

**Change Presentation: CAUTI**

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## **Identifying the Risk Factors for Catheter-Associated Urinary Tract Infections: A Large Cross-Sectional Study of Six Hospitals**

Catheter-associated urinary tract infections (CAUTI) are the most common healthcare-associated infection in the United States that is continuously rising. Letica-Kriegel et al. (2019) performed a study to determine how the risk for CAUTI changes and assesses whether the time inserted into CAUTI varies according to certain risk factors. This study was done over four years, from January 2012 to March 2016, on both patients that developed and did not develop CAUTIs (Letica-Kriegel et al., 2019). In three hospitals, 2,500 beds and 115,710 patients were involved, and researchers found a study through a review of electronic health record nursing documentation (Letica-Kriegel et al., 2019). The researchers found a total of 148,631 catheterizations, identifying that the rate of CAUTI was 1.64 per 1000 catheter days for the total population (Letica-Kriegel et al., 2019). Six hundred ten patients developed CAUTI, proving that CAUTI is a continuously rising problem in many hospitals. The risk factors found were the longer duration of a catheter and the female sex puts a person at a higher risk for developing CAUTI (Letica-Kriegel et al., 2019). Researchers eliminated age from potential risk factors since they found it more common in younger people (Letica-Kriegel et al., 2019). The limitations of the study were that the capabilities of the electronic health record limited the researcher's ability to collect specific data (Letica-Kriegel et al., 2019).

## **Catheter-Associated Urinary Tract Infections: Current Challenges and Future Prospects**

Werneburg (2022) discusses the challenges and future preventative measures and treatments for CAUTI. Werneburg discussed general ways healthcare professionals could prevent CAUTI by minimizing indwelling catheters and removing them as soon as medically

appropriate; even using external catheters can decrease the risk of CAUTI (Werneburg, 2022). Performing hand hygiene should always be done before any procedure, and per facility protocol, placing and removing catheters should be done using an aseptic technique. Werneburg suggested using prophylactic antibiotics, as some studies showed lower rates of CAUTI when an antibiotic within the first three days postoperative until the removal of the catheter (Werneburg, 2022). Werneburg suggested using cranberry supplements since cranberry helps treat and prevents UTIs. However, with limited resources, additional research must be done (Werneburg, 2022). The primary treatment for CAUTI involves using antibiotics and removing the catheter. New research on small-molecule alternatives decreases the chance of resistance (Werneburg, 2022).

### **Effectiveness of an External Urinary Device for Female Anatomy and Trends in Catheter-Associated Urinary Tract Infections**

Catheter-associated urinary tract infection, or CAUTI for short, is an infection brought on by using a urinary catheter (Beeson et al., 2023). One of the most often reported hospital-related illnesses in the United States, CAUTI is a common infection associated with healthcare settings (Beeson et al., 2023). Urinary catheterization is responsible for 75% of all healthcare-related urinary tract infections, making it a substantial cause of morbidity and mortality (Beeson et al., 2023). With urinary catheters, bacteria may colonize and go to the bladder, where they might cause an infection (Beeson et al., 2023). Therefore, CAUTI prevention is crucial to enhancing patient care (Beeson et al., 2023). Initiatives for quality improvement aim to lower the prevalence of CAUTI (Beeson et al., 2023). These programs seek to shorten catheterization times, increase prompt catheter removal, and enhance the appropriate use of urinary catheters (Beeson et al., 2023). Implementing catheter removal protocols, educating healthcare

professionals on the proper use of catheters, and using evidence-based guidelines for catheter placement and maintenance are all quality improvement methods for CAUTI (Beeson et al., 2023). By implementing these methods, healthcare facilities can lower the incidence of CAUTI, enhance patient outcomes, and cut infection costs (Beeson et al., 2023).

### **Addressing CAUTIs With an External Female Catheter**

Urinary tract infections (UTIs) account for over thirty percent of hospital-associated infections within the acute care setting (Tran et al., 2023). The National Healthcare Safety Network (NHSN) states that twelve to sixteen percent of hospitalized patients will have an indwelling catheter during their hospital stay. The NHSN also found that the risk of a Catheter-associated urinary tract infection (CAUTI) increases by seven percent each day the catheter remains (Tran et al., 2023). This article explores quality improvement to minimize the risk of CAUTI while the patient remains hospitalized. The authors of this article utilized literature research to identify evidence-based practice interventions for reducing CAUTIs. During the research method, the authors found that of eighty-seven CAUTI cases, twenty-four percent of the patients were women (Tran et al., 2023). The study uses the new research data to implement female external catheters to improve the quality of catheterization and reduce the risk of contracting a UTI (Tran et al., 2023). The results of the implementation of the external female catheter yield results that show a steady decrease in CAUTIs in female patients and the use of female external catheters are implemented in facilities across the United States with an increase of forty-one percent usage rate from 2019 to 2020 (Tran et al., 2023). Implementing female external catheters is an example of the QSEN competency of Quality Improvement by using

research to collect data and implement improvement measures that yield better health outcomes for hospitalized female patients within the acute care setting.

### **Changing Practice, Saving Lives**

The evolution of medicine is constantly changing; in science, change is the only constant. The constant shift in treatment intends to optimize patient care and safety (John et al., 2018). This article emphasizes the immediate need for quality improvement of intensive care patients who are even more susceptible to developing a CAUTI than those not hospitalized in Intensive care units (ICU). The authors used Kotter's change management model to the community, implement the change, and evaluate the action plan to reduce CAUTI in ICU patients (John et al., 2018). This article's action plan for change uses a multi-step approach to collaborate with nurses and other interdisciplinary team members to review catheter necessity during daily rounds and shift changes (John et al., 2018). Another major part of the action plan was to include posters throughout the unit with the slogan "CAUTIion" nurses and healthcare team members all received T-shirts and other merchandise with the slogan "CAUTIion" to promote daily assessments and awareness of the ongoing issue. John et al. (2018) also used incentives to motivate the nursing staff to take the necessary steps to reduce patient CAUTIs, such as providing lunch and dinner to staff after reaching two-hundred days of CAUTI-free incidents. The authors' expectations and goals were surpassed within a year by the action plan's success. In one year, catheter-associated urinary tract infections decreased by thirty-four percent, and the catheter usage rate for catheters fell by thirty- percent (John et al., 2018). The nurses in this study demonstrated the QSEN competency model by embracing the change with positive attitudes and the knowledge that the change would benefit the patient's health and quality of care.

## References

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