

**Should Patients with ESRD have Kidney Transplant Before or After Laminectomy Surgery?**

**Introduction:** The increasing prevalence of spinal stenosis and ESRD demonstrates the need for high powered studies investigating this association. The aims of this study are to evaluate the incidence rates of end stage renal disease (ESRD) and compare postoperative complications between adults with ESRD and those with prior kidney transplant who underwent laminectomy surgery.

**Methods:** The National Inpatient Sample was queried to identify patients who underwent laminectomy surgery from the years 2005 – 2012. Patient demographics and incidence rates of patients who had been diagnosed with ESRD and those who received kidney transplants were reported from the years 2005 – 2012. Univariate analysis was used to compare differences in postoperative complications and in-hospital mortality between the transplanted and ESRD cohorts. Multivariate logistic regression analysis controlling for age, sex, race, and obesity status was performed to determine ESRD compared to prior kidney transplant status as an independent risk factor for postoperative outcomes between the two cohorts.

**Results:** The average incidence rate of patients with ESRD from 2005 – 2012 has increased 62.14% in adult laminectomy patients. While patients with a prior kidney transplant has decreased by 0.36% in the same population. Compared to the prior kidney transplant cohort, the

ESRD cohort experienced higher rates of overall surgical and medical complications, wound complications, blood transfusions, pneumonia, acute renal failure, sepsis, cerebrovascular events, and in-hospital mortality ( $p < 0.05$ ).

**Conclusions:** The number of ESRD patients receiving laminectomy surgery has increased and these patients experienced higher rates of medical complications compared to patients who received kidney transplants.