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“Standardized Time Threshold for Perioperative Foley Catheter Placement during Revision and Primary Hip and Knee Arthroplasties”

Introduction: Indwelling Foley catheter use during revision and primary hip and knee arthroplasties is very common; however, a widely accepted, evidence-based algorithm for determining which patients will benefit from catheterization based on surgical duration and perioperative risk has not been established. Routine catheterization is used to monitor urine output, prevent intraoperative bladder distention, and reduce postoperative urinary retention (POUR), although recent literature suggests these benefits are outweighed in shorter procedures by increased urethral trauma, delayed postoperative voiding function, and urinary tract infections (UTI). Current perioperative recommendations discourage Foley use for procedures expected to last less than two hours but support its use for procedures exceeding three hours or involving substantial fluid shift. These broad recommendations leave gray area, vary between centers and providers, and are based more on expert consensus instead of large-scale, data-driven evidence, resulting in a deficiency in perioperative management and variations in patient outcomes.

Objectives: This study aims to establish the operative duration threshold at which benefits of intraoperative Foley placement during revision and primary hip and knee arthroplasties exceed the harms, with the primary objective of determining whether the incidence of POUR and UTI differs between patients receiving intraoperative Foley placement and those that do not. The study will also aim to assess patient-level factors and procedure-level characteristics associated with increased rates of POUR and UTI.

Methods: We will conduct a retrospective chart review of a THA and TKA cohort across the Ochsner Health System. A list of all patients who underwent THA or TKA between January 1, 2021, and December 31, 2025, with available POUR and UTI diagnoses within one year before and after surgery will be compiled by the Ochsner Center for Outcomes Research and provided to the statistician for linkage to REDCap. Data will be collected from noninvasive information routinely documented in clinical care and deidentified prior to statistical analysis. The study will include 18,000 patients, as identified from preliminary SlicerDicer. Measurements of complications within 90 days, length of hospital stay, readmission within 90 days, Charlson comorbidity index, and date of diagnosis, catheterization, or urology consult will also be recorded and analyzed.

Hypothesized Results: We hypothesize that patients who do not receive intraoperative Foley catheter placement will exhibit greater levels of success, as defined by the absence of UTI and POUR, compared to patients who receive Foley placement in revision and primary hip and knee arthroplasties. Also, patients with higher risk characteristics and procedure-related factors will experience increased incidence of POUR and UTI.