

Rotator Cuff Repair With or Without Patch Augmentation: A Systematic Review of Randomized Controlled Trials

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INTRODUCTION: The purpose of this study was to perform a systematic review of randomized controlled trials comparing clinical outcomes of rotator cuff repair (RCR) with and without patch augmentation.

METHODS: A systematic review was conducted according to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines by searching PubMed, the Cochrane Library, and Embase to identify randomized controlled trials which directly compared outcomes between rotator cuff repair (RCR) with versus without patch augmentation. The search phrase used was: *rotator cuff repair patch*. Patients were evaluated based on retear rate, histological outcomes, radiological outcomes, and patient-reported outcomes (Constant score; American Shoulder and Elbow Surgeons [ASES] score; University of California-Los Angeles shoulder scale; Simple Shoulder Test; EuroQol-visual analog scale; Disabilities of the Arm, Shoulder and Hand [DASH] score; and PENN shoulder score questionnaire).

RESULTS: Six studies (1 level I, 5 level II) met inclusion criteria, including 188 patients undergoing RCR alone (Group A) and 193 patients undergoing RCR with patch augmentation (Group B). Patient age ranged from 56.0 to 68.0 years. The mean follow-up time ranged from 14.0 to 68.4 months. The average body mass index ranged from 24.4 to 29.4 kg/m² and the overall percentage of males ranged from 32.5% to 82.3%. Three studies found significantly decreased retear rates with patch augmentation. The retear rate ranged from 34.0% to 65.4% in Group A and 9.1% to 52.9% in Group B. One study found a significant difference for the Constant score favoring Group B. Two studies found a significant difference for the ASES score favoring Group B. One study found significantly better results in Group B in terms of repaired tendon thickness and footprint coverage, based on magnetic resonance imaging.

DISCUSSION AND CONCLUSION: Patch augmentation of rotator cuff repairs results in lower retear rates overall.