

## **Subpectoral Biceps Tenodesis REHABILITATION PROTOCOL**

**Definition:** An open sub-pectoral biceps tenodesis is a procedure which involves removing the long head of the biceps from the glenohumeral joint and fixing it the humerus deep to the pectoralis major tendon. The advantages of open biceps tenodesis over biceps tenotomy (release) are:

1. Establishment of a new bony origin
2. Maintenance of elbow flexion and supination strength
3. Improved cosmesis compared to potential "Popeye deformity"

### **Phase I: Immediate Motion Phase (Week 1 to Week 4)**

Goals: Allow healing; Early-protected PROM; Minimize pain/inflammation

**Sling for 4 weeks** (removed 2-3 times per day in order to perform the exercises that follow).  
Sling must be worn during sleep for the first 4 weeks.

#### **PRECAUTIONS**

**NO** Active elbow flexion

**No** biceps tension for 6 weeks: avoid long lever arm flexion ROM and resisted elbow flex, supination or shoulder flexion

#### Week 1

1. Pendulums
2. Wrist and hand AROM and gripping
3. Modalities prn for pain and inflammation

#### Weeks 2-4

1. Continue previous exercises
2. Initiate gentle pain-free PROM for shoulder all motions being careful to avoid excessive external rotation ROM/stretching
3. Initiate gentle elbow PROM

## **Post-op Guidelines Arthroscopic or Open Biceps Tenodesis (continued)**

### **Phase II: Intermediate Phase/AROM (Week 5 to Week 8)**

Criteria: Minimal pain and inflammation; full PROM shoulder/elbow

Goals: Gradual increase in AROM; Minimize pain/inflammation; Initiate light waist level functional activities; Continue PROM

**Discontinue sling during day and night.**

1. Continue previous exercises
2. Initiate scapular strengthening with scapular retractions
3. Initiate AROM of elbow – pronation, supination, flexion, and extension
4. Gentle passive stretching at end of elbow ranges to maintain or increase flexibility
5. Initiate AAROM of shoulder all motions
6. **At week 6 progress AROM of shoulder** (Lawn chair progression beginning with elbow flexed and progress to elbow extended)
6. Isometrics with the arm at the side for rotator cuff or deltoid strengthening

**Any strengthening activities related to elbow flexion, supination, or forward elevation of the arm with the elbow extended should be restricted until week 12 following biceps tenodesis.**

### **Phase III: Strengthening Phase (week 9-12)**

Criteria: Full AROM elbow and shoulder; good scapula control with AROM

Goals: Maintain full pain free AROM of shoulder; Normalize strength, endurance and neuromuscular control; Initiate chest level functional activities; Continue PROM/stretching prn

1. Continue previous exercises
2. Initiate T-band ER/IR
3. Initiate prone rowing
4. Initiate full can scapular plane raises with good mechanics
5. Initiate biceps isometrics
6. **At 12 weeks** may initiate biceps curls with LIGHT (less than 1 lb) resistance

**Any strengthening activities related to elbow flexion, supination, or forward elevation of the arm with the elbow extended should be restricted until week 12 following biceps tenodesis.**

### **Phase IV: Advanced Strengthening Phase (Week 13 to Week 16)**

Criteria: Normal ROM; minimal pain; appropriate RC and scapular strength for below shoulder level activities

Goals: Maintain full pain free AROM of shoulder; Normalize and progress strength for functional/recreational activities; Continue PROM/stretching prn

1. Continue previous exercises
2. Biceps curls with LIGHT (less than 1 lb) resistance
3. Strengthening of triceps, rotator cuff, deltoid, and scapular stabilizers performed at least 3 times per week

**Stay high rep and low resistance with above exercises or any that affect the glenohumeral joint and may fire the biceps.**

#### **Phase V: Return to Activity Phase 16+ weeks**

Criteria: Normal ROM; muscle strength that fulfills work/sport requirements

Goals: Return to full work and recreational activities

1. Continue previous exercises
2. Advance biceps strengthening to 2 lb. or greater
3. Progress previous strengthening program; continue to increase weight resistance with isotonics
4. Focus exercises on eccentric strengthening of posterior rotator cuff and scapular muscles
5. Add total body conditioning, including strength and endurance training if appropriate
6. Initiate sport/work specific drills or activities

**Initiate appropriate interval throwing, pitching, tennis, and golf program as appropriate at 16+ weeks**

Return to sport, work, and prior activity level unrestricted based on physician approval and completion of rehab

#### **Red Flags!**

OK to have mild discomfort with exercises, but if it persists > 1 hr., the intensity of the exercises must be decreased.

If there is an increase in night pain, the program must be altered to decrease the intensity.