

# R<sup>3</sup> Report | Requirement, Rationale, Reference

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Published for Joint Commission accredited organizations and interested health care professionals, *R<sup>3</sup> Report* provides the rationale and references that The Joint Commission employs in the development of new requirements. While the standards manuals also provide a rationale, the rationale provided in *R<sup>3</sup> Report* goes into more depth. The references provide the evidence that supports the requirement. *R<sup>3</sup> Report* may be reproduced only in its entirety and credited to The Joint Commission. To receive by [e-mail](mailto:info@jointcommission.org), visit [www.jointcommission.org](http://www.jointcommission.org).

## Catheter-associated urinary tract infections

### Requirement

The requirement addressed in this issue of *R<sup>3</sup> Report* is a 2012 National Patient Safety Goal that is effective January 1, 2012 for hospitals and critical access hospitals.

**NPSG.07.06.01:** Implement evidence-based practices to prevent indwelling catheter-associated urinary tract infections (CAUTI).\*

Note: This NPSG is not applicable to pediatric populations. Research resulting in evidence-based practices was conducted with adults, and there is not consensus that these practices apply to children.

\* Evidence-based guidelines for CAUTI are located at: Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals at, <http://www.shea-online.org/about/compendium.cfm><sup>1</sup>  
Guideline for Prevention of Catheter-associated Urinary Tract Infections, 2009 at [http://www.cdc.gov/hicpac/cauti/001\\_cauti.html](http://www.cdc.gov/hicpac/cauti/001_cauti.html)<sup>2</sup>

### Elements of performance

1. During 2012, plan for the full implementation of this NPSG by January 1, 2013.

Note: Planning may include a number of different activities, such as assigning responsibility for implementation activities, creating timelines, identifying resources, and pilot testing.

2. Insert indwelling urinary catheters according to established evidence-based guidelines that address the following:
  - Limiting use and duration to situations necessary for patient care
  - Using aseptic techniques for site preparation, equipment and supplies
3. Manage indwelling urinary catheters according to established evidence-based guidelines that address the following:
  - Securing catheters for unobstructed urine flow and drainage
  - Maintaining the sterility of the urine collection system
  - Replacing the urine collection system when required
  - Collecting urine samples
4. Measure and monitor catheter-associated urinary tract infection prevention processes and outcomes in high-volume areas by doing the following:
  - Selecting measures using evidence-based guidelines or best practices
  - Monitoring compliance with evidence-based guidelines or best practices
  - Evaluating the effectiveness of prevention efforts

Note: Surveillance may be targeted to areas with a high volume of patients using indwelling catheters. High-volume areas are identified through the hospital's risk assessment as required in IC.01.03.01, EP 2.

#### Tell us what you think about *R<sup>3</sup> Report*

The Joint Commission is interested in your thoughts about this issue of *R<sup>3</sup> Report*. Please take a few minutes to complete a short [on-line survey](#). The survey will be open through October 28, 2011. The goal of this survey is to evaluate the effectiveness of this publication in providing the rationale for The Joint Commission requirement addressed in this issue.

## Rationale

CAUTI are the most common hospital-associated infections (HAI); 80 percent of these infections are attributable to an indwelling urethral catheter.<sup>3</sup> Catheter use is also associated with negative outcomes other than infection, including nonbacterial urethral inflammation, urethral strictures and mechanical trauma. The length of time that a catheter is in place contributes to infection,<sup>3,4,5</sup> so limiting catheter use and duration are important to preventing infection. More than a quarter of the patients with an indwelling urinary catheter for two to 10 days will develop bacteriuria, and a quarter of these will develop a CAUTI.<sup>6</sup> Approximately 450,000 CAUTIs occur annually in hospitals.<sup>7</sup> Alternatives to using indwelling catheters, such as in and out catheters<sup>8</sup> and external condom catheter drainage<sup>9</sup> have been shown to be effective. Morbidity attributable to any single episode of catheterization is limited, but the high frequency of catheter use in hospitalized patients means that the cumulative burden of CAUTI is substantial.<sup>10</sup> There is evidence that providing data on CAUTI rates to health care providers helps in reducing infection rates.<sup>11,12</sup>

