



Survey of Urinary Catheter Management Practices at an Academic Medical Center

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Abstract

Background: Catheter-associated urinary tract infections (CAUTIs) are often due to lapses in infection prevention practices. Following implementation of a CAUTI prevention program at an academic medical center, nursing and support personnel in adult and pediatric inpatient and emergency units were surveyed regarding urinary catheter (UC) management practices.

Methods: An online survey was distributed via email invitation from facility leadership to all inpatient nursing personnel. Descriptive statistics were calculated.

Results: A total of 1800 personnel were sent the survey invitation, of which 891 (49.5%) responded. Respondents were predominantly registered nurses (82.0%, 721/879 respondents to this survey question), with an additional 142 (16.2%) patient care technicians. These groups were the two roles predominantly noted as responsible for placing UCs (registered nurses, 64.9%, 515/793; patient care technicians, 28.4%, 225/793). Most respondents worked on adult units (82.4%, 594/721), while 17.6% (127/721) worked on pediatric units. Respondents noted that the closed catheter system may be opened for the following reasons: irrigation (35.5% of respondents, 278/782), replacement of collection bag with a urometer (35.5%, 275/782), and replacement of urometer to a collection bag (10.1%, 79/782). While 86.8% (686/790) of respondents reported the UC indication during change of shift report, only 40.9% (323/790) included this information during unit multidisciplinary rounds. Of respondents, 46.7% (307/658) agreed that the catheter discontinuation protocol was an effective tool to remove unnecessary UCs; however, 34.2% (225/658) were unaware that the protocol existed. Reported reasons why UCs remained in place even after discontinuation criteria had been met included a lack of a discontinuation order (51.9%, 390/751), patient comfort or convenience (39.1%, 294/751), patient refusal (28.9%, 217/751), and staff convenience (14.6% 110/751).

Conclusions: Despite efforts at practice standardization, marked variability in UC maintenance practices were evident. Practices known to increase CAUTI risk, such as unnecessary opening of the closed system, were reported and provide targets for future improvement efforts.

Introduction

- Catheter-associated urinary tract infections (CAUTIs) are often due to lapses in infection prevention practices.
- In 2009, Vanderbilt University Medical Center (VUMC), an 800+ bed academic medical center, implemented a comprehensive CAUTI prevention program that included standardized catheter insertion and maintenance practices, education, and a nurse-directed urinary catheter discontinuation protocol.
- In 2012, to assess knowledge and current urinary catheter management practices, nursing and support personnel in adult and pediatric inpatient, procedural, and emergency units were surveyed.

Methods

- An online survey (REDCap) was sent to all nursing personnel in adult and pediatric inpatient clinical areas.
- Descriptive statistics were calculated.

Results

Table: Survey Respondent Demographics

	N (%)
Total Respondents	891/1800 (49.5%)
Occupation	
Registered nurse	721/879 (82.0%)
Patient care technician	142/879 (16.2%)
LPN	16/879 (1.8%)
Other	17/879 (1.9%)
Work Location	
Adult unit	594/721 (82.4%)
Pediatric unit	127/721 (17.6%)
ICU	279/721 (38.7%)
Non-ICU: Medical	129/721 (17.9%)
Non-ICU: Surgical	154/721 (21.4%)
Emergency Department	87/721 (12.1%)
Perioperative	72/721 (10.0%)

Figure 1: Personnel Who Insert "Most" Urinary Catheters in Respondent's Clinical Area

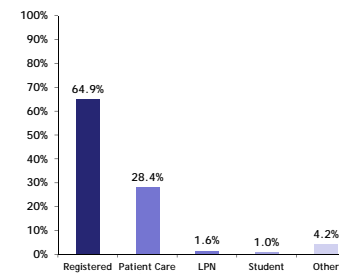


Figure 2: Percent of Respondents in Agreement with Noted Practice/Statement

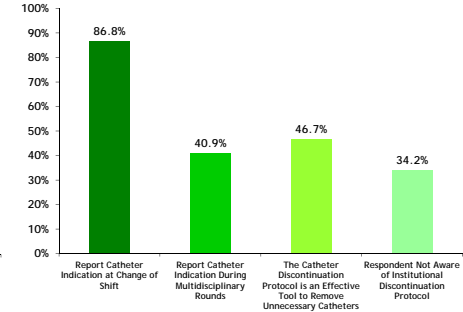


Figure 3: Reported Reasons the Closed Urinary Catheter Drainage System May be Opened in the Respondent's Clinical Area

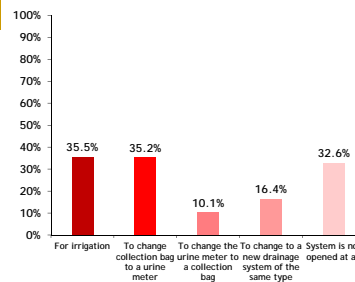
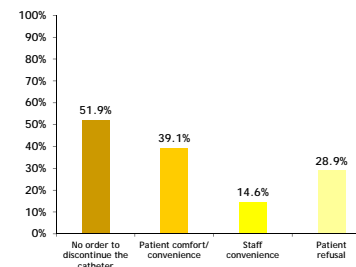


Figure 4: Most Commonly Reported Reasons Why Unnecessary Urinary Catheters Remain in Place in the Respondent's Clinical Area



Conclusions

- Despite efforts at practice standardization, marked variability in urinary catheter maintenance practices was evident.
- A substantial proportion of respondents were unaware of the institutional catheter discontinuation protocol, which had been in place for several years prior to the survey.
- Practices suspected to increase CAUTI risk, such as unnecessary opening of the closed system, failure to report catheter indication/necessity with patient handovers, and continued use of unnecessary catheters, were reported and provided targets for future improvement efforts.