Paper #29

Trends in Hospital and Surgeon Charges and Reimbursements for Revision Total Knee Arthroplasty

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Introduction: The objective of this study is to report trends and variation in hospital charges and payments compared to surgeon's for stage 1 (S1) vs. stage 2 (S2) revision of septic TKA and aseptic revision (AR) TKA.

Methods: The 5% Medicare sample was used to capture hospital and surgeon charges and payments for revision TKA from 2005-2014. The charge multiplier (CM), ratio of hospital to surgeon charges, and the payment multiplier (PM), ratio of hospital to surgeon payments, were calculated. Year to year variation and regional trends in patient demographics, Charlson Comorbidity Index (CCI), length of stay (LOS), CM and PM were evaluated. Statistical significance of trends was evaluated using simple linear regression analysis. Correlations between the financial multipliers and LOS were evaluated using a Pearson correlation coefficient (r).

Results: 4,570 AR TKA patients were included, as well as 1,323 S1 and 863 S2 revision patients. Hospital charges were significantly higher than surgeon charges for all cohorts and increased over time: CM increased from 8.1 to 13.8 for AR (p<0.001), from 21.0 to 22.5 (p=0.07) for S1, and from 11.8 to 22.0 (p<0.001) for S2. PM followed a similar trend: increasing 8.1 to 13.8 (p<0.001) for AR, 19.8 to 27.3 (p=0.005) for S1, and 14.7 to 30.7 (p<0.001) for S2. Surgeon reimbursement decreased over time for all cohorts. LOS decreased for AR from 3.8 to 2.8 days, for S1 from 12.8 to 6.9 days, and for S2 from 4.5 to 3.9 days. CCI remained stable for the AR cohort but increased significantly for the S1 and S2 cohorts.

Conclusions: Hospital charges and payments relative to surgeon charges and payments have significantly increased for AR, S1 and S2 revision TKA despite stable or increasing patient complexity and decreasing LOS.

Notes