

# SUMMARY OF PEER-REVIEWED LITERATURE

## Healing Rates for Challenging Rotator Cuff Tears Utilizing an Acellular Human Dermal Reinforcement Graft

Agrawal, Vivek. *International Journal of Shoulder Surgery*, 2012;6:36-44.

### Overview

Rotator cuff repair is one of the most challenging healing environments faced by orthopedic surgeons with failure rates as high as 68%<sup>1</sup>. This study is intended to show that augmenting the repair with an acellular human dermis scaffold will improve the healing rate.

### Methods

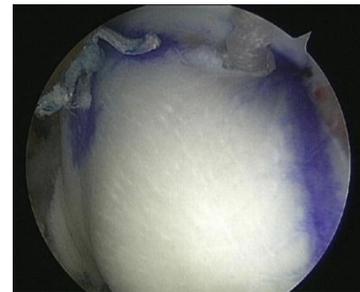
Fourteen patients with large, massive or previously repaired rotator cuff tears underwent rotator cuff repair and augmentation with Allopatch HD<sup>®</sup> Acellular Human Dermis (Figure 1). Rotator cuff healing was assessed at an average of 16.8 months using MRI (1.5T). Functional outcomes were also assessed.

### Results

MRI results showed that the rotator cuff repair was intact in 85.7% (12/14) of the patients (Figure 2). Two patients (2/14, 14.3%) had Sugaya Type IV recurrent tear which were both less than 1cm. Clinical functional outcome scores are in the Table 1.

**Table 1: Functional Outcomes**

Variable	Preoperative	Postoperative	P value
Constant score	49.7	81.1	0.009
Pain subset	7.7	13.6	0.008
Constant Strength (kg)	1.7	7.5	0.006
Scapular Abduction	113.6°	166.4°	0.01
Flexilevel scale (FlexSF)	53.7	79.7	0.003



**Figure 1:** Rotator cuff repair with reinforcement Allopatch HD<sup>®</sup> graft.

### Conclusions

Augmenting a rotator cuff repair with Allopatch HD<sup>®</sup> Acellular Human Dermis is a safe and effective technique that may help improve the healing rates of large, massive, and revision rotator cuff tears. This technique demonstrated favorable structural healing rates and statistically improved functional outcomes in the near term.



**Figure 2:** MRI of healed patients at follow-up. (a) Sugaya Type I, sufficient thickness with homogenous low intensity; (b) Sugaya Type II, sufficient thickness with partial high intensity.

### References

<sup>1</sup> Jost B, Pfirmann CWA, Gerber C. Clinical outcome after structural failure of rotator cuff repairs. *J Bone Joint Surg Am* 2000; 82:304-14.)

Full text available here: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3391783/>