The Centers for Disease Control and Prevention (CDC) published guidelines for preventing CAUTI in 1981 and 2009.<sup>2</sup> The Centers for Medicare & Medicaid Services (CMS) has identified eight conditions – including CAUTI – that have evidence-based prevention guidelines. If these conditions are acquired in the hospital, that hospital will receive reduced payment for that case.<sup>10,13</sup> The health care-associated conditions that CMS will not cover are high cost or high volume or both; result in the assignment of a case to a diagnosis-related group (DRG) that has a higher payment when present as a secondary diagnosis; and could reasonably have been prevented through the application of evidence-based guidelines. It has been estimated that the excess cost per case for nosocomial urinary tract infections (UTIs) ranges from \$1,200 to more than \$2,700, costing the health care system more than \$400 million annually.<sup>6,7,13</sup>

## Reference

The Joint Commission is a member of the HAI-Allied Task Force, a national stakeholder group that developed evidence-based implementation strategies for six high morbidity and mortality HAIs. The strategies were published by *Infection Control & Hospital Epidemiology* in October 2008 as *A Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals*.<sup>1</sup> The goal of the implementation strategies was to provide the field with easy-to-use, concise, evidence-based practices that could be implemented to decrease HAIs. The Joint Commission's Patient Safety Advisory Group (PSAG) recommended that a National Patient Safety Goal on CAUTI be developed from the Compendium strategies. The Joint Commission previously developed three National Patient Safety Goals based on the Compendium's evidence-based implementation strategies, including multi-drug resistant organisms in acute care hospitals (NPSG.07.03.01); central line-associated bloodstream infections (NPSG.07.04.01); and surgical site infections (7.05.01).

## Feedback from the field

The draft National Patient Safety Goal was made available for field comment on The Joint Commission's website from December 2, 2010 through January 27, 2011. More than 1,000 responses were received with most responses from accredited organizations. A majority of field review respondents (more than 70 percent) agreed that a new National Patient Safety Goal should be introduced for CAUTI. This position was also supported by The Joint Commission's Professional and Technical Advisory Committee (PTAC) for hospitals and several professional organizations.

## Level of evidence

Below is an indication of the level of evidence for elements of performance (EPs) 2 through 4 under the CAUTI National Patient Safety Goal. The level of evidence for each EP was derived from the *Compendium*.

Requirement	Level of evidence
EP 2: Insert indwelling urinary catheters according to established evidence-based guidelines that address the following:	
• Limiting use and duration to situations necessary for patient care	A-II
• Using aseptic techniques for site preparation, equipment, and supplies	A-III
EP 3: Manage indwelling urinary catheters according to established evidence-based guidelines that address the following:	
• Securing catheters for unobstructed urine flow and drainage	A-III
• Maintaining the sterility of the urine collection system	A-I
• Replacing the urine collection system when required	B-III
• Collecting urine samples	A-III
EP 4: Measure and monitor catheter-associated urinary tract infection prevention processes and outcomes in high-volume areas by doing the following:	
• Selecting measures using evidence-based guidelines or best practices	A-II or B-II for all
• Monitoring compliance with evidence-based guidelines or best practices	
• Evaluating the effectiveness of prevention efforts	
Note: Surveillance may be targeted to areas with a high volume of patients using indwelling catheters. High-volume areas are identified through the hospital's risk assessment as required in IC.01.03.01, EP 2.	B-III

**Table 1: Level of evidence: strength of recommendation and quality of evidence**

Category/grade	Definition
Strength of recommendation	
A	Good evidence to support a recommendation for use
B	Moderate evidence to support a recommendation for use
C	Poor evidence to support a recommendation
Quality of evidence	
I	Evidence from ≥ 1 properly randomized, controlled trial
II	Evidence from ≥ 1 well-designed clinical trial, without randomization; from cohort or case-control analytic studies (preferably from >1 center); from multiple time series; or from dramatic results from uncontrolled experiments
III	Evidence from opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

Note: Adapted from the Canadian Task Force on the Periodic Health Examination. The periodic health examination. *Canadian Medical Association Journal*. 1979 November 3; 121(9):1193-1254

#### Select bibliography

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