

Reducing Variable Direct Cost Per Case for Primary THA and TKA Does Not Sacrifice Quality of Care

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INTRODUCTION: Accurate cost accounting in primary total hip and knee arthroplasty (THA, TKA) is complex and varies within institutions. However, as reimbursement for THA and TKA continue to decline, identifying accurate cost drivers of variable direct cost (VDC) is paramount to allow these procedures to remain financially feasible. This study evaluated if adopting a program of reducing surgeon VDC resulted in decreased quality of care or suboptimal clinical outcomes.

METHODS: From August 2022 through 2024, 2,685 consecutive primary THAs and TKAs were retrospectively reviewed within a single Midwestern health system. All surgical items and associated costs were extracted and compiled into a database to evaluate VDC per case per surgeon. VDC was defined as the summation of costs categorized into three groups: pharmaceuticals, implants, and single-use items/disposables.

RESULTS: The largest proportion of total VDC per case was implant cost for THAs (mean 70.7%) and TKAs (mean 57.3%) followed by disposables for THAs (mean 19.6%) and TKAs (mean 31.2%). The three most expensive items and less expensive alternatives were identified as hemostatic sealing device (\$539 per-case to \$0), gowns/hoods (mean \$374 per-case to \$7.64), and bone cement packets used (\$555 per-case to \$370). Cost savings of \$897.58 and \$551.36 **per THA and TKA** was observed during this 2 year program. Importantly, after adoption of the cost reduction measures, outcomes of 90-day readmissions (7.8 vs 8.0%, $P=0.835$), 30-day emergency visits (10.6 vs 11.2%, $P=0.694$), and 90-day reoperations (3.1 vs 2.2%, $P=0.136$) did not significantly change.

DISCUSSION AND CONCLUSION: This study identified cost saving measures that surgeons can adopt without sacrificing patient outcomes. This study also validates the importance of implant contracts and the associated costs as key drivers of VDC and subsequent profitability. The awareness of item costs used during each case is particularly timely as the TEAM mandate and bundled payment model approach.