

**Orthopaedic and Spine Institute**  
**21 Spurs Lane, Suite 245, San Antonio, TX 78240**

[www.saspine.com](http://www.saspine.com)

**Tel# 210-487-7463**

**Joel B. Nilsson, M.D., P.A.**

## **Open Biceps Tenodesis Rehab Protocol**

### **Phase I – Passive Range of Motion Phase (postop week 1- 2)**

#### **Goals:**

- Minimize shoulder pain and inflammatory response
- Achieve gradual restoration of gentle active range of motion
- Enhance/ensure adequate scapular function

#### **Precautions/Patient Education:**

- Gentle (AROM) of the elbow against gravity only.
- 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
- Gentle AROM 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:**

- Appropriate healing of the surgical incision
- Full PROM of shoulder and elbow

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## **Open Biceps Tenodesis Rehab Protocol**

- Completion of phase I activities without pain or difficulty

### **Phase II – Active Range of Motion Phase (postop 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
- Continue 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 1-3lbs)
- 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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## **Open Biceps Tenodesis Rehab Protocol**

- 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 postop 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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## **Open Biceps Tenodesis Rehab Protocol**

- 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