



# Ready, set, implement!

Guided by the principles of implementation science, a team of nurses develops an innovative nurse-driven Foley catheter protocol to prevent CAUTI.

BY BROOKE BURAS, RN, BSN

After reading the fall 2012 edition of *Prevention Strategist*, some ambitious and eager nurses were inspired to develop an innovative, nurse-driven Foley catheter protocol at North Oaks Medical Center, a 330-bed, acute care facility in Hammond, Louisiana.

The focus of an article on a patient-centered approach to preventing catheter-associated urinary tract infections (CAUTIs) captured the nurses' interest. Ultimately, a CAUTI

Reduction Team was established at North Oaks as part of the facility's participation in the Centers for Medicare and Medicaid Services Partnership for Patients Campaign.

With infection prevention leading the team and a nursing representative from each major patient care area as members, the team decided that developing a nurse-driven Foley catheter removal protocol would be the best strategy to decrease device days and prevent infections. Prompt removal of the Foley catheter remains a core preventative measure, as recommended by the Centers for Disease Control and Prevention (CDC).<sup>1</sup>

## GETTING STARTED

After three months of research, multidisciplinary collaboration, partnering with the medical staff, and several revisions, an evidenced-based, nurse-driven Foley catheter removal and post-Foley catheter removal protocol was approved by the Medical Executive Committee for use at North Oaks Medical Center (Fig. 1 and 2).

A nurse now has the autonomy, as granted by the medical staff, to remove a Foley catheter, barring specific criteria outlined in the protocol. Additionally, the nurse can perform one straight

catheterization if the patient has not voided within the determined timeframe. This places North Oaks in the small percentage of U.S. hospitals that use evidenced-based practice to monitor Foley catheter duration and/or discontinuation to help prevent CAUTIs.<sup>2,3</sup>

As the team leader of the CAUTI team, I label the two protocols "mutts" because they were devised using multiple resources, including the publications *Prevention Strategist*, *American Journal of Infection Control*, and *Journal of Nursing Care Quality*; guidance from eQ Health Solutions and the Institute for Healthcare Improvement; and input from North Oaks' own nurses and physicians.

I alluded to Neil Armstrong's famous quote, "This is one small step for man, one giant leap for mankind," when informing team members, nursing leadership, and staff of the Medical Executive Committee's decision to approve the protocol. The protocol is a triumph for North Oaks because it facilitates nurse empowerment by granting



Members of the CAUTI team provide individualized education to ensure all questions and/or concerns are addressed. LEFT TO RIGHT: CAUTI team member Jessica Purvis and staff nurse Nicole Milazzo.



After a team meeting, some members of the CAUTI team show their team spirit. LEFT TO RIGHT: Brooke Buras, Tammy Murphy, Edna Scott, Melissa Fisher, Jessica Purvis, and Amanda Hecker.

autonomy and represents true multidisciplinary collaboration to incorporate evidence and research into practice. In addition, it helps the hospital prevent healthcare-associated infections (HAIs) and reach the ultimate goal of providing patients with the best care possible.

#### IMPLEMENTATION

Using the quality improvement methodology of rapid-cycle change (introduced to the team by the Partnership for Patients Campaign) and implementation science, the team was able to expedite change that yielded reliable results. Rapid-cycle methodology uses the traditional Plan-Do-Study-Act (PDSA) cycle to facilitate rapid improvement. PDSA guided the team to test interventions on small scales. If the intervention provided favorable results,

then the change was applied to a larger population.<sup>4</sup> Directly applying the PDSA cycle, the two nurse-driven protocols were first introduced to the hospital's three surgery units. Within a month, those units' device days decreased significantly. The next month it was rolled out to the remaining seven nursing units.

Implementation of the two nurse-driven protocols proved to be a challenge for the CAUTI team. Developing the protocols and obtaining approval for utilization was the easy part. Educating the nursing staff on the appropriate use of the protocols and helping them feel comfortable having the autonomy to employ them continues to be the most challenging aspect for the CAUTI reduction team.

Implementation science guided the team, as it accomplished the monumental task of

properly putting the protocols into action. Implementation science is an action-oriented model, as well as a clinical and a social specialty, and provides an operational framework for the systematic uptake of this evidence-based intervention into healthcare practice.<sup>5</sup> It includes the four "Es": engage, educate, execute, and evaluate.

