

Outpatient Cost Analysis of Total Hip Arthroplasty: Does Surgical Approach Matter?

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INTRODUCTION:

Total hip arthroplasty (THA) continues to be a substantial financial burden to the Canadian healthcare system. Recent studies have explored the impact of surgical approach on costs of THA, highlighting significantly less costs and hospital stay when THA was performed through a direct anterior approach. However, there has been no evaluation of cost or resources used in the outpatient setting. The purpose of this study was to determine the impact of surgical approach on associated cost with THA.

METHODS:

Patients undergoing a THA either via an anterior, posterior, or lateral approach were recruited. All patients prospectively completed a cost diary to estimate total resource use and patient expenses incurred after discharge from the hospital. The costing diary included accurate cost estimations in 2018 Canadian dollars of: allied health services (physiotherapy, occupational therapy, nursing care, etc.), medications, investigations, clinic visits, patient expenses (walking aids, transport, respite care facilities) and number of employment days lost to THA. Group comparisons were performed using Pearson's chi-square and one-way analysis of variance (ANOVA), and significance was accepted at $p \leq 0.05$.

RESULTS: A prospective, micro-costing analysis was performed on 104 patients undergoing a THA through either an anterior ($n=37$), posterior ($n=32$) or lateral ($n=35$) approach for one year post-operatively. We determined that overall costs of outpatient resources and expenses were comparable between anterior (\$1,321.00 CDN; 95% confidence interval [CI], 1179.60-1452.09), posterior (\$1,094.92; 95% CI, 942.95-1246.88) and lateral (\$1,153.18; 95% CI, 973.58-1332.78) approaches ($p=0.114$). When the overall costs were stratified by specific expenses, the costs of allied health services were significantly higher in the anterior group (\$361.32; 95% CI, 257.58-465.07), when compared to the posterior group (\$206.50; 95% CI, 124.50-288.50, $p=0.028$). This correlated with a higher number of average nursing care visits for the anterior group (2.4), compared to both the posterior (0.2) and lateral groups (0.3) ($p=0.0008$). There were no differences in costs of clinic visits, investigations, or number of employment days lost to THA.

DISCUSSION AND CONCLUSION:

Costs analysis on the effect of surgical approach for THA in outpatient resources and expenses resulted in comparable overall costs between the anterior, posterior, and lateral approaches. Although the anterior approach may have lower in-hospital costs, our results demonstrate that there are higher costs of allied health services and nursing care visits in the outpatient setting. Future directions include capturing long-term effectiveness measures (ie. quality-adjusted life years) to perform a cost-effectiveness analysis from a societal perspective are warranted.