

# Inflation-Adjusted Medicare Reimbursement for Primary and Revision Shoulder Arthroplasty: An Updated Analysis

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## INTRODUCTION:

Shoulder arthroplasty is a routine procedure done for a variety of diagnoses, including glenohumeral arthritis, rotator cuff arthropathy, systemic arthritis, and traumatic fractures not amenable to operative fixation. Due to its widened breadth of use over the years, research is warranted to assess trends in reimbursement by Medicare and Medicaid. Prior knee and hip arthroplasty studies have shown decreasing trends in physician reimbursement over the last decade. This study aims to assess the trends in reimbursements and physician fees for primary and revision shoulder arthroplasty cases.

## METHODS:

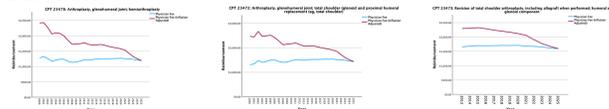
The Physician Fee Schedule Look-Up Tool from the Centers for Medicare & Medicaid Services was queried to extract reimbursement data from 2000 to 2025 for various shoulder arthroplasty procedures, including primary and revision surgeries. CPT codes 23470, 23472, 23473, 23474, 23334, and 23335 were included. All monetary values were converted to 2024 United States dollars (USD) using the Consumer Price Index to adjust for inflation. For each procedure, we calculated the mean annual reimbursement and trend of inflation-adjusted reimbursement to the year 2025. This procedure was performed for shoulder arthroplasty procedures including hemiarthroplasty, primary total shoulder arthroplasty (TSA), and revision TSA.

## RESULTS:

Across all procedures, there was a consistent decline in inflation-adjusted reimbursement. Over the last 25 years, there has been a 50.7% decline in reimbursement rates for hemiarthroplasty (2419.81 to 1192.43) when adjusting for inflation ( $p < 0.01$ ) (Table 1, Figure 1). However, when not accounting for inflation over time, reimbursement for hemiarthroplasty has stayed similar over the course of 25 years, with only a 0.3% average reduction in reimbursement (1,277.25 to 1,192.43). Over 25 years, physician fees have had a 0.38% increase on average when not accounting for inflation regarding primary TSA (1302.66 to 1433.64) (Table 2 and Figure 2). Inflation-adjusted reimbursement for primary TSA fell at a rate of approximately 2.15% each year (2467.96 to 1433.64). Inflation-adjusted physician fees have fallen approximately 3% per year for the last 12 years for revision TSA cases, including those requiring allograft use (2296.98 to 1593.02). Without adjusting for inflation, the reimbursement rate for revision arthroplasty has decreased by an average of 0.31% each year for 12 years (1654 to 1593.02) (Table 3 and Figure 3). All linear regression models showed statistically significant downward trends ( $p < 0.001$ ), with  $R^2$  values ranging from 0.885 to 0.915.

## DISCUSSION AND CONCLUSION:

Physician fees adjusted for inflation have been significantly decreasing over the years for hemiarthroplasty, primary TSA and revision TSA. This concerning finding may be due to a rise in surgeons who complete this procedure and its growing popularity. However, further research is warranted to understand the cause and how to mitigate the discrepancy between inflation and changes in reimbursement.



