

Infection Prevention



PREVENTION AND TREATMENT

CAUTI prevention beyond insertion: 5 common gaps in IUC maintenance



Back in nursing school, Mary Pat Eble never learned about indwelling urinary catheters (IUCs) and the risk of infection. It wasn't until she started working as a bedside nurse that she realized IUCs can produce airlocks that lead to urinary retention. Knowing how urine build-up can cause catheter-associated urinary tract infections (CAUTIs), Eble solved the issue by watching other clinicians drain the catheter bag and pull the walls apart to let air into the system.

Today, many nursing school students are learning about IUCs and evidence-based best practices for preventing CAUTIs, but they don't always focus on a "catheter's ongoing care," says Eble, MSN, RN, Medline's Clinical Product Specialist for the Urology Division. Often, clinicians will "learn these things as they start to practice" with mentors that help them understand "bedside care and how to turn learned theory into improved patient outcomes," Eble explains.

But what happens when nurses don't follow [best practices for CAUTI prevention](#) the same way? Many nurses are juggling multiple patient care needs, competing clinical priorities and busy shifts, making it even more challenging for clinicians to focus on prevention.

15%
of all hospital HAIs are CAUTIs.

This could be why CAUTIs still account for more than 15% of all hospital-acquired infections (HAIs),¹ causing patient discomfort, extended hospitalizations and increased hospital costs. Bringing CAUTI rates down depends on helping clinicians follow consistent behavior across different care environments. We've identified the most common gaps in IUC insertion and post-insertion practices to help you and your team make CAUTI prevention second nature.

1 | Lack of aseptic technique

Proper IUC maintenance begins with correct aseptic insertion technique. This can seem like basic practice that every nurse should know how to perform. But check to make sure your staff is correctly following the Center for Disease Control (CDC)'s [prevention steps](#). Trays that organize everything clinicians need to follow aseptic technique can make it easier to follow best practices consistently.

Product to consider

Designed by nurses, the [Total One Layer IUC Tray](#) includes a list of clinical criteria for IUC use and step-by-step directions for aseptic technique. Components are organized in the correct order, minimizing contamination risk. A left-to-right-flow and clear labeling guide clinicians through the insertion process.



2 | Inconsistent peri-care and catheter care

Eble describes perineal care and catheter care as "missed arts" despite recommendations stressing their importance. Infection preventionists advise doing post-insertion perineal care and catheter care at least every 12 hours.

But "there's a disconnect," Eble says, "hectic hospital shifts can make it hard for clinicians to clean the perineum and the catheter at the appropriate time, even when there's a protocol in place."

The more time passes between each cleansing, the higher the risk of biofilm buildup on the catheter and bioburden growth in the perineum area. Eble suggests encouraging clinicians to create more consistency by documenting when the patient last had these cleanings so they can be tracked and repeated at the correct time.

The CDC recommends that nurses use either soap and water or bath wipes to clean the perineal area and catheter. But Eble explains that water from the tap could be contaminated, as could the surface of the water basin. Clinicians may not know to use bath wipes as a safe and convenient alternative to soap and water for cleaning the perineum and catheter.

Product to consider

The [ReadyCleanse](#) system provides five soft, smooth cloths premoistened with a pH-balanced, hypoallergenic solution for cleaning the perineum and catheter.



3 | Dependent loops that block urine flow

Dependent loops are a top contributor to CAUTIs. When the catheter tubing hangs down, it forms a U-shaped loop that forces the urine to drain uphill. This can cause the bladder to empty improperly, increasing the risk of infection. So, why don't all staff position the IUC tubing correctly to avoid dependent loops? "That is the \$60,000 question," Eble says.

One reason could be that clinicians have to treat hospitalized patients on different types of beds, so the way they place the catheter drain bag after insertion can change every time. This is especially true with urine meter tubing that's 60 inches long. If nurses attempt to milk the drainage tubing, they can cause suction trauma to the bladder wall, opening the door to mucosal trauma, which can cause bacterial overgrowth that could lead to a CAUTI.

Medline's [urine meter drain bags](#) come with a notch that places the catheter tubing at a 90-degree angle. Bed sheet clamps can also secure the tubing to help the urine flow. But it's still up to nurses to follow [proper drain bag placement procedures](#). Clinicians need to work with the tubing and drain bag appropriately, "to enable the tubing and drain bag to do what you need them to do: drain efficiently," Eble says.

4 | Opening closed drainage systems

An open drainage system means that the catheter has been separated from the drain bag following insertion. This can be avoided by changing the entire catheter system every time there's a break in the system, as recommended by CDC guidelines.

But this can get complicated when a patient is admitted to the ICU. After an emergency or operating room nurse inserts an IUC with a regular drain bag, an ICU nurse may switch to a urine meter drain bag without replacing the entire catheter. They do this to monitor the patient's urine output on an hourly basis. But it means "breaking the system," which can lead to a 25% increase in infection rates.²

25%
The rate infections increase when "breaking the system."

Eble recommends thinking about the patient's future needs and choosing a catheter system that's least likely to be opened. Typically, patients undergoing simple procedures need only short-term IUC placement with a regular drain bag. Patients who go to the operating room for complex surgeries will usually need a urine meter. But patients admitted for a simple procedure who have comorbidities may end up in the ICU for monitoring. So, nurses need to use their critical thinking skills to decide which IUC system to insert.

