

ENGAGE WITH QUALITY IMPROVEMENT AND PATIENT SAFETY (E-QIPS)

Effect of Educating Nurses on Difficult Foley Catheter Placement

Catherine Ingram, MD



American
Urological
Association

QUALITY OR SAFETY PROBLEM

At our institution nursing staff are responsible for placement of nearly all urethral catheters but are not adequately trained to know when a Coudé catheter should be used in place of a regular Foley catheter or how to place a Coudé catheter. When a catheter placement is not straightforward, complications often result, including pain, urethral injuries, catheter-associated urinary tract infections (UTIs), hematuria, and strictures. Moreover, whereas the average cost of a Coudé catheter insertion kit is \$250.00, the cost of operative intervention with cystoscopy and clot evacuation after traumatic catheterization is several thousand dollars. The goals of this initiative were twofold: (1) to decrease catheter-associated complications and (2) to increase nursing familiarity with Coudé catheter insertion.

BACKGROUND

Nearly 16% of all admitted adults will receive an indwelling urethral catheter during their hospitalization.¹ An overwhelming majority of these catheters will be placed by nurses. However, nursing education for urethral catheterization is not standardized, and nursing literature addressing difficult urinary catheter insertion is sparse.² One study found that nearly 40% of ICU nursing staff at their academic medical center did not know the proper technique for inserting an uncomplicated urethral catheter, and another found that 1.4% of catheters placed at their institution resulted in urethral trauma.^{3,4} Ideally, nurses would be receive standardized education regarding urethral catheter placement and be certified to place Coudé catheters. In one study, the creation of a team of nurses for difficult catheter insertions resulted in 417 fewer urology consultations for catheters over four years.⁵

PROJECT OBJECTIVES

Our objectives are to (1) teach all pre-operative and PACU nursing staff, as well as volunteer 'Superusers' from units around the hospital, the appropriate timing and methods for Coudé catheter placement; (2) to create an algorithm to be distributed throughout our institution for when to use a Coudé or ask a 'Superuser' for help; (3) to teach the nurses mentioned previously how to troubleshoot a difficult female catheter. Our aims are to (1) decrease the incidence of traumatic catheterizations and urology consultations for Coudé and difficult female catheter placements at our facility; (2) improve patient safety and satisfaction; and (3) reduce costs secondary to inpatient complications for the patient and healthcare system.

INTERVENTION

The intervention is designed to include multiple in-services, each lasting approximately 30 minutes, that include a lecture portion as well as hands-on training with models. The first several in-services have included the presence of a urology resident physician giving the lecture as well as showing a ten-minute original animated video regarding proper regular Foley and Coudé catheter placement. Nursing education leaders, including the Unit Educator of the pre-operative and PACU areas and the nursing Education Specialist, attend each session. An important consideration has been finding times when both a resident physician and nurses from busy units can be present for training

MEASURES OF SUCCESS

A 12-question pre-survey and post-assessment is administered at each meeting. Each nurse must make a 100% on the post-assessment to be certified for Coudé placement in the hospital. The number of nurses who are able to score a 100% on the post-assessment after each session will allow us to determine the effectiveness of our educational sessions. 3 months after the conclusion of our in-services, we will send out surveys to participating nurses regarding how many Coudé catheters they have placed in total and successfully since course completion. We will compare the results of our pre- and post-assessments and compare the number of successful to total Coudé catheter placements to determine the efficacy of our intervention.

OUTCOMES

We expect that following our intervention, the incidence of traumatic catheterizations and urology consultations for Coudé and difficult female catheter placements at our facility will decrease. We also expect an increasing number of nurses to be comfortable with Coudé catheter insertion. One potential unintended consequence may be a decrease in catheter-associated urinary tract infections at our facility.

POTENTIAL IMPACT AND SCALABILITY

Our training program practices in multiple hospitals in Houston; if our intervention is successful in this particular facility, we can implement it in the other locations we practice. A similar model of collaboration between the nursing administration and urology department for creation of a catheter-teaching course could be copied at multiple facilities nationwide.

SUSTAINING THE CHANGES

It is our hope that the nurses we train in our program will go on to teach other nurses how to place Coudé catheters. Implementation and dissemination of our official algorithm for Coudé catheter insertion will also help to sustain the changes our intervention hopes to make.

REFERENCES

1. Centers for Disease Control and Prevention. (2018). Urinary tract infection (catheter-associated urinary tract infection [CAUTI] and non-catheter-associated urinary tract infection [UTI]) and other urinary system infection [USI] events. National Healthcare Safety Network (NHSN) Device-associated Module 7 UTI.
2. Kashefi, C., Messer, K., Barden, R., Sexton, C., & Parsons, J.K. (2008). Incidence and prevention of iatrogenic urethral injuries. *Journal of Urology*, 179, 2254-2258.
3. Trout S, Dattolo J and Hansbrough JF: Catheterization: how far should you go? *RN* 1993; 56: 52.
4. Villanueva, C. & Hemstreet, G. P. (2011). Lesson 5 difficult catheterization: Tricks of the trade. *American Urological Association Update Series*, 30, 41-47.
5. Leuck, A., Wright, D., Ellingson, L., Kraemer, L., Kuskowski, M. A., & Johnson, J. R. (2012). Complications of Foley catheters--is infection the greatest risk? *The Journal of Urology*, 187(5), 1662-1666.

PROJECT LEAD CONTACT INFORMATION

Catherine Ingram, MD; PGY4

Baylor College of Medicine, Scott Department of Urology, Houston, Texas

cfingram@bcm.edu