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# NOVEL DUAL-BALLOON URINARY CATHETERS REDUCE CATHETER-ASSOCIATED URINARY TRACT INFECTIONS

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**INTRODUCTION AND OBJECTIVES:** The design of the Foley type urinary catheter has remained relatively unchanged since its conception in 1937. Over the last 75 years, hospitals and clinicians have struggled to manage catheter-associated urinary tract infections (CAUTIs), which have become one of the most common types of healthcare-associated infections in the medical field. Traditional Foley catheters have been shown to cause mechanical irritation and trauma to the mucosal lining of the bladder, increasing the risk of CAUTI in these patients. The purpose of this study is to analyze and present the infection rate of a new type bladder drainage system: the *Duette™* dual-balloon urinary catheter.

**METHODS:** Patients included in this study had a *Duette™* urinary catheter inserted and cared for in Tampa General Hospital's neuroscience intensive care unit (NSICU). Data was collected on catheters placed from July 2014 through May 2015. All patient-care personnel received the appropriate training regarding the insertion technique and methods of care for these new catheters. Patient demographics, including catheter insertion/removal date and CAUTI diagnosis, were collected and analyzed to assess infection rate.

**RESULTS:** During the study's 11-month timeframe, 162 patients had *Duette™* catheters placed, and 223 patients had Bard™ catheters placed in the NSICU. This accounted for a total of 870 *Duette™* catheter days, and 1090 Bard™ catheter days. Of the patients with dual-balloon catheters, there was only one logged CAUTI; the calculated infection rate was therefore 1.1 per 1000 catheter-days.

There were six CAUTIs in the traditional Foley group; this cohort demonstrated 5.5 infections per 1000 catheter-days. Of note, the *Duette™* infection rate is not only lower than the Bard(TM) rate, but is also lower than the average rate generally reported in the current literature for traditional Foley catheters (4.4 infections per 1000 catheter-days).

**CONCLUSIONS:** Use of *Duette™* urinary catheters, as opposed to traditional Foley catheters, has a lower infectious risk for those requiring indwelling bladder drainage. Utilizing an improved catheter design will reduce mucosal trauma and residual urine volumes, which in conjunction with proper sterile insertion techniques, daily maintenance care protocols, and minimized indwelling time will reduce the risk of CAUTIs. Hospitals and inpatient facilities should consider initiating dual-balloon catheters as standard of practice in an effort to reduce CAUTI rates, one of the National Patient Safety Goals identified by the Joint Commission.

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