

Implant and Construct Cost Awareness among Orthopaedic Surgeons at a Single Academic Institution

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INTRODUCTION: Surgical implant and device costs constitute a large portion of total surgical cost incurred by hospitals and institutions. Despite rising implant costs, surgeons, hospital administrators, and other healthcare professionals vary greatly in their awareness of these costs. This limited understanding of implant cost has consistently been reported in previous literature. Limited information is available among sports-medicine providers to date. The purpose of this study is to determine baseline awareness of sports-medicine related implants among orthopaedic surgeons. We hypothesize that orthopaedic surgeons with sports medicine fellowship training will more accurately predict construct cost compared to those that did not complete a sports medicine fellowship.

METHODS: A survey including pictures of 10 different sports medicine-related orthopaedic implants and constructs was sent to 18 providers within the same institution. Surgeons were asked to estimate cost of each implant, as well as answer questions regarding training, years of practice, experience with each construct, consideration of cost in everyday practice, and involvement in institutional price negotiations. Cost estimates were compared with implant cost found in the institutional ChargeMaster database. Statistical analysis was performed and included Fischer exact, independent sample t-test, and ANOVA.

RESULTS:

Cost estimates varied greatly among all providers regardless of fellowship training. The average percent error among all providers was 38.9% disregarding direction of error (underestimate vs. overestimate). Half of the surveyed providers said that knowledge of cost was important most or all of the time in their practice. Providers that rated knowledge of implant cost to be important most or all of the time had an average cost estimate error of 50.1% versus 27.1% error in their counterparts that stated that knowledge of cost was important to them only some of the time, though this difference was not statistically significant. Six providers (33%) stated that cost affected their implant or construct most or all of the time, while all stated that cost affected their implant/construct choice at least some of the time. Five providers surveyed had previously been involved in implant cost negotiations with their institution, and of those, 3 stated that implant cost only affects their practice sometimes. Involvement in implant cost negotiations did not have any effect on accuracy of cost estimates. The maximum number of items estimated within 20% of actual cost was 3; this was attained by 4 surgeons. The average number of constructs estimated within 40% of their true cost was 3 (30%). The implant cost did not correlate with over- or underestimation (i.e., low-cost implants were not more frequently underestimated versus high-cost constructs). Years of experience, sports medicine fellowship training, and involvement in contract negotiations had no significant effect on implant cost accuracy.

DISCUSSION AND CONCLUSION: Implant cost awareness varies greatly among orthopaedic surgeons in the field of sports medicine despite the great economic impact at the patient and institution level. This study demonstrates that there is significant room for improvement in understanding and awareness of cost in the field of sports medicine, but more information is needed regarding practices and education to attain a higher level of cost awareness.

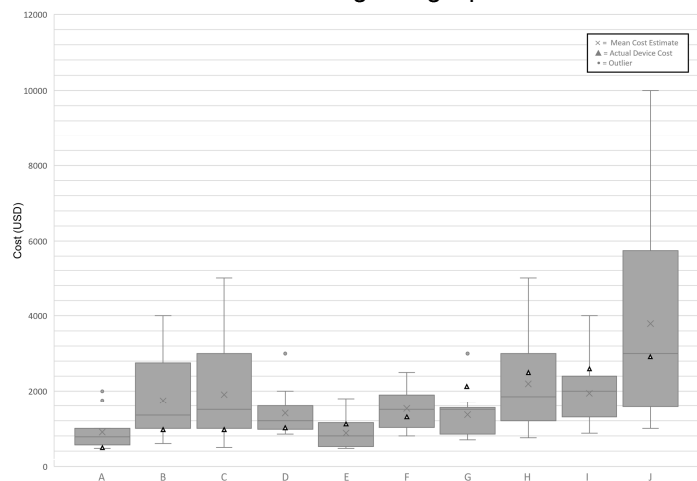


Figure 1. Estimated cost of sports-medicine-related implants. A. Tightrope ACL with Fibertag. B. Anatomic Total Shoulder Arthroplasty Head C. Dual Mobility Liner D. Semitendinosus Allograft E. Internal Brace F. Speed Bridge G. Tibialis Anterior Allograft H. Unicompartmental Total Knee Arthroplasty Femoral Component I. Bone-Tendon-Bone Allograft Pretrimmed J. Reverse Total Shoulder Arthroplasty Stem