

Clinical experience case series: retear rates following rotator cuff repair (RCR) with the TENDON SEAM Construct

Frix, J. Early clinical outcomes following rotator cuff repair with the tendon-to-bone seam technique: A novel knotless construct enabling early mobilization. 2025 Orthopaedic Summit Evolving Technologies¹

Overview

- Biomechanical analysis has demonstrated that the unique, continuous-stitch TENDON SEAM Construct resulted in higher repair strength and less gap formation than reported for transosseous-equivalent (TOE) repair^{2,3}
- Retrospective data collection was performed to evaluate the impact on retear rates after repair in the clinical setting using the TENDON SEAM Construct¹



Image.
TENDON SEAM
Construct

Methodology

164
Consecutive
patients underwent
primary RCR with
the TENDON SEAM
Construct



44
MRIs
performed
as clinically
indicated

Clinically indicated MRIs*

n=3 partial
(6.8%)
n=1 small
(2.3%)
n=10 medium
(22.7%)
n=30 large
(68.2%)

- All surgeries performed by Howard W. Harris, M.D between Jun 2023 and Oct 2024
- 51% of patients had large/massive tears

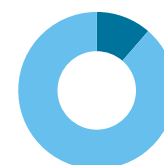
Clinical indication for MRI including but not limited to:

- High risk for re-tear (surgeon discretion)
- Ongoing or unexplained postoperative pain
- Postoperative trauma
- Noncompliant to rehabilitation protocol

Results

In the post-operative MRI cohort 11% (5/44) of patients had retears Sugaya grade 4 or 5.¹
MRI performed mean 13±6 weeks (range 2–28 weeks).

MRI cohort - retears



■ Retear
n=5 ■ Non-retear
n=39

- The MRI cohort had a higher proportion of initial large/massive tears (68%) than the overall study population (51%).



Retear outcomes:

- 5 type 1 retears were reported
- All 5 originally large tears[†]

Conclusion

TENDON SEAM Construct shows encouraging results in a real world population. MRI findings demonstrated low observed retear rates in the evaluated cohort.



Scan or click to learn more about the
TENDON SEAM Construct

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*Results evaluated by surgeon and independent radiologist. If pass/fail or reads misaligned, then MRI evaluated by two additional surgeon reviewers, and scored as more conservative read of the two. [†]2 traumatic, 2 rehabilitation protocol non-compliance, 1 revision for retear.

Abbreviations: MRI = magnetic resonance imaging; RCR = rotator cuff repair; TOE = transosseous-equivalent repair.

References: 1. Frix, J. Early clinical outcomes following rotator cuff repair with the tendon-to-bone seam technique: A novel knotless construct enabling early mobilization 2025. Orthopaedic Summit Evolving Technologies. Sept.19–21st: Las Vegas, NV.

2. Integrity Orthopaedics Data on File. 2025. Testing Report: DN-00664. 3. Frix JT, Serbin R, Harris HW, Labbe MR, Connor PM, Arthrosc Tech. 2026;15(8):e70093.