

STANDARDIZED TIME THRESHOLD FOR PERIOPERATIVE FOLEY CATHETER PLACEMENT DURING ORTHOPEDIC PROCEDURES

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PURPOSE: Indwelling Foley catheter usage during orthopedic surgeries is very common, but there is no widely accepted, evidence-based algorithm for deciding which patients benefit from catheter usage based on surgery duration and perioperative risk. Routine preoperative catheterization has been used to prevent intraoperative bladder distension, monitor urine output, and reduce postoperative urinary retention (POUR) risk. However, recent literature indicates that shorter procedures may benefit from avoiding catheterization because of the catheter-associated risk of urinary tract infection (UTI), urethral trauma, and delayed postoperative voiding. Currently, catheter use is discouraged for procedures lasting less than two hours or with minimal intraoperative fluid administration but supported in procedures lasting more than three hours. A significant number of these recommendations are derived from expert consensus rather than data-driven correlations between operation duration and variables as well as expected postoperative urinary outcomes. Recent randomized and prospective studies further challenge catheter usage with evidence from total hip and knee arthroplasty demonstrating that indwelling catheter usage did not significantly reduce the incidence of POUR when compared to non-catheterized patients. Catheter usage is also associated with higher rates of UTI and mechanical complications such as urinary bleeding. This study aims to determine the operative threshold at which the benefits of Foley catheterization outweigh the inherent risks during both total primary and revision knee and hip arthroplasty. We hypothesize that patients undergoing knee or hip arthroplasty lasting 4 hours or less without Foley placement will demonstrate comparable rates of POUR, which is defined as necessitating a straight catheter or Foley catheter.

METHODS: This is a retrospective chart review of patients who underwent primary or revision knee or hip arthroplasty with and without Foley catheter placement. Data will be collected from across the Ochsner Health System from surgery patients between January 1, 2021, and December 31, 2025. Patients with an available POUR or UTI diagnosis within one year before or after surgery will be included. Patients who were pregnant or had missing or incomplete data, known chronic urinary retention, neurogenic bladder, or long-term catheter dependence will be excluded. This study is expected to include 18,000 patients that were identified with a preliminary SlicerDicer. Patient data will be deidentified prior to distribution. Dr. Claudia Leonardi will perform all statistical analysis with the significance level set at 0.05. The measurements of complications within 90 days, hospital stay length, 90-day readmission rate, date of diagnosis, catheterization, and urology consult will also be collected and analyzed.

RESULTS: This project is currently pending IRB approval. We expect that patients undergoing knee or hip arthroplasty lasting 4 hours or less without Foley placement will have better outcomes than those with Foley placement, including lower rates of UTI and 90-day complications, shorter hospital stays, and fewer 90-day readmissions, without higher rates of POUR.

CONCLUSIONS: If these results are supported, routine Foley catheterization may be unnecessary and potentially harmful for knee and hip arthroplasty lasting 4 hours or less. Establishing an evidence-based time threshold would allow surgeons to avoid catheter-associated risks such as UTI and urethral trauma, replacing recommendations based on expert consensus.