



Biceps Tenodesis

Phase I – Immediate Post-Surgical, Passive Range of Motion (Week 1-3)

Goals:

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

Precautions:

- No active range of motion (AROM) of the elbow
- No excessive external rotation range of motion (ROM) stretching
- Use of sling to minimize activity of biceps
- No lifting of objects with operative shoulder
- No friction massage to the proximal biceps/tenodesis site
- Patient education regarding limited use of the upper extremity (despite the potential of minimal pain)

Criteria for progression to Phase II:

- Full ROM of shoulder and elbow
- Completion of Phase I activities without pain or difficulty

Week 1-3

- Pendulum exercises
- PROM elbow flexion/extension and forearm supination/pronation
- AROM hand and wrist
- Begin shoulder PROM in all planes to tolerance; do not force any painful movement
- Scapular retraction and clock exercises for scapular mobility, progress to scapular isometric exercises
- Cryotherapy for pain and inflammation
- May return to computer based work

Phase II – Active Range of Motion (Week 4-8)

Goals:

- Minimize shoulder pain and inflammatory response
- Achieve gradual restoration of AROM
- Begin light waist level functional activities
- Return to light computer work
- Wean out of sling

Precautions

- No lifting with affected extremity
- No friction massage of the proximal biceps/tenodesis site

Criteria for progression to Phase III

- Restore 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

Week 4-8



- Begin gentle scar massage and use of scar pain for anterior axillary incision
- Progress shoulder PROM to active assisted range of motion (AAROM) and AROM all planes to tolerance
- Lawn chair progression for shoulder
- Glenohumeral, scapulothoracic, and trunk joint mobilizations as indicated when ROM is significantly less than expected. Mobilizations should be done in directions of limited ROM and only until adequate ROM is gained
- Begin incorporating posterior capsular stretching as indicated
 - Cross-body adduction stretch
 - Sleeper stretch: side-lying internal rotation stretch

Phase III – Strengthening (Week 9-11)

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

Criteria for progression to Phase IV

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

Week 9-11

- Continue AROM/PROM of shoulder and elbow
- Initiate biceps curls with light resistance
- 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
 - 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
 - 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 side-lying 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 segments



- 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

Phase IV – Advanced Strengthening (Week 12)

Goals:

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

Week 12

- 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 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/ vigorous sports if appropriate / cleared by MD

Criteria to Return to Sport

- Surgeon clearance
- Pain free shoulder function
- Adequate active and passive range of motion necessary for required sport/activity
- Greater than 90% strength as compared to the non-operative shoulder