Neofitos Stefanides, M.D., P.C.
neostefanidesMD@yahoo.com
www.allislandortho.com

Biceps Tenodesis Protocol

222-15 Northern Blvd Lobby A
Bayside, NY 11361
Ph: 718.989.8515
Fax: 718.989.6825

119 West 57 St Suite 717
new York, NY 10019
Ph: 718.989.8515
Fax: 718.989.6825

30-74 31st St. 2nd fl.
Astoria, NY 11102
Ph: 718.989.8515
Fax: 718.989.6825

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 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 hang 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
• Ball 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:

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• 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 4)

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 postoperative 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 axillary incision
• 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 (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 stretch)
• 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 and 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 (starts approximately post op week 6-8)

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 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
  ○ 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

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 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
• 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 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:
• 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 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

Milestones to return to overhead work and sport activities:

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- 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

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