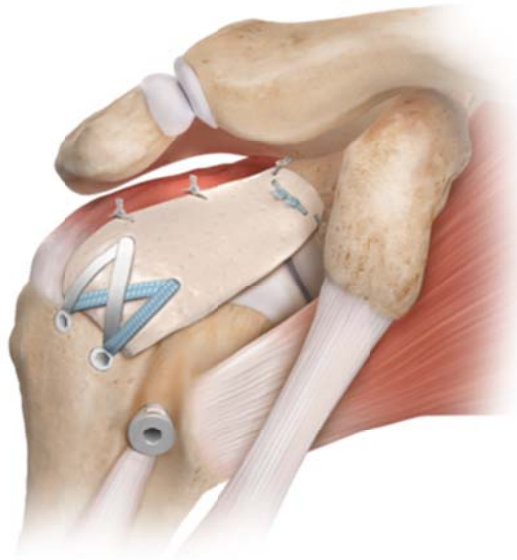


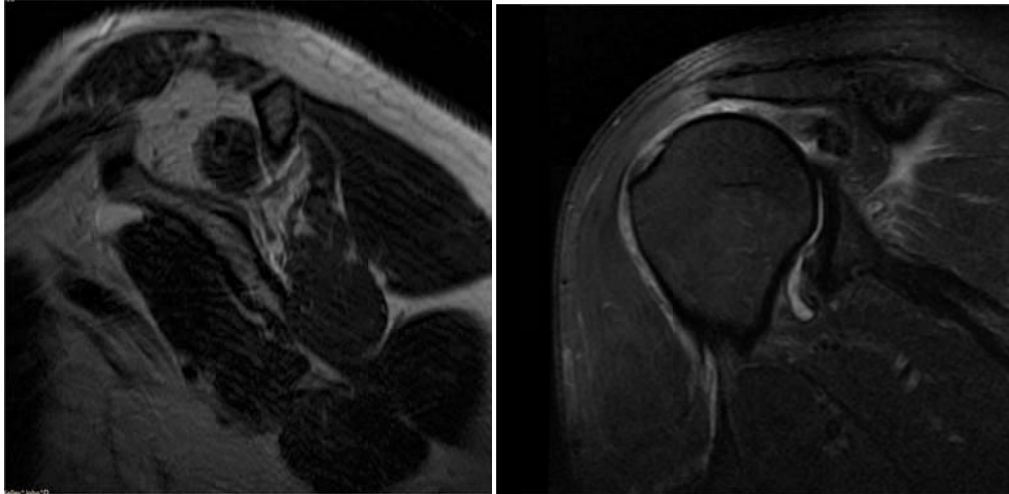
# Superior Capsular Reconstruction

By Derek S. Shia, M.D.



Superior Capsular Reconstruction is an arthroscopic procedure that has been developed for patients with massive irreparable rotator cuff tears. In certain individuals with chronic tears this procedure can be used to improve function and decrease pain in individuals that have failed non-operative management. Historically patients that fall into this category underwent tendon transfers around the shoulder with higher complications, more morbidity and somewhat less than desired results. This newer procedure offers an arthroscopic less invasive option.

The rotator cuff is made of four individual muscles including the supraspinatus, infraspinatus, subscapularis and teres minor. Each of these muscles transition into tendons and attach to the proximal humerus. Rotator cuff tears can occur due to direct trauma such as a fall but can also occur as the result of degenerative changes surrounding the shoulder.



Rotator cuff tears are a common injury and can range in severity from a partial thickness tear of one of the tendons to complete tears of one or multiple tendons. The treatment of these injuries will often begin with non-operative management that can consist of a wide variety of different modalities. Commonly this will consist of physical therapy, activity modification, and anti-inflammatories. Corticosteroid injections can also be offered to help inflammation and allow more effective physical therapy.

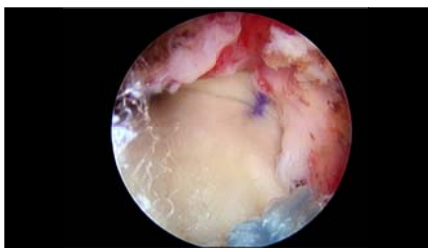
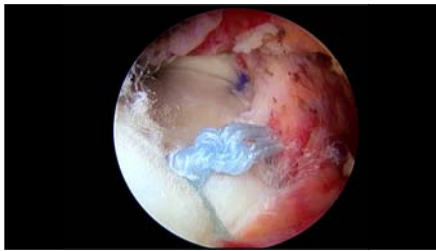
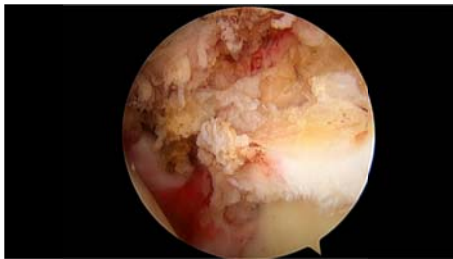
After failure of non-operative management surgical options can be considered. The surgical options available to the patient will frequently depend on multiple factors including age, activity level, size of the rotator cuff tear, the tears chronicity of the tear, and appearance of the rotator cuff on MRI. The rotator cuff can be evaluated with MRI and will allow provide invaluable information regarding the different treatment options that are available to the patient.

The most common treatment is arthroscopic repair of the rotator cuff. This involves small incisions around the shoulder and the use of an arthroscope (camera) to visualize the surgery. This can be performed when the MRI demonstrates a tear without a large amount of retraction and little fatty infiltration of the effected rotator cuff muscle. Fatty infiltration and retraction are both related to the size and the age of the tear. Tears that have been present for years often will undergo degeneration where there is transition from normal muscle to muscle that is now containing fat. The percentage of overall fat is important with less fat being a positive prognostic indicator for a successful repair. Retraction is another prognostic indicator for a successful primary repair.

Some rotator cuff tears cannot be fully fixed at the time of repair. When this is the case other options are available at the time of surgery. If a complete repair is not possible a partial repair can be done with a successful outcome. While a complete repair is desirable some times the entire rotator cuff is not repairable and a partial repair can lead to significant clinical improvement.

Superior capsular reconstruction is utilized in patients where a majority of their rotator cuff is not repairable. In younger patients this can be a good option to restore function and decrease pain. In this procedure a cadaver allograft is typically utilized and usually a dermal allograft although other graft materials such as fascia lata can be used successfully. This procedure is an outpatient procedure performed arthroscopically.

This procedure allows arthroscopic placement of the graft attaching it to both the glenoid and the humeral head. This acts to depress the humeral head and prevents the superior migration that occurs in the rotator cuff deficient shoulder. This acts to improve the functional rotation of the head.



The early studies with this procedure have demonstrated overall patient satisfaction with the procedure with increase in range of motion, decrease in pain and increase in strength.

Rehabilitation for this procedure is slow and requires six weeks in a sling with slow progression of strengthening until 12-16 weeks. The purpose of the slow rehabilitation is to promote graft healing while minimizing the risk of graft failure.

For patients who also have concomitant arthritis or loss of the subscapularis a reverse total shoulder arthroplasty is one of the few remaining procedures that can restore shoulder function.

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