

**Impact of Chronic Kidney Disease on Postoperative Outcomes Among Total Knee Arthroplasty Patients With 2- Year Minimum Surveillance**

**Introduction:** This study aimed to identify the effect of chronic kidney disease (CKD) on postoperative outcomes among patients who underwent total knee arthroplasty (TKA).

**Methods:** Utilizing the SPARCS database, patients who underwent TKA from 2009 to 2013 were identified. CKD and non-CKD patients who underwent TKA with a 2-year minimum surveillance were retrospectively compared and rates of postoperative outcomes were recorded. A multivariate linear regression analysis (with controls for patient demographics) was performed to identify correlations between CKD and postoperative outcomes.

**Results:** 6,544 patients were identified (CKD, n=3,272; non-CKD, n=3,272) CKD patients required more postoperative blood transfusions ( $P<0.001$ ) and experienced significantly more postoperative complications including urinary tract infections (UTIs) ( $P=0.03$ ), deep vein thrombosis (DVT) ( $P=0.018$ ), and acute renal failure ( $P<0.001$ ) when compared to non-CKD patients. In addition, length of stay after TKA was increased among CKD versus non-CKD patients (4.82 vs 4.47,  $P=0.001$ ). Multivariate regression revealed a significant increase in overall surgical complications (OR = 1.365 [1.235, 1.508],  $P<0.001$ ), overall medical complications (OR = 1.352 [1.222, 1.497],  $P<0.001$ ), blood transfusions (OR = 1.436 [1.299, 1.588],  $P<0.001$ ), UTIs (OR = 1.389 [1.015, 1.9],  $P=0.04$ ), and acute renal failure (OR = 2.331 [2.064, 2.632],  $P<0.001$ ) in CKD versus non-CKD patients when age, sex and obesity status were controlled.

**Conclusion:** Patients with CKD experienced an increase in overall medical and surgical complications compared to non-CKD patients undergoing TKA in New York State. These results reflect the necessity for close postoperative monitoring and care of patients with CKD undergoing TKA.