 1 to 2-4)

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 AROM of the elbow
- No excessive external rotation ROM/ stretching. Stop when you feel the first end feel.
- Use of a sling to minimize activity of biceps
- Ace wrap upper forearm as needed for swelling control
- No lifting of objects with operative shoulder
- Keep incisions clean and dry
- No friction massage to the proximal biceps tendon/ tenodesis site
- Patient education regarding limited use of upper extremity despite the potential lack of or minimal pain or other symptoms.

Activity:

- Shoulder pendulum hand exercise
- PROM elbow flexion/extension and forearm supination/pronation
- AROM wrist/hand
- Begin shoulder PROM all planes to tolerance/ do not force any painful motion
- Scapular retraction and clock exercises for scapula mobility progressed to scapular isometric exercises
- All squeezes
- Sleep with sling as needed supporting 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

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Completion of PHASE I activities without pain or difficulty

PHASE II: ACTIVE ROM PHASE (Weeks 4-6)

Goals:

- Minimize shoulder pain and inflammatory response
- Achieve gradual restoration of AROM
- Begin light waist level functional activities
- Wean out of sling by the end of the 2-3 post-op week
- Return to light computer work

Precautions:

- No lifting with affected upper extremity
- No friction massage to the proximal biceps tendon/ tenodesis site

Activity:

- Begin gentle scar massage and use of scar pad for anterior ancillary incision
- Progress shoulder PROM to AAROM and AROM all planes to tolerance
- Lawn chair progression for shoulder
- Active elbow flexion/extension and forearm supination/pronation (no resistance)
- 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 position)
- Continued Cryotherapy for pain and inflammation
- Continued patient education: posture, joint protection, positioning, hygiene, etc.

Milestones to progress to PHASE III:

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

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PHASE III: STRENGTHENING PHASE (Weeks6-10)

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 activities

Activity:

Continue Cryotherapy for pain and inflammation as needed
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)

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- Exercises should be progressive in terms of muscle demand/ intensity, shoulder elevation, 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
- No heavy lifting should be performed at this time
 - Initiate full can scapular plane raises with food 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° of abduction to neutral arm position
 - Begin subscapularis strengthening to focus on both upper and lower segments
 - Push up plus (wall, counter, knee on the floor, floor)
 - Cross body diagonals with resistive tubing
 - IR resistive band (0°, 45°, 90° of abduction)
 - Forward punch

Milestones to progress to PHASE III:

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

PHASE I: ADVANCED STRENGTHENING PHASE (Weeks 10→)

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:

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Continue all exercises listed above

- Progress isotonic strengthening if patient demonstrates no compensatory strategies, is not painful, and has no residual soreness

Strengthening overhead if ROM and strength below 90° 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/ vigorous sports if appropriate/ once cleared by surgeon

Milestones to progress to PHASE III:

Clearance from surgeon

No complaints of pain

Adequate ROM, strength and endurance of rotator cuff and scapular musculature for task completion

Compliance with continued home exercise program