



## Risk Reduction Efforts Do Not Decrease 30-day Primary Hip and Knee Readmissions for Disadvantaged CMS Patients

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**Introduction:** We performed this study to assess the influence of minority or low socioeconomic status on responsiveness to protocols intended to reduce surgical complications and 30-day hospital readmission rates following TKA and THA.

**Methods:** After obtaining IRB approval, we retrospectively identified 156 THA (3.8%) and 138 TKA (4.1%) 30-day readmissions from 4,131 THA and 3,372 TKA procedures (2006-2013). The cohorts were subdivided into two groups relative to service-wide protocol changes initiated in 2010. Univariate analysis was used to compare readmission rates among minority and low socioeconomic groups before and after the initiation of risk-reduction initiatives. Multivariate stepwise logistic regression analysis was performed to assess the relative impact of patient demographic characteristics on 30-day readmission rates.

**Results:** 30-day THA readmission risks remained higher among minority patients (6.1% vs 3.0%,  $p < 0.01$ ), socioeconomically disadvantaged patients (6.5% vs 2.6%  $p < 0.001$ ), and socioeconomically disadvantaged minorities (10.4% vs 3.3%,  $p < 0.01$ ) than their respective counterparts after engagement of protocols. Higher 30-day TKA readmission rates were noted among socioeconomically disadvantaged patients (4.6% vs 1.8%,  $p = 0.02$ ), but not among minority patients (3.5% vs 2.8%,  $p = 0.12$ ). Higher 30-day readmission rates were associated with skilled nursing facility discharge (O.R. 3.3, 95% CI 2.4 – 4.5), Medicaid Insurance (O.R. 2.8, 95% CI 2.0 – 3.8), categorical BMI  $< 20$  kg/m<sup>2</sup> (O.R. 2.3, 95% CI 1.4 – 3.8), Medicare Insurance (2.2, 95% CI 1.8 – 2.7), African American race (O.R. 2.1, 95% CI 1.7 – 2.6), and low socioeconomic status, defined by Medicaid or Medicare status before 65 years of age (O.R. 2.0, 95% CI. 1.6-2.4).

**Conclusion:** Initiatives designed to reduce wound-related surgical complications effectively decreased 30-day TKA readmission rates, but were less effective for THA patients in a racial minority or low socioeconomic group. Risk models should consider their proportionally higher risks to avoid indirectly decreased access for these CMS beneficiaries.