The CAUTI’s Stop Here; A Quality Improvement Project in an Emergency Department

Jan Shepard RN, BSN, CCRN; Christine Allen RN, BSN MICN; Cynthia Blackson RN, BSN, MICN; Yvonne Hansen, RN, MS, CCRN; Jennifer Mattice, RN, BSN, MS; Richelle Zaragoza RN, BSN, PHN

**PROBLEM STATEMENT:**

CAUTIs are the most common HAI, with the vast majority of these infections occurring from the unnecessary placement of a urinary catheter. The occurrence of urinary tract infections (UTIs) are the fourth most common type of HAI, with an estimated 93,300 UTIs in acute care hospitals in 2011. UTIs additionally account for more than 12% of infections reported by acute care hospitals. Virtually all healthcare-associated UTIs are caused by instrumentation of the urinary tract.

UC Davis Medical Center is a level 1 Trauma Center that serves 87,000 Emergency Department (ED) visits per year. Due to increased national focus on the reduction of healthcare associated infection (HAIs) and to improve patient care outcomes, the stakeholders of our ED implemented a taskforce for the reduction of Cather-Associated Urinary Tract Infections (CAUTIs). This taskforce consisted of the Unit Base Practice Council (UBPC), resuscitation room (RR) leadership team, ED nurse director, ED nurse manager, ED Clinical Nurse Educator, an infection prevention nurse and a Quality & Safety (Q&S) Nurse Champion. To help drive practice change, this collaboration implemented the Institute of Healthcare Improvement’s (IH) PDCA cycle methodology to reduce CAUTIs in our ED.

**GOALS / OBJECTIVES:**

The goal of this ED UBPC “Stop CAUTI” project was to increase the overall compliance to the institution’s evidence-based urinary catheter insertion bundle, and to provide alternatives for urinary catheter placement through a PureWick (female external catheter) device trial and condom catheter re-education.

**MEASURE:**

Since July of 2016, the ED had six insertion-related CAUTIs out of total # of catheter insertions. The ED CAUTI reduction task force performed extensive root cause analysis (RCA) to identify the contributing factors for these insertion-related CAUTIs. The RCA’s discovered that all six of the indwelling urinary catheters were inserted in the RR on patients that were coded as 911’s, 922’s & 944’s. These codes are based on our internal triage algorithm which is based on stringent trauma and medical criteria. The team conducted audits on patients that were physically located in the RR and high acuity pods with triage codes of 911, 922 & 944’s. Hospital insertion standards are from The Centers of Disease Control and Prevention (CDC) guidelines for the proper techniques for urinary catheter insertion. All urinary catheter insertion audits were completed using a standardized tool. (Table 1)

**Imagery:**

![Graph showing insertion bundle compliance](image)

Utilization: Simultaneously, with the education on insertion bundle techniques, our taskforce introduced alternative devices to use instead of placing an indwelling urinary catheter. These alternatives were a Purewick trial and condom catheter education.

**Product Trial:** PureWick which is a new female alternative to catheter insertion

**Existing Product:** Provided education and increased the product availability of the condom catheters

**RESULTS:**

Audits: The post implementation compliance to the urinary catheter insertion bundle showed significant improvement. Our quality improvement team conducted four post education insertion audits that indicated 7 out of the 8 steps were compliant to the urinary catheter insertion bundle. The exception was with the use of the fenestrated drape (Table 3).

**CONTINUING IMPROVEMENT: NEXT STEPS:**

The next step for our “Stop CAUTI” project is to implement a stringent urinary catheter placement and utilization guideline set by CDC and implemented in our hospital policy (Listed in Table 5). The preliminary data for adherence to the hospital policy for urinary catheter insertion criteria is 69%. Patients that do not meet these insertion criteria were 31% (Table 5). To increase adherence to the urinary catheter insertion hospital policy criteria our taskforce, in collaboration with the ED resident physician quality improvement program, will provide education and coaching providers to cease insertion of urinary catheters that do not meet criteria.

**Insertion Criteria**

There are six appropriate reasons for placing or maintaining a urethral catheter:

1. Perioperative use for selected surgical procedures
2. Acute urinary retention or obstruction
3. Accurate urinary output in unstable or critically ill patients
4. Assist in healing of Stage 3 or 4 open sacral or perineal pressure ulcers.
5. Decompression of the bladder due to neurological disorders or procedures
6. Advanced terminal illness/comfort care

**REFERENCES:**