#### ENGAGE

During the whirlwind of tasks and responsibilities in a shift-long tornado, it is challenging to adjust nursing priorities. Infection preventionists and administrative personnel alike often wonder: "What else can be done to engage employees so they will give an issue the attention it requires?"

The answer to that question is very simple. Engagement should come from an internal

source in a patient care area. It's vital to have a competent, determined team to lead by example. Those informal leaders on the units will facilitate a sustained, meaningful change.

Engagement was accomplished by obtaining a crew of high performers who were well-respected by their peers. Real-life stories about how a CAUTI affected a patient's life were shared with the crew, followed by practical suggestions to decrease infections. Teamwork flourished thereafter, dramatically increasing the frequency of desired results. Consequently, the critical part of this step is to successfully engage the team members. Once members of the team realize the vital nature of the subject matter, they will act as role models in delivering excellent care, and peers will follow suit.

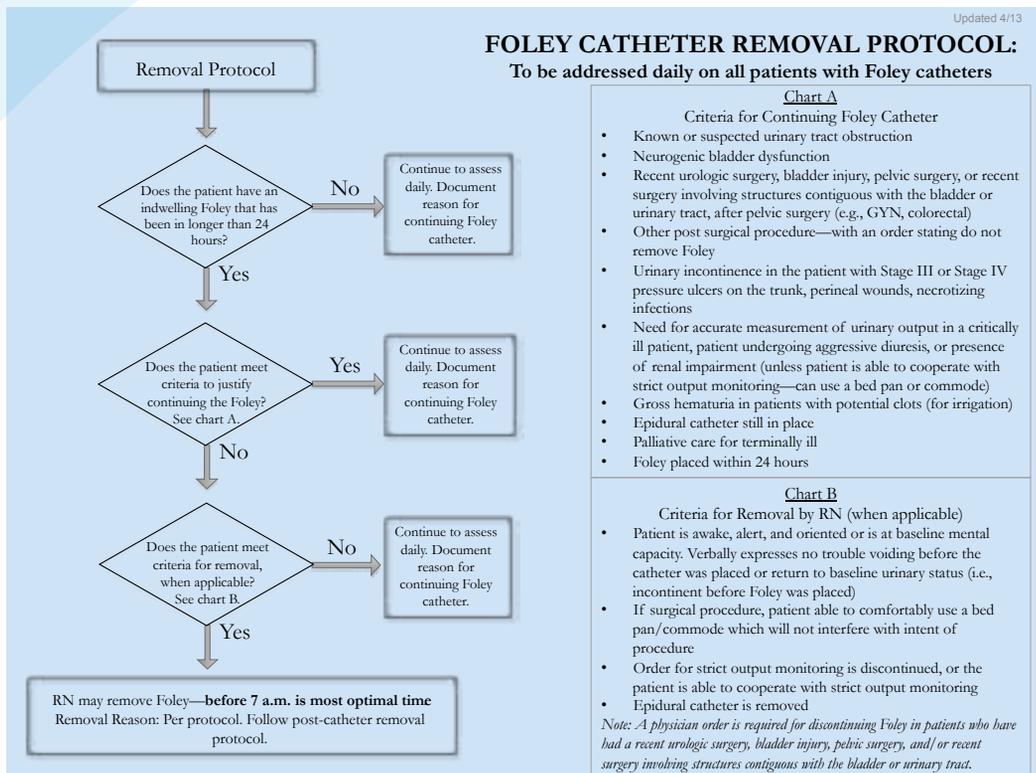


FIGURE 1

**EDUCATE**

Some nurses know the appropriate indications for and timeframe to maintain a Foley catheter, but is this common knowledge among all nurses? Healthcare reform has placed increasing strain on America's bedside caregivers, increasing patient-to-nurse ratios and pressure related to performance-based reimbursement. All nurses should realize that their actions (and omissions) could impact patient mortality. With those issues in mind, the CAUTI team decided to carry out a massive educational agenda to ensure that everyone was aware of CAUTI prevention. Initially, team members attended each nursing unit staff meeting to promote CAUTI awareness. Additionally, they attended conferences to explain the newly approved nurse-driven protocols. They also provided individualized education for each day and night shift to ensure all questions were

addressed and to discuss real-time scenarios. Every unit knew its CAUTI team representative

and what actions to take if there was confusion when exercising protocols.

