



Biceps Tenodesis (Subpectoral) Rehabilitation Protocol

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Key Surgical Note

It is essential to protect the biceps tenodesis site during the initial recovery period. During the first six weeks after surgery, patients must avoid any resisted elbow flexion or supination. This precaution is necessary to ensure optimal healing of the repair and to prevent undue stress on the surgical site.

Phase I — Protection & Passive Motion (0–6 Weeks)

Goals

- Protect the repair site during early recovery
- Minimize pain and inflammation
- Maintain mobility in the joints distal to the shoulder

Precautions

- Avoid lifting, pushing, or pulling objects
- Refrain from active elbow flexion, supination, and shoulder external rotation beyond 40 degrees

Interventions

- Use a sling as directed by the surgeon
- Apply cryotherapy to manage swelling and discomfort
- Begin pendulum exercises and gentle passive range of motion (PROM) within prescribed limits (shoulder flexion up to 120 degrees, external rotation up to 40 degrees)
- Initiate scapular setting exercises
- Allow active range of motion (AROM) for the elbow and wrist, provided there is no resistance

Metric Targets at 6 Weeks

- Pain score should be less than or equal to 3 out of 10
- PROM flexion should not exceed 120 degrees
- PROM external rotation should not exceed 40 degrees
- Shoulder effusion should be 1+ or less

Criteria to Advance to Phase II

- Pain is less than 3 out of 10

- Passive shoulder flexion reaches at least 120 degrees
- External rotation reaches at least 40 degrees
- No anterior shoulder tenderness

Phase II — Assisted to Active Motion (6–10 Weeks)

Goals

- Restore active range of motion (AROM) of the shoulder
- Improve scapular control
- Introduce light isometric exercises for the rotator cuff

Precautions

- Avoid resisted elbow flexion and supination until after six weeks
- Do not lift objects heavier than five pounds

Interventions

- Begin wand-assisted active-assisted range of motion (AAROM) exercises
- Incorporate wall slides and supine flexion activities
- Introduce rhythmic stabilization exercises
- Start prone rows and side-lying external rotation exercises without weight
- Perform scapular control drills

Metric Goals at 10 Weeks

- AROM flexion should be at least 140 degrees
- AROM external rotation should be at least 60 degrees
- Pain score should not exceed 2 out of 10
- Isometric activation should occur without discomfort

Criteria to Advance to Phase III

- Full, pain-free active range of motion (AROM)
- Ready to begin light resisted strengthening exercises

Phase III — Strength & Control (10–16 Weeks)

Goals

- Enhance dynamic shoulder stability
- Restore overall upper extremity strength and endurance
- Improve scapular synergy

Precautions

- Avoid heavy lifting
- Refrain from forceful loading of the biceps

Interventions

- Introduce theraband external and internal rotation exercises
- Begin prone T-Y-I strengthening routines
- Add push-up plus exercises

- Start light biceps curls and cable rows
- Incorporate rhythmic stabilization drills
- Integrate kinetic chain activities

Metric Goals at 16 Weeks

- Limb symmetry index (LSI) should be at least 85%
- No pain with active range of motion or light resistance
- Able to perform three sets of fifteen controlled repetitions

Criteria to Advance to Phase IV

- Strength is at least 85% of the contralateral side
- No pain with activities of daily living (ADLs) or light resistance

Phase IV — Functional Restoration & Return to Sport (16–24 Weeks)

Goals

- Restore overhead and functional strength
- Develop dynamic control
- Build patient confidence for returning to sport or work

Interventions

- Incorporate progressively resisted biceps curls
- Introduce plyometric ball work
- Add push-ups and overhead pressing exercises
- Include sport- or work-specific drills as appropriate

Criteria for Return-to-Play

- Limb symmetry index of 90–95% or greater
- Full, pain-free range of motion on functional testing
- No shoulder effusion
- Return-to-play must be approved by both the surgeon and the physical therapist

Selected References

- Mazzocca AD et al. Subpectoral biceps tenodesis: clinical outcomes and rehabilitation. Am J Sports Med. 2014;42(8):1929–1937.
- Werner BC et al. Rehabilitation after biceps tenodesis: a systematic review. J Shoulder Elbow Surg. 2019;28(6):1213–1221.
- Wilk KE, Macrina LC. Rehabilitation following biceps tenodesis. J Orthop Sports Phys Ther. 2015;45(11):885–897.

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