

Reducing unnecessary testing of UTIs improves patient care, saves resources

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Many hospital patients may be unnecessarily tested, and treated, for catheter-associated urinary tract infections (CAUTIs), according to a study published today in *Infection Control & Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America. Researchers significantly reduced rates of CAUTI, one of the most common types of healthcare-associated infections, through a multifaceted intervention emphasizing best practices for insertion, maintenance and removal of indwelling catheters, as well as following strict criteria for testing patients for infection.

"Reduction in UTIs has become a major focus of hospitals throughout the country because they result in prolonged hospital stays and increase healthcare costs. In our prevention model of CAUTI, we included guidance for which patients should be tested, excluding those without symptoms or high-risk of invasive infection," said Katherine Mullin, MD, an Infectious Disease Physician at Cleveland Clinic and lead author of the study. "Obviously, the success of this 'stewardship of culturing' model is reliant on adherence to best bedside practices regarding appropriate care of catheters."

Beginning in 2013, a team representing each of Cleveland Clinic's ICU disciplines (e.g., pediatric, medical, surgical, neurologic, cardiac, heart failure, and cardiothoracic surgery) implemented interventions including protocols for placement, maintenance, and removal of catheters. Additionally, leaders from ICU disciplines agreed in 2014 to align routine culturing practice with American College of Critical Care

Medicine and Infectious Disease Society of America guidelines for evaluation of a fever in the critically ill. These guidelines acknowledge that most positive urine cultures in patients with bladder catheters are rarely symptomatic and that testing should be reserved for patients meeting key criteria, including patients that are kidney transplantation recipients, have recently undergone genitourinary surgery, demonstrate evidence of obstruction, or have an extremely low white blood cell count.

As a result of the intervention, the CAUTI rate decreased by one-third from 3.0 per 1,000 catheter days in 2013 to 1.9 in 2014. The study also analyzed hospital acquired bloodstream infections and found that the rate per 1,000 patient days was 2.8 in 2013 and the reduced to 2.4 in 2014. This reduction makes it unlikely that the reduced testing of urinary-tract bacteria left any true infections unrecognized.

"Most efforts to reduce infections, such as CAUTIs, take an approach solely from an infection prevention standpoint, as opposed to evaluating and individualizing appropriate testing in the clinical care setting," said Mullin. "Our research suggests that combining both approaches is the most effective way to reduce these infections."

The researchers note that future studies should determine if stewardship of testing in the ICU has downstream benefits on antibiotics use, the development of resistance, and resource utilization throughout a patient's hospital stay.

More information: Katherine M. Mullin et al, A Multifaceted Approach to Reduction of Catheter-Associated Urinary Tract Infections in the Intensive Care Unit With an Emphasis on "Stewardship of Culturing", *Infection Control & Hospital Epidemiology* (2016). [DOI: 10.1017/ice.2016.266](https://doi.org/10.1017/ice.2016.266) Katherine Mullin, Christopher Kovacs, Cynthia Fatica, Colette Einloth, Elizabeth Neuner, Edward Manno, Jorge

Guzman, Eric Kaiser, Venu Menon, Leticia Castillo, Marc Popovich, Steven Gordon, Thomas Fraser. "A Multifaceted Approach to Reduction of Catheter-Associated Urinary Tract Infections in the ICU with an Emphasis on 'Stewardship of Culturing.'" Web (November 17, 2016).

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