Bicipital tenodesis and tenotomy: a review for rehabilitation guidelines
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Recently there is increased interest within the orthopaedic community in surgery for bicipital tendinitis. The long head of the biceps stretches from the scapula to the forearm and has potential to function at both the shoulder and elbow. Primary bicipital tendinitis, with no other tissue involvement, is rare (5%). More often, other structures such as the labrum or rotator cuff accompany biceps pathology.

Conservative management is warranted as the first line of treatment. Failing that, biceps tenotomy or tenodesis are the mainstay of surgical options. Tenotomy is indicated for patients who are older, those with an irreparable tendon, or who cannot participate in rehabilitation. The surgery is simple and has fewer limitations but has a high risk of a 'Popeye' deformity with a loss of strength in elbow flexion and supination.

Tenodesis techniques are indicated for a younger, active patient who is involved in overhead activities. The disadvantages are a longer surgery, introduction of hardware, and a more involved rehabilitation. However, tenodesis has the advantage of maintaining the length-tension relationship of the tendon, the strength of the biceps in supination and flexion, looks better cosmetically, and doesn't have residual pain and cramping in the muscle.

Over the past 70 years several surgical techniques have been developed for biceps tenodesis using screws, anchors, sutures, and a subpectoral approach. The biomechanical studies comparing techniques show some variability in results for "load to failure" stresses but there is no single technique that is consistently superior to another.

Although protection of the healing tendon for the first 6 weeks is advocated in the biomechanical studies, this is not consistent in the rehabilitation protocols. Rehabilitation protocols after tenodesis varies with regards to time-frames for sling usage and allowable biceps muscle activity.

Successful rehabilitation creates a healing environment for the tissues involved and requires application of loads in a controlled manner. Clear instruction to the patient regarding activity and behavior modification in the initial stages helps to protect the repair and ensure optimal outcome. Currently, there is minimal evidence-based research specifically relating to rehabilitation post tenodesis. The best evidence remains surgeon and therapist experience.