Privately Insured Patients have Higher Preoperative Expectations but Comparable Clinical Outcomes to Patients with Medicare Insurance Following Total Shoulder Arthroplasty

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INTRODUCTION: Insurance coverage is a key social determinant of health that has been linked to differences in access to care, treatment selection, and complications amongst various orthopedic subspecialties. Though prior studies have examined the impact of payer type on complications and healthcare utilization, its effect on preoperative expectations and subsequent postoperative patient-reported outcomes following total shoulder arthroplasty (TSA) remains unclear. Understanding the factors that contribute to patient's subjective perceptions of their health and function after TSA is essential for optimizing postoperative patient satisfaction and subsequently healthcare value. We hypothesized that patient expectations will vary among patients with different health insurance coverage providers, but there will be no difference in postoperative functional outcomes between payer types.

METHODS: A retrospective review was conducted using a single, urban, tertiary care center TSA registry and billing database. Patients undergoing primary TSA between February 1, 2016, and December 31, 2022, with completed preoperative expectations surveys were included. Demographic data, payer type (Medicare vs Private), PROMs (ASES, PROMIS Physical and Mental Health, satisfaction), and expectations were collected. Group comparisons of expectations, satisfaction, and outcomes were conducted using t-tests and chi-square analyses. Statistical significance was set at p < 0.05.

RESULTS: Among 604 patients who underwent anatomic total shoulder arthroplasty (aTSA), those with private insurance (n = 308) were younger than Medicare recipients (n = 296) (60.4 vs. 71.8 years; p < .001) and less frequently female (29.6% vs. 50.7%; p < .001). A significantly higher proportion of Black patients were in the private insurance cohort (3.3% vs. 1.0%). No significant differences were observed in BMI, laterality, primary diagnosis, or payments exceeding standard co-pays. Privately insured aTSA patients reported significantly higher preoperative expectations (mean = 76.1, SD = 16.7) than Medicare patients (mean = 72.4, SD = 15.8; p = .005) **(Figure 1)**, and greater improvement in PROMIS Physical Function scores (7.06 vs. 3.95; p = .019). No significant differences were observed in average change in ASES scores (45.3 vs. 45.4; p = .977), PROMIS Mental Health, or satisfaction scores. Among 312 patients who underwent reverse total shoulder arthroplasty (rTSA), privately insured patients (n = 85) were younger (63.7 vs. 73.9 years; p < .001), had a higher BMI (30.0 vs. 28.5; p = .038), and were more likely to be male (44.7% vs. 61.7%; p = .007) compared to Medicare patients (n = 227). Race, laterality, diagnosis, and payments exceeding standard co-pays were not significantly different. Expectations scores were significantly higher in the private group (73.0 vs. 68.3; p = .023) **(Figure 1)**. No significant differences were found in 2-year ASES change (39.2 vs. 40.4; p = .693), PROMIS Physical or Mental Health scores, or satisfaction levels. In both aTSA and rTSA groups, patients exceeded established thresholds for meaningful clinical improvement, with all cohorts surpassing the minimum clinically important difference (MCID = 13.9) and substantial clinical benefit (SCB = 33.1) for ASES scores.

DISCUSSION AND CONCLUSION:

The principal finding of this study was that, though patients with private insurance consistently reported higher preoperative expectations than those with Medicare, these elevated expectations did not translate into superior functional or satisfaction outcomes at minimum 2-year follow-up. Despite payer-related differences in demographics and expectations, postoperative recovery and benefit were comparable across insurance types. Our study builds on the existing literature by separating aTSA and rTSA into distinct cohorts and assessing patients at longer follow-up. To our knowledge, this is the first study to evaluate preoperative expectations as a function of payer type. Our findings contribute to the growing body of literature suggesting that differences in preoperative expectations may not impact outcomes following TSA.

Figure 1. Influence of Payer Type on 2-Year PROMs and Expectations Following Reverse and

Anatomic Total Shoulder Arthroplasty