



Green Bay • Fox Valley • Marinette

2223 Lime Kiln Road, Green Bay, WI 54311 • Phone: 920-430-8113 • Fax: 920-430-8124

osmsgb.com

Physical Therapy Protocol: Biceps Tenodesis

Philosophy:

Our biceps tenodesis protocol begins with early flexibility and stretching, followed by a progression to strengthening, and then advanced function. These are progressed quickly to prevent the most common cause of failure (stiffness). Individual variations will occur depending on surgeon input, concomitant rotator cuff findings, and patient response to treatment. The following are guidelines for biceps tenodesis rehabilitation.

Phase I, surgery to 4 weeks

OSMS appointments:

Medical appointment at 2 weeks with films

Rehabilitation will begin as directed by your physician and as indicated on your rehabilitation order

Rehabilitation Goals:

Cryotherapy unit to the shoulder: twenty minutes every two hours to reduce swelling

Full passive ROM for shoulder flexion, abduction, IR and ER

Achieve activation of the stabilizing muscles for the GH and scapulothoracic joints

Precautions:

Strict sling for 4 weeks

No lifting anything heavier than 12 oz

No bicep tension for 4 weeks to protect tenodesis. This includes avoiding long arm flexion and resisted supination or elbow flexion (No ER past 40°, no shoulder extension).

Suggested Therapeutic Exercises:

Grip strengthening

Forearm and wrist ROM

Cervical spine & scapular active ROM

Desensitization for axillary n distribution

Elbow AAROM/PROM without resistance (to allow the biceps tendon time to heal into the new insertion site on the humerus without stress)

AAROM/PROM for shoulder flexion, abduction, IR and ER

Cardiovascular Exercises (with sling on):

Walking, Stairmaster, or stationary bike

Progression Criteria:

Incisional healing, full PROM of shoulder, and of elbow in sup/pron/flex/extension

Negative impingement pain or shoulder apprehension



Green Bay • Fox Valley • Marinette

2223 Lime Kiln Road, Green Bay, WI 54311 • Phone: 920-430-8113 • Fax: 920-430-8124

osmsgb.com

Phase II, 4-6 weeks

OSMS appointments:

MD appointment at 6 weeks

Rehabilitation appointments every 5-7 days

Rehabilitation Goals:

Advance to AROM for shoulder flexion, abduction, IR and ER to neutral (and normal scapulothoracic movement)

Begin proprioceptive and dynamic neuromuscular control training

Strengthen shoulder and scap stabilizers

Full discontinuation of sling

Precautions:

No cross-frictional massage

No swimming, throwing or overhead serves

Avoid activities that have risk for falls

Suggested Therapeutic Exercises:

Gentle shoulder mobilizations as needed

AAROM/AROM in all planes-assessing scapular rhythm

RTC strengthening

Ball squeezes

Core strengthening

Cardiovascular Exercises:

Stationary bike without arms

Impact exercises are only allowed once the patient exhibits full RTC strengthening in neutral position (to avoid distractive forces when landing)

Progression Criteria:

Full shoulder AROM, scapular posture at rest and dynamic scapular control with ROM and/or functional activities

Phase III, 6-12 weeks

OSMS appointments:

MD appointment at 12 weeks

Rehabilitation appointments every 1-2 weeks

Rehabilitation Goals:

Full shoulder and scapular ROM, all planes

5/5 RTC strength and peri-scapular strength

Precautions:

No swimming, throwing, or overhead serves until 12 weeks



Green Bay • Fox Valley • Marinette

2223 Lime Kiln Road, Green Bay, WI 54311 • Phone: 920-430-8113 • Fax: 920-430-8124

osmsgb.com

Avoid activities that have risk for falls

Suggested Therapeutic Exercises:

At 6 weeks, begin light isometrics with the arm at side

At 6 weeks, begin scapular PREs

At 8 weeks, UE ergometer, weighted ball toss, body blade, for eccentrically resisted motion

Demonstrate stability with higher velocity movements and change of direction that replicate sport-specific patterns

Pain-free return to high velocity overhead movements

Improve core and hip strength & flexibility to eliminate any compensatory stresses to the shoulder

Work capacity endurance for specific demands

Progression Criteria:

The patient can progress to full activities when they have met goals pain-free (appropriate RTC and scapular musculature performance for chest level activities)

Return to throwing and begin swimming at 12 weeks

Throw from pitcher's mound at 18 weeks

Return to collision sports at 26 weeks

MMI is usually 26 weeks

References:

- Cools AM, Dewitte V, Lanszweert F, Notebaert D, Roets A, Soetens B, Cagnie B, Witvrouw EE. Rehabilitation of Scapular Muscle Balance: Which Exercises to Prescribe?. *Am. J. Sports Med.* July 2007; 35(10); 1744-1751.
- Krupp RJ, Kevern MA, Gaines MD, Kotara S, Singleton SB. Long Head of the Biceps Tendon Pain: Differential Diagnosis and Treatment. *Jour Ortho & Sports PT.* Feb 2009; 39(2): 55-70.
- Nho SJ, Strauss EJ, Lenart BA, Provencher MT, Mazzocca AD, Verma NN, Romeo AA. Long head of the biceps tendiopathy: diagnosis and management. *J Am Acad Orthop Surg.* 2010; 18(10): 645-656.
- Reinold MM, Escamilla R, Wilk KE. Current concepts in the scientific and clinical rationale behind exercises for glenohumeral and scapulothoracic musculature. *J Orthop and Sports Medicine.* 2009; 39(2): 105-117.
- Romeo AA, Mazzocca AD, Tauro JC. Arthroscopic Biceps Tenodesis. *Arthroscopy.* Feb 2004; 20(2): 206-213.
- Ryu JH, Pedowitz RA. Rehabilitation of biceps tendon disorders in athletes. *Clinics in Sports Medicine.* 2010; 29: 229-46.
- Wilk KE, Meister K, Andrews JR. Current concepts in the rehabilitation of the overhead throwing athlete. *Am J Sports Med.* 2002;30(1):136-151.



Green Bay • Fox Valley • Marinette

2223 Lime Kiln Road, Green Bay, WI 54311 • Phone: 920-430-8113 • Fax: 920-430-8124

osmsgb.com

- Wilk KE, Yenchak AJ, Arrigo CA, Andrews JR. The advanced throwers ten exercise program: a new exercise series for enhanced dynamic shoulder control in the overhead throwing athlete. *Phys Sportsmed*. 2011;39(4):90-97