**EXECUTE**

Execution occurs when evidenced-based interventions are converted into practice. The CDC recommends using a combination of core prevention strategies.<sup>1</sup> One of these methods includes leaving a catheter in place for short periods of time (with regard to medical necessity, as opposed to nursing convenience) to minimize infection risks.<sup>1</sup> The nurse-driven Foley catheter removal protocol allows nurses to determine the need for the Foley catheter on a daily basis and remove it promptly when it is no longer necessary. Furthermore, the

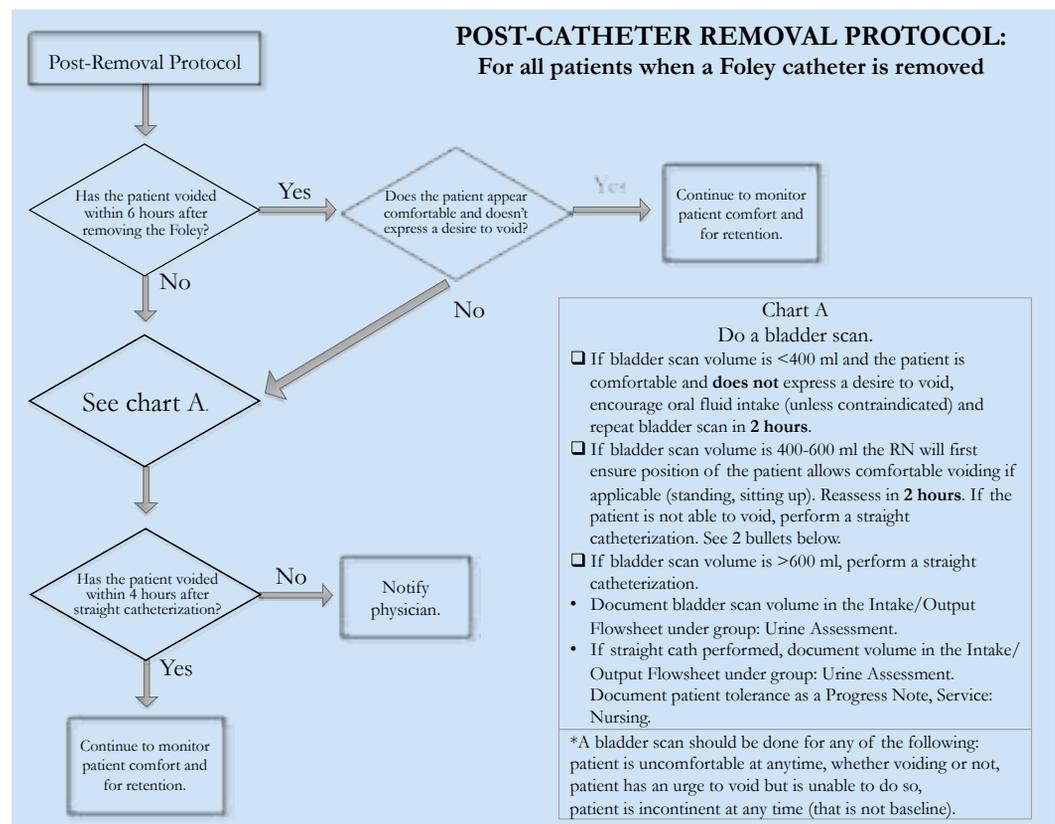


FIGURE 2



Regular updates on progress facilitated and sustained team engagement. LEFT TO RIGHT: CAUTI team members Brooke Buras, Tammy Murphy, Edna Scott, Melissa Fisher, Jessica Purvis, and Amanda Hecker.



Real patient scenarios are discussed to enhance applicable knowledge of the nurse-driven Foley removal protocols. LEFT TO RIGHT: CAUTI team members Amanda Hecker, Jessica Purvis, Melissa Fisher, and Edna Scott. Brooke Buras is seated.

criteria for continuing use of a Foley catheter outlined in the protocol serves as a guide for appropriate placement. The basics of preventing CAUTIs were reinforced—inserting catheters using aseptic technique and proper maintenance of the urinary catheter.<sup>1</sup> Also, the team used a Foley catheter securement device, which the CDC also considers a core prevention strategy.<sup>1</sup> Catheter securement is important to prevent catheters from exerting excessive force on the bladder neck or urethra, causing inflammation.<sup>6,7</sup>

## EVALUATE

The team chose infection rates as an outcome measure because the CDC provides

standardized, scientifically rigorous definitions.