"The nurse should be thinking about things like that and not automatically put on a drain bag without a urine meter," Eble says. In fact, it's a good idea to make urine meters easily available for acute care nurses to use instead of regular drain bags. That's an advantage as long as clinicians also receive the right training on drain bag use.

Product to consider

The [Total One Layer IUC Tray with urine meter](#) helps prevent the need to replace the catheter, minimizing the risk of opening the drainage system.



5 | Delayed removal of the IUC

After insertion, prompt removal is vital for CAUTI prevention. That's not happening enough, and there's a 7% daily risk of infection the longer the catheter is in place!³ Sometimes that's because clinicians are stretched too thin and have to manage multiple patients. Or they rely on guidelines, which indicate the need for precise measurement of urinary output is a good reason for continued IUC use.¹

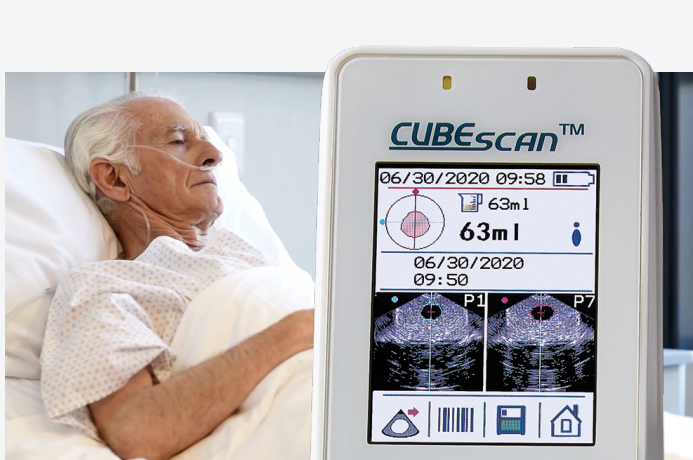
7%
daily risk of infection the longer a catheter is in place.

But "nurses need to understand the difference between hourly need and 24-hour intake and output," Eble says. Hourly urine measurement only applies to critically ill patients. For patients that require 24-hour intake and output totals, and are not in need of critical hourly measurement, external or intermittent catheters are a better choice.

Eble recommends "assessing the need for an IUC continuously just like you would monitor a patient's heart rate, blood pressure or temperature." Bladder scanners can help clinicians decide the next steps in the care of a patient, including if an IUC is necessary based on ANA guidelines.

Products to consider

The [BioCon 900](#) bladder scanner uses BladderPoint™ aiming technology to accurately measure urine volume, which helps determine if an IUC is still needed and choose appropriate alternatives.



The [Men's Liberty Acute External Catheter](#) is a comfortable, non-invasive alternative to IUCs that allows clinicians to accurately measure urine volume. Connected to either a leg bag or a drain bag, it directs urine away from the skin to prevent pooling and skin breakdown.



Key takeaway

The best way to improve CAUTI rates is to give nurses the [tools and training](#) they need to follow evidence-based guidelines for prevention every time. This includes making sure clinicians use IUCs only when there's an appropriate indication, follow consistent aseptic insertion technique, perform proper catheter care and maintenance, and remove the catheter as soon as possible. Despite their routine use, IUCs are medical devices with an associated mortality rate. Patients who get a CAUTI can die from sepsis, and annually that's about 9,000 deaths.⁴ That's why "nurses need to go back to the basics," Eble says.

Explore these additional resources



Sign up for a [discovery assessment](#) to help you identify any gaps in your facility's CAUTI prevention.

Learn about how our holistic [Urological Solution](#) uses nurse-driven strategies to make CAUTI prevention second nature.

Discover CAUTI education and training on [Medline University](#).

Learn how to build a [unit-based CAUTI champion team](#) to advocate for prevention.

References:

1. Urinary Tract Infection (Catheter-Associated Urinary Tract Infection (CAUTI) and Non-Catheter-Associated Urinary Tract Infection (UTI) and Other Urinary System Infection (USI) Events. Centers for Disease Control and Prevention website. Available at: <http://www.cdc.gov/nhsn/PDFs/psscManual/psscCAUTIcurrent.pdf>. Accessed January 11, 2021

2. Kunin CM, McCormack RC. Prevention of catheter-induced urinary tract infections by sterile closed drainage. N Engl J Med 1966; 274:1155-62. Available at <http://www.nejm.org/doi/full/10.1056/NEJM196605262742101> Accessed January 21, 2021

3. APIC releases updated Guide to Preventing Catheter-Associated Urinary Tract Infections. American Journal of Infection Control. 42 (2014) 819 Available at [https://www.ajicjournal.org/action/showPDF?pii=S0196-6553\(14\)2900874-8](https://www.ajicjournal.org/action/showPDF?pii=S0196-6553(14)2900874-8). Accessed January 21, 2021.

4. Guideline for Prevention of Catheter-Associated Urinary Tract Infections, Table 2. The Centers of Disease Control and Prevention, Available at: <https://www.cdc.gov/infectioncontrol/guidelines/cauti/recommendations.html#I> Accessed on January, 27 2021

Sources:

1. How-To Guide: Prevent Catheter-Associated Urinary Tract Infection. Institute for Healthcare Improvement; 2011. Available at: <http://www.ihi.org/resources/Pages/Tools/HowtoGuidePreventCatheterAssociatedUrinaryTractInfection.aