

Superior Capsule Reconstruction **Neha Halnure***

Received: August 04, 2021; **Accepted:** August 18, 2021; **Published:** August 25, 2021

Department of Biotechnology, Osmania University, Hyderabad, Telangana, India

Short Communication

The management of irreparable rotator cuff tears remains challenging. Since its introduction by Mihata in 2012, Superior Capsule Reconstruction (SCR) has grown in popularity at an astonishingly rapid rate. The aim of this article is to provide a comprehensive review of the available literature, in order to highlight what has so far been published on SCR, covering all aspects including biomechanical, clinical and radiological studies as well as descriptions of the various techniques for performing the procedure [1-3].

The short-term clinical results of SCR are promising, but there is need for further long-term studies, as well as randomised controlled trials comparing SCR to other treatment modalities for irreparable rotator cuff tears. Further imaging's studies looking at graft healing rates are also required as the healing rates published so far are variable. Additionally, the mechanism of action by which SCR delivers good short-term functional outcomes needs further clarification, as does the importance of the choice of graft type and thickness.

Anatomy & function of the normal superior capsule

The superior capsule is formed by a thin continuous sheet of interwoven collagen fibrils, which extend from the glenoid labrum medially to the humerus laterally. It is 4.4 to 9.1 mm thick at its attachment to 30 to 61% of the greater tuberosity. Therefore, it may occupy as much as, or even more of the greater tuberosity footprint than the supraspinatus. It is thought that the superior capsule may play an important role in the passive stability of the glenohumeral joint. In a biomechanical study Ishihara, et al., demonstrated that a tear of the superior capsule significantly increased the anterior and inferior translation, whereas a superior capsular defect significantly increased glenohumeral translation in all directions compared to the intact capsule. Additionally, with the superior capsular defect, there were significant increases in the contact pressures between the humerus and the coracoacromial arch. These and other similar findings have led authors to suggest that the superior capsule may act as a hammock overlying the joint and prevent the humeral head from making contact with the deep surface of the acromion. Furthermore, Adams, et al., proposed that the defect in the superior capsule may be the "essential lesion" in patients

***Corresponding author:** Neha Halnure

✉ nehahalnure21@gmail.com

Department of Biotechnology, Osmania University, Hyderabad, Telangana, India.

Citation: Neha H (2021) Superior Capsule Reconstruction. J Univer Surg Vol.9 No.8:41

with superior cuff tear, as opposed to the tear in the rotator cuff itself and rotator cuff repairs that do not involve restoration of the normal superior capsule anatomy may result in sub-optimal outcomes.

Techniques

There are a variety of reported techniques for performing SCR depending on the type of the graft (fascia lata, extracellular matrix dermal grafts, long head of biceps and tendon allografts), whether performed in an open manner or arthroscopically, the mode of the glenoid and greater tuberosity fixation, and whether the anchors are all inserted before or after passage of the graft. The original arthroscopic technique described by Mihata involved using fascia lata autograft fashioned to a thickness of 6mm to 8mm, which was attached medially to the glenoid using 2 fully threaded titanium suture anchors, laterally to the greater tuberosity with a combination of a double-row technique and the suture bridge. The graft was further stabilised with a side-to-side suture posteriorly to the residual infraspinatus and anteriorly either to the residual anterior-superior tendon or to subscapularis.

References

- 1 Dimock RA, Malik S, Consigliere P, Imam MA, Narvani AA (2019) Superior capsule reconstruction: What do we know? Arch Bone Jt Surg 7:3.
- 2 https://journals.lww.com/jbjsreviews/Fulltext/2019/06000/Superior_Capsular_Reconstruction_for_Massive.1.aspx
- 3 <https://www.ct-ortho.com/patient-resources/patient-education/articles/superior-capsular-reconstruction/>