



Similar Revision Risk for Reverse and Anatomic Total Shoulder Arthroplasty in Glenohumeral Osteoarthritis Patients Aged 70 and Older

Reverse total shoulder arthroplasty (RTSA) is increasingly used to treat elderly patients with primary glenohumeral osteoarthritis (GHOA) and an intact rotator cuff to avoid revision surgery for rotator cuff failure with anatomic total shoulder arthroplasty (TSA), despite traditionally good outcomes of TSA.

This study supports the use of both anatomic and reverse total shoulder arthroplasty for elderly patients with glenohumeral osteoarthritis as there is no difference in revision rates. Causes of revision surgery were different between the groups. We were unable to evaluate functional outcomes and patient reported outcomes with the data available.

—Nathan D. Orvets, MD, Department of Orthopaedic Surgery,
Northwest Permanente Medical Group, Portland, OR | Study Author

Study Details

In a study published in the Journal of Shoulder and Elbow Surgery, Kaiser Permanente Orthopedic Surgeons and Medical Device Surveillance & Assessment Researchers identified 685 RTSA patients and 3106 TSA patients aged >70 years who underwent primary shoulder arthroplasty for GHOA with an intact rotator cuff between 2012 and 2021. Multivariable Cox proportional hazard regression was used to evaluate all-cause revision risk, whereas multivariable logistic regression was used to evaluate 90-day emergency department (ED) visits and 90-day readmissions.

- No significant difference in all-cause revision risk for RTSA vs. TSA.
 - HR 0.79; 95% CI, 0.39-1.58.
- Most common reasons for revision.
 - following RTSA, glenoid component loosening (40.0%).
 - following TSA, rotator cuff tear (54.0%).
- No difference was observed based on procedure type
 - 90-day ED visits (OR, 0.94; 95% CI, 0.71-1.26)
 - 90-day readmissions (OR, 1.32; 95% CI, 0.83-2.09).

Practice Considerations

- When considering shoulder arthroplasty for GHOA in elderly patients, both TSA and RTSA are valid treatment options.
- Patients who undergo primary RTSA may have an advantage over TSA patients in terms of eliminating the risk of rotator cuff failure, but the all-cause revision rates between the two procedures are similar.

[Link to Full Publication](#)

Orvets ND, Chan PH, Taylor JM, Prentice HA, Navarro RA, Garcia IA (2023). **Similar rates of revision surgery following primary anatomic compared with reverse shoulder arthroplasty in patients aged 70 years or older with glenohumeral osteoarthritis: a cohort study of 3791 patients** *J Shoulder Elbow Arthroplasty*, 32 (): 1893-1900.

