

Effect of Mental Health Conditions on Complications, Revision Rates, and Readmission Rates Following Tibial Shaft, Femoral Shaft, and Pilon Fracture

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Purpose: Few studies have evaluated the effect of comorbid mental health (MH) conditions on revision surgery, postoperative complications, and hospital readmission. The purpose of this study was to evaluate the effect of preexisting MH conditions on these metrics following tibial, femoral, and pilon fracture.

Methods: Data were collected using the commercially available PearlDiver software (national database of Humana and Medicare-insured patients) for which CPT codes were used to identify patients who underwent surgical treatment of a tibial, femoral, or pilon fracture. These patients were then subdivided into those with and without preexisting MH condition using ICD-9 codes. Anxiety, depression, chronic pain syndrome, fibromyalgia, bipolar, posttraumatic stress disorder, schizophrenia, and psychosis were included in the analysis. 90-day postoperative complications, revision surgery, and 30-day readmission rates were then compared between those with and without MH conditions.

Results: Total number of patients for tibial, femoral, and pilon fractures, respectively, included 6625, 4353, and 4510 without MH conditions and 7009, 7041, and 3912 with MH conditions. Tibial, femoral, and pilon fracture 90-day readmission rates, respectively, were 7.8%, 27%, and 9.6% without MH conditions and 15.7%, 37%, and 12.4% with MH conditions ($P < 0.0001$). Revision rates for tibial, femoral, and pilon fractures, respectively, were 1.4%, 1.7%, and 0.8% for those without MH conditions and 2.9%, 2.8%, and 2.2% for those with MH conditions ($P < 0.0001$). Complication rates including death, deep vein thrombosis, wound dehiscence, cerebrovascular accident, mechanical complication of implant, and complex regional pain syndrome were significantly higher among patients with MH disorders. Subgroup analysis excluding patients with schizophrenia, posttraumatic stress disorder, and bipolar disorder did not affect readmission rates, complications, or revision rates.

Conclusion: In an environment of cost savings, bundled payments, and risk stratification, it is important to note that the presence of comorbid mental health conditions is associated with higher postoperative complications, readmission rates, and revision surgery for tibial, femoral, and pilon fractures.