

Michael P. Kelly, Class of 2005
Department of Orthopaedic Surgery

**Association between Emotional and Physical Health and Resource Utilization
after Total Knee Arthroplasty**

Michael P. Kelly, Patricia Franklin, M.D., Dept. of Orthopaedic Surgery, Worcester, Ma.
Wei Huang, M.S., Center for Outcomes Research, Worcester, Ma.
Frederick A. Anderson, Jr., Ph.D., Center for Outcomes Research, Worcester, Ma.
David C. Ayers, M.D., Dept. of Orthopaedic Surgery, Worcester, Ma.

Background: One-third of primary total knee arthroplasty (TKA) patients report low pre-operative emotional health status (MCS<50; SF36) known to correlate with trait anxiety and mild depression. In medical patients, depression, anxiety, and physical co-morbid illness correlate with increased use of healthcare resources. It is unknown if inpatient length of stay (LOS) or discharge disposition (rehabilitation facility vs. home) following TKA correlates with pre-TKA MCS or physical co-morbid illness.

Methods: Demographic, clinical, and emotional and physical functional status (Short Form-8/SF-8) data were available for 2220 primary TKA patients in 42 US orthopedic practices between 2001 and 2004.

Results: Initial and adjusted multivariate analyses found higher rates of hospital discharge to rehabilitation associated with older age (OR = 1.056, $p < 0.0001$), female gender (OR = 1.877, $p < 0.0001$), lower MCS (OR = 0.984, $p = 0.0006$) and the presence of co-morbid diagnoses (OR = 1.830, $p < 0.0001$.) Longer inpatient hospital stay was associated with older age ($p = 0.0017$) and shorter stays with the absence of co-morbidities ($p = 0.0137$.)

Conclusion: Low preoperative MCS was not associated with a longer inpatient LOS and the clinical significance of the MCS association with discharge to rehabilitation facilities may not be clinically important ($R = 0.984$). However, physical co-morbid illness was significantly associated with discharge disposition and LOS. Female gender and advanced age are correlated with higher resource use. Further research should adjust for reimbursement incentives before examining the role of emotional and physical health.