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Hollie Gow
Baptist Health South Florida, hollieg@baptisthealth.net

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Initiatives to Reduce Catheter-Associated Urinary Tract Infections in the Adult Critical Care Unit

David Lindsey BSN RN CCRN  Nelkys Casal BSN RN  Roberto Blanco BSN RN CCRN  Elizabeth Antoniazzi BSN RN  Sheba Ricks MSN RN CCRN

Objectives

1) Develop a catheter-associated urinary tract infection (CAUTI) Prevention Bundle based on evidenced-based practice guidelines, research, the Association for Professionals in Infection Control and Epidemiology (APIC), and American Nurses Association (ANA) recommendations.

2) Apply safe, timely, effective, efficient, equitable, and patient centered care within a collaborative approach with highly skilled teams to improve the quality of care delivery and prevent CAUTI.

3) Guide, educate, mentor, and lead teams in the area of improved patient outcomes and patient safety by reducing the CAUTI rate.

Background

- Urinary tract infections (UTIs) are the most common healthcare-associated infections, with 80% attributed to an indwelling catheter.
- An estimated 17% to 69% of CAUTI may be preventable, which translates to potentially 380,000 infections and 9,000 deaths per year.
- In 2012 CMS required hospitals to report CAUTI into the National Healthcare Safety Network (NHSN).
- The Joint Commission has added a National Patient Safety Goal requiring hospitals to implement evidence-based practices to prevent CAUTI by 2013.
- The Centers for Medicare & Medicaid Services (CMS) has identified CAUTI as a “never event” stopping reimbursement for the treatment of preventable hospital acquired conditions, including CAUTI.

Purpose

- The Critical Care Unit at Baptist Hospital has the greatest number of CAUTI because patients who are admitted to the unit have a higher incidence of indwelling catheter insertions due to the high patient acuity.
- Most of the Critical Care patients are intubated, sedated, and critically ill requiring strict intake and output.
- A CAUTI Prevention Bundle will help to decrease the CAUTI rate, improve patient outcomes, decrease mortality rates, decrease cost, and improve patient safety.

Methods

- Recommendations from the Centers for Disease Control and Prevention (CDC) were utilized for this performance improvement initiative as a CAUTI Prevention Bundle.
- Data was collected from the Critical Care Unit’s past fiscal years to compare old data to new data.
- The following strategies were educated to the Critical Care staff and initiated:
  - Proper hand hygiene
  - Appropriate and inappropriate use for indwelling catheters
  - Prevention of unnecessary insertion
  - Limiting duration of catheter use
  - Aseptic and closed catheter systems
  - Proper perineal hygiene
  - Elimination of bed basins
  - Proper chlorhexidine bathing
  - The importance of documentation
  - Alternatives to indwelling catheters
  - Team care
  - CAUTI treatment
  - Initiatives to reduce cost

Results

- The benchmark for Critical Care for the National Healthcare Safety Network (NHSN) is 1.4 per 1,000 catheter days.
- The goal for the Critical Care Unit has been to be below the national benchmark, with a rate of zero CAUTI.
- The Critical Care Unit has decreased the CAUTI rate by 83% from fiscal year (FY) 2010 to FY 2015 which was a rate of 8.8 to 1.5 per 1,000 catheter days.
- Since the implementation of the CAUTI prevention bundle, the Critical Care Unit has completed the first quarter of FY 2016 below benchmark at a rate of 0.6 per 1,000 catheter days which is a 93% reduction from FY 2010.

Conclusions

- The success of the CAUTI prevention bundle relieves the patient of the cost of illness, further illness, psychosocial issues, and pain and stress that can arise from catheter associated urinary infections.
- The Critical Care unit’s role in achieving the strategic plan is demonstrated by creating an environment contributing to innovation, multidisciplinary collaboration, planning, implementation, ongoing learning, and enhanced professional practice and evaluation.
- All these components are essential to providing continuity, quality, and service excellence.
- With education, creation of CAUTI Prevention Champions, Unit Infection Control Committee involvement, an interdisciplinary approach including a Physician Champion, monitoring for compliance, weekly audits, and feedback from the staff, the positive outcomes demonstrate a decrease in the Critical Care CAUTI rate.

References