

## Shoulder Superior Capsular Reconstruction Using Acellular Human Dermal Allograft



**Abstract:** What happens to acellular human dermal allograft (AHDA) after shoulder superior capsular reconstruction? AHDA appears to be a biological scaffold supportive of cellular infiltration, neovascularization, and incorporation of connective tissue. The process may be associated with inferior biomechanical properties during graft remodeling.

Earlier this year, our highly respected and esteemed author, Peter J. Millett, M.D., M.Sc., and coauthors Altintas, Scibetta, Storaci, Lacheta, and Anderson submitted a case report to *Arthroscopy*, “Biomechanical and Histopathologic Analysis of a Retrieved Dermal Allograft Following Superior Capsule Reconstruction.”<sup>1</sup> Unfortunately, as we have said in many editorials, *Arthroscopy* now very rarely accepts case reports and prefers original scientific articles of higher levels of evidence, as well as technical notes with video for *Arthroscopy Techniques* and Open Access submissions to *Arthroscopy*, *Sports Medicine*, and *Rehabilitation*. With some regret, on this basis, the report was not accepted for publication.

However, shortly thereafter, our highly respected and esteemed author, shoulder and elbow specialist, Robert U. Hartzler, M.D., M.S., and coauthors, including our most cited author of all time, Stephen S. Burkhart, M.D., submitted the case report, “The Histology of a Healed Superior Capsular Reconstruction Dermal Allograft.”<sup>2</sup> At this point, based on the similarity between the subject of the reports and in the context of the scientific credibility of the authors, your editor-in-chief recognized that we were at risk of missing something important. Dr. Millett was immediately contacted and graciously agreed to give us a second chance, both papers were reviewed and revised, and in this issue, we are pleased to publish both case reports.

Reconstruction of the superior capsule of the shoulder in the context of repair of large and massive rotator cuff tears was described by Mihata et al.<sup>3,4</sup> using autograft fascia lata and has been modified by use of acellular human dermal allograft (AHDA), a graft application

representing homologous use.<sup>5-7</sup> Both of the case reports in this issue<sup>1,2</sup> describe cases in which the superior capsule was reconstructed using AHDA. Although most patients undergoing superior capsular reconstruction are reported to have satisfactory results,<sup>3-7</sup> in both of these cases,<sup>1,2</sup> the patients did poorly, resulting in a need for additional surgery and an opportunity to retrieve the grafts. In both cases, the grafts were intact.

What do these reports show? AHDA appears to be a biological scaffold supportive of cellular infiltration, remodeling, neovascularization, and incorporation of connective tissue. In 1 case,<sup>1</sup> at 4.5 months post-operatively, the graft had biomechanical properties inferior to unimplanted AHDA, a finding that could have implications with regard to superior capsular reconstruction patient rehabilitation. Surgeons and scientists interested in shoulder reconstruction and in biologics will want to review the details of both of these case reports.<sup>1,2</sup>

And...editors who detect a pattern among submissions of top authors should keep an open mind as to when exceptions to their case report doctrine might be thoughtfully considered.

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