

Outcomes Following Rotator Cuff Repair with Subacromial Balloon Spacer Augmentation

Gabrielle Lucia Dykhouse, Erick Marigi, Anthony Finocchiaro, Jarred Chow, Lasun O. Oladeji, Ryan Rundle Thacher, Joshua S Dines, Michael Fu

INTRODUCTION:

Management of massive rotator cuff tears (RCTs) remains a challenge for orthopedic surgeons. Rotator cuff repair (RCR) in combination with subacromial balloon spacer augmentation may support the repair by restoring biomechanical function to the glenohumeral joint. However, it is unknown whether this combined approach offers superior clinical outcomes. Therefore, this study sought to investigate clinical outcomes of a cohort of patients with massive rotator cuff tears treated with RCR and concurrent subacromial balloon spacer implantation.

METHODS:

Adult patients who underwent a rotator cuff repair with subacromial balloon implantation with a minimum of 1 year of clinical follow up and completed clinical surveys were eligible for inclusion in this study. Patient-reported outcome measures (PROMs) including American Shoulder and Elbow Surgeons (ASES) Standardized Shoulder Assessment Form score, Single Assessment Numeric Evaluation (SANE) score, PROMIS – Pain Intensity (PI), and PROMIS – Upper Extremity (UE) scores. Collected clinical outcomes included range of motion (ROM), strength, complications, and reoperations.

RESULTS:

The final cohort included 40 patients with a mean survey follow-up period of 1.21 ± 0.62 years. Patients were predominantly male ($n=24$, 60%) with a mean age of 64.1 ± 6.2 years and a body mass index of 27.2 ± 4.0 . The mean postoperative ASES score was 77 ± 24 and mean SANE score was 73 ± 24 . Furthermore, the average PROMIS – PI was 40 ± 9 and the average PROMIS – UE was 43 ± 11 . Clinically, there were 5 (13%) postoperative complications including retear in 4 (10%) shoulders, and noninfectious inflammatory arthropathy in 1 (3%). Reoperations occurred in 3 (7.5%) shoulders: 1 (2.5%) conversion to reverse total shoulder arthroplasty (RSA), 1 (2.5%) debridement with removal of anchors, and 1 (2.5%) revision RCR.

DISCUSSION AND CONCLUSION:

Patients undergoing rotator cuff repair in tandem with a subacromial balloon spacer demonstrated moderate early improvements in pain and function. Complications and reoperations occurred in a small minority of patients. These findings should be considered when counseling patients about the management of RCTs and the possible outcomes of utilizing subacromial balloon spacer with a concurrent RCR.