ATLANTIC ORTHOPAEDIC SPECIALISTS
Leaders in Orthopaedic Health

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Subpectoral Bicep Tenodesis Protocol (Spreadsheet)

	Treatment	Restrictions	Goals
Weeks 1-2	Modalities	No active elbow flexion (6weeks)	Full PROM shoulder and elbow
	PROM: Shoulder, elbow, forearm	No active shoulder flexion (4 weeks)	Indep with HEP
	Pendulums	No PROM shoulder Ext.	
	Rhythmic Stabs	Sling	
	Scapular stabs		
Weeks 2-6	AAROM Shoulder	Protect AAROM Shoulder Ext	Restore scapular rhythm AAROM
	AROM supine protraction (week 4)	DO NOT load bicep	Wean sling and DC Sling by Week 6
	AROM ER S/L (week 4)		
	Initiate post and inf mobs.		
	Prone Row and Ext.		
	Begin Grav dep shoulder scaption and Flex. (week 6)		
	Posterior Capsule stretch (week 5-6)		
Weeks 6-12	Begin AROM all planes Active Elbow flexion- progress with resistance	No sling required	Appropriate scapular rhythm
	Active elbow flexion – progress with resistance	No plyometric exercise until week 10	Strength testing > 4/5
	UBE		Full AROM shoulder and elbow
	T-band PRE's		
	Progress resis. shoulder all planes		
	Rhythmic stabs.		

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Biceps Tenodesis Rehabilitation Protocol

- This protocol is intended to be independent of a Rotator Cuff Repair (RCR) protocol.
- If a biceps tenodesis is performed with a RCR, follow the RCR protocol for the shoulder and refer to the Biceps protocol for distal extremity.

Phase I: Passive Range of Motion Phase (weeks 1- 4)

Goals:

- Minimize shoulder pain and inflammatory response
- Achieve gradual restoration of passive range of motion (PROM)
- Avoid active range of motion of elbow and activation of the biceps
- 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 or compression sleeve 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

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Milestones to progress to phase II:

- 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 (week 4-6)

Goals:

- Minimize shoulder pain and inflammatory response
- Achieve gradual restoration of AROM of elbow
- Begin light waist level functional activities
- Wean out of sling by the end of the 4-5 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

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- Completion of phase II activities without pain or difficulty

Phase III - Strengthening Phase (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 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)

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  - 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 (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:

- 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