**Table 1: Inflation-Adjusted Medicare Reimbursement for Hemiarthroplasty (CPT 23470)**

Year	Reimbursement	Inflation-Adjusted Reimbursement
2000	\$1,277.25	\$1,277.25
2001	\$1,284.44	\$1,284.44
2002	\$1,291.63	\$1,291.63
2003	\$1,298.82	\$1,298.82
2004	\$1,306.01	\$1,306.01
2005	\$1,313.20	\$1,313.20
2006	\$1,320.39	\$1,320.39
2007	\$1,327.58	\$1,327.58
2008	\$1,334.77	\$1,334.77
2009	\$1,341.96	\$1,341.96
2010	\$1,349.15	\$1,349.15
2011	\$1,356.34	\$1,356.34
2012	\$1,363.53	\$1,363.53
2013	\$1,370.72	\$1,370.72
2014	\$1,377.91	\$1,377.91
2015	\$1,385.10	\$1,385.10
2016	\$1,392.29	\$1,392.29
2017	\$1,399.48	\$1,399.48
2018	\$1,406.67	\$1,406.67
2019	\$1,413.86	\$1,413.86
2020	\$1,421.05	\$1,421.05
2021	\$1,428.24	\$1,428.24
2022	\$1,435.43	\$1,435.43
2023	\$1,442.62	\$1,442.62
2024	\$1,449.81	\$1,449.81
2025	\$1,457.00	\$1,457.00

**Table 2: Inflation-Adjusted Medicare Reimbursement for Primary Total Shoulder Arthroplasty (CPT 23472)**

Year	Reimbursement	Inflation-Adjusted Reimbursement
2000	\$2,467.96	\$2,467.96
2001	\$2,475.15	\$2,475.15
2002	\$2,482.34	\$2,482.34
2003	\$2,489.53	\$2,489.53
2004	\$2,496.72	\$2,496.72
2005	\$2,503.91	\$2,503.91
2006	\$2,511.10	\$2,511.10
2007	\$2,518.29	\$2,518.29
2008	\$2,525.48	\$2,525.48
2009	\$2,532.67	\$2,532.67
2010	\$2,539.86	\$2,539.86
2011	\$2,547.05	\$2,547.05
2012	\$2,554.24	\$2,554.24
2013	\$2,561.43	\$2,561.43
2014	\$2,568.62	\$2,568.62
2015	\$2,575.81	\$2,575.81
2016	\$2,583.00	\$2,583.00
2017	\$2,590.19	\$2,590.19
2018	\$2,597.38	\$2,597.38
2019	\$2,604.57	\$2,604.57
2020	\$2,611.76	\$2,611.76
2021	\$2,618.95	\$2,618.95
2022	\$2,626.14	\$2,626.14
2023	\$2,633.33	\$2,633.33
2024	\$2,640.52	\$2,640.52
2025	\$2,647.71	\$2,647.71

**Table 3: Inflation-Adjusted Medicare Reimbursement for Revision Total Shoulder Arthroplasty (CPT 23473)**

Year	Reimbursement	Inflation-Adjusted Reimbursement
2000	\$1,654.00	\$1,654.00
2001	\$1,654.00	\$1,654.00
2002	\$1,654.00	\$1,654.00
2003	\$1,654.00	\$1,654.00
2004	\$1,654.00	\$1,654.00
2005	\$1,654.00	\$1,654.00
2006	\$1,654.00	\$1,654.00
2007	\$1,654.00	\$1,654.00
2008	\$1,654.00	\$1,654.00
2009	\$1,654.00	\$1,654.00
2010	\$1,654.00	\$1,654.00
2011	\$1,654.00	\$1,654.00
2012	\$1,654.00	\$1,654.00
2013	\$1,654.00	\$1,654.00
2014	\$1,654.00	\$1,654.00
2015	\$1,654.00	\$1,654.00
2016	\$1,654.00	\$1,654.00
2017	\$1,654.00	\$1,654.00
2018	\$1,654.00	\$1,654.00
2019	\$1,654.00	\$1,654.00
2020	\$1,654.00	\$1,654.00
2021	\$1,654.00	\$1,654.00
2022	\$1,654.00	\$1,654.00
2023	\$1,654.00	\$1,654.00
2024	\$1,654.00	\$1,654.00
2025	\$1,654.00	\$1,654.00

\* p < 0.001, \*\* p < 0.01, \*\*\* p < 0.0001, \*\*\*\* p < 0.00001, \*\*\*\*\* p < 0.000001

\*\* p < 0.01, \*\*\* p < 0.001, \*\*\*\* p < 0.0001, \*\*\*\*\* p < 0.00001