The nurse-driven Foley catheter removal protocols were first implemented in February 2013, and within months North Oak's CAUTI infection rates plummeted. The hospital's 2013 CAUTI rate is projected to fall close to the National Healthcare Safety Network's (NHSN) 10<sup>th</sup> percentile, with the ultimate goal of zero infections. Surgical Care Improvement Project statistics and Partnership for Patients comparative data are also evaluated to determine progress and are shared with the team and other administrators on a monthly basis. After the nurse-driven protocols were

## CALL TO ACTION

Engaging bedside caregivers, increasing CAUTI awareness, executing evidenced-based interventions, and continuously evaluating progress—along with using rapid-cycle methodology—resulted in a massive culture change at North Oaks Medical Center.

In summary, here are five tips that will be useful in implementing a nurse-driven Foley protocol:

- 1 Seek team members who are highly engaged to act as role models for delivering excellent care.
- 2 Determine a framework/model to guide implementation. Rapid-cycle methodology and implementation science can be applied to many HAI prevention strategies.<sup>5</sup>
- 3 Ensure that communication with team members and health-care workers is clear and concise. When expectations are well defined, courses of action are easy to follow.
- 4 Provide multiple opportunities for education. Visit staff meetings and individual shifts, and employ passive education strategies (e.g., poster boards and computer-based learning) to allow individuals to learn at their own pace.
- 5 Have a mechanism for staff to provide feedback and follow up on a routine basis. Education should be ongoing and resources should be available if staff has questions and/or concerns along the way.

implemented, the CAUTI team served as a resource to the staff and accepted positive and negative feedback. Future team goals relate to continuously evaluating current processes, as well as validating that staff are inserting catheters aseptically and monitoring duration and/or discontinuation of Foley catheters. **R**

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## References

1. Gould CV, Umscheid CA, Agarwal RK, Kuntz G, Pegues DA, and HICPAC. Guideline for Prevention of Catheter-associated Urinary Tract Infections 2009. Available at: [www.cdc.gov/hicpac/cauti/001\\_cauti.html](http://www.cdc.gov/hicpac/cauti/001_cauti.html). Accessed July 1, 2013.
2. Krein SL, Kowalski CP, Hofer, TP, Saint, S. Preventing Hospital-Acquired Infections: A National Survey of Practices Reported by U.S. Hospitals in 2005 and 2009. *Journal of General Internal Medicine* 2012; 27: 773-779.
3. Saint S, Kowalski CP, Kaufman SR, Hofer TP, Kauffman CA, Olmsted RN, Forman J, Banaszak-Holl J, Krein SL. Preventing hospital-acquired urinary tract infection in the United States: a national study. *Clinical Infectious Diseases* 2008; 46: 243-250.
4. Brown P, Hare D. Rapid cycle improvement: Controlling change. *The Journal*. 2002; 98: 2-3. Available at: [www.ashp.org/DocLibrary/Policy/QII/Rapid-Cycle.aspx](http://www.ashp.org/DocLibrary/Policy/QII/Rapid-Cycle.aspx). Accessed July 1, 2013.
5. Saint S, Howell JD, Krein SL. Implementation Science: How to Jumpstart Infection Prevention. *Infection Control and Hospital Epidemiology* 2010; 31(Suppl 1): S14-S17.
6. Wound, Ostomy and Continence Nurses Society. Indwelling Urinary Catheter securement: Best practice for clinicians. 2012. Available at: [www.faet.org/docs/IndwellingUrinaryCatheter-Securement.pdf](http://www.faet.org/docs/IndwellingUrinaryCatheter-Securement.pdf). Accessed July 1, 2013.
7. Oman KS, Flynn MB, Fink, R, Schraeder N, Hulett T, Keech T, Wald H. Nurse-directed interventions to reduce catheter-associated urinary tract infections. *American Journal of Infection Control* 2012; 40: 548-553.