Time-Driven Activity-Based Costing in Trauma

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Purpose: Data on the cost of care in orthopaedics is critical to control health-care expenditures and improve value. Accurate cost data are hard to obtain and variability exists in accounting methods. Studies in arthroplasty have shown accuracy in Time-Driven Activity-Based Costing (TDABC). The purpose of this study was to use surgical treatment of ankle fractures to compare TDABC and our institution's traditional accounting (TA) method.

Methods: Level I trauma center ankle fractures treated between 2012 and 2016 were identified through a registry. Inclusion criteria were ≥18 years of age and same day ankle fracture operation. Exclusion criteria were pilon fractures, vascular injuries, soft-tissue coverage, and external fixation. Process maps were developed for each phase of care. The TA method at our institution uses all hospital costs and allocates them to surgeries using a relative value method.

Results: A total of 35 patients met inclusion/exclusion criteria, 18 male and 17 female. Age at time of surgery was 47 ± 15 years. Time from injury to surgery was 10 ± 4 days. Operative time was 86 ± 30 minutes. Average cost was significantly lower for the TDABC method ($2792 ± 734) than the TA method ($5782 ± 1348) ($P < 0.001$). There was no difference between methods for implant cost. TA produced a significantly greater cost ($P < 0.01$) in every other category.

Conclusion: As orthopaedics transitions to alternative payment models accurate costing will become critical to maintaining a successful practice. The TDABC method appears be more accurate to capture and manage cost of resources utilized.

See pages 401 - 442 for financial disclosure information.