

# AACN Practice Alert

## Prevention of Catheter-Associated Urinary Tract Infections in Adults

### Scope and Impact of the Problem

Urinary tract infections (UTIs) are the most common hospital-acquired infection, accounting for up to 40% of infections reported by acute care hospitals.<sup>1</sup> The major risk factor associated with catheter-associated urinary tract infection (CAUTI) is the presence of an indwelling urinary catheter. Despite efforts to reduce the occurrence of CAUTIs, their frequency increased 6% between 2009 and 2013.<sup>1</sup> CAUTIs increase hospital cost and are associated with increased morbidity and mortality.<sup>2,3</sup> CAUTIs are considered by the Centers for Medicare and Medicaid Services to represent a reasonably preventable complication of hospitalization. As such, no additional payment is provided to hospitals for costs related to CAUTI treatment.<sup>4</sup>

### Expected Practice

1. Assess patient for accepted indications and alternatives before placement of any indwelling urinary catheter. [level A]
2. Adhere to aseptic technique for placement, manipulation, and maintenance of indwelling urinary catheters. [level C]
3. Document all instances of indwelling urinary catheters including insertion date, indication, and removal date. [level C]
4. Discontinue indwelling urinary catheters promptly as soon as indications expire. [level A]

### AACN Levels of Evidence

- Level A** Meta-analysis of quantitative studies or metasynthesis of qualitative studies with results that consistently support a specific action, intervention, or treatment (including systematic review of randomized controlled trials)
- Level B** Well-designed, controlled studies with results that consistently support a specific action, intervention, or treatment
- Level C** Qualitative studies, descriptive or correlational studies, integrative reviews, systematic reviews, or randomized controlled trials with inconsistent results
- Level D** Peer-reviewed professional and organizational standards with the support of clinical study recommendations
- Level E** Multiple case reports, theory-based evidence from expert opinions, or peer-reviewed professional organizational standards without clinical studies to support recommendations
- Level M** Manufacturer's recommendations only

### Supporting Evidence

#### Assessment of Need for Indwelling Catheter

1. Prolonged catheterization is the major risk factor for CAUTIs.<sup>5</sup> Develop written guidelines for urinary catheterization, and include indications for indwelling urinary catheterization and ensuring that catheter placement is limited to patients who meet indications.<sup>5,6</sup> Bladder scanning can be used to assess need for catheterization.

#### Adherence to Proper Technique

1. Recommended infection control measures can prevent 17% to 69% of CAUTIs.<sup>5</sup> Maintenance of the catheter should include use of a securement device, unobstructed flow by keeping tubing

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free of kinks and below the level of the bladder, maintenance of a closed system, and regular emptying of the collection bag.<sup>7</sup> Avoid use of antibiotic-coated or silver-coated urinary catheters.<sup>8</sup> Replacing basin bathing with plain wipe bathing has been recommended.<sup>9</sup> Cleaning the catheter regularly with wipes impregnated with chlorhexidine gluconate has been suggested as an intervention to decrease CAUTIs.<sup>10</sup> Implementing standards and monitoring for catheter insertion and management technique are also recommended.<sup>11,12</sup> Having devices and supplies (eg, condom catheters, penis pouches, incontinence products) available as an alternative to indwelling catheters can help decrease use.<sup>9,13</sup> If inserting an indwelling catheter, use the smallest catheter possible.<sup>14</sup>

### Documentation

1. Daily, review the necessity for catheter continuation for all patients with urinary catheters.<sup>11</sup> Develop systems to ensure prompt removal of catheters when no longer indicated<sup>12</sup>; consider nurse-driven removal protocols.<sup>15-20</sup>

### Monitoring Use of Indwelling Catheters

1. It has been noted that indwelling urinary catheters are often placed without sufficient rationale and/or remain in place after indications expire.<sup>21</sup> Use of an intervention reminder that a catheter was in place and/or a stop order to prompt removal of unnecessary catheters reduced the CAUTI rate by 53%.<sup>15</sup> Implementing infection surveillance programs that include unit-based urinary catheter days and rates of CAUTIs have been helpful.<sup>7</sup> The ability to do surveillance and give performance feedback is key to long-term success.<sup>11,12,22</sup>

### Implementation/Organizational Support for Practice

**Consider** use of a previously developed set of criteria or tool, such as the HOUDINI Protocol, to standardize assessment and a nurse-driven protocol for assessing the initial and ongoing need for indwelling catheters (<https://www.advisory.com/research/nursing-executive-center/expert-insights/2013/faqs-houdini-protocol>).

**Make** insertion of an indwelling catheter a 2-person activity to ensure maintenance of aseptic technique.

**Include** information about catheter days and continued assessment during nurse-to-nurse handoff.

**Participate** in daily rounds as part of the discussion of the ongoing need for each catheter.

**Identify** a unit champion to continue the focus on use of indwelling catheters, maintenance, alternatives, and urinary tract infection rates for the unit.

**Identify** the particular guidelines, criteria, and surveillance mechanism that is being used in your facility to measure catheter days and urinary tract infections.

### Need More Information or Help?

1. Contact a clinical practice specialist for additional information: go to [www.aacn.org](http://www.aacn.org) then select Practice Resource Network.
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Original Author: Ellen Elpern, RN, MSN, CCNS  
November 2011

Contributing Authors: Alyson Dare Kelleher, RN, BSN, CCRN, and  
Kathleen S. Oman, RN, PhD, FAEN, FAAN  
July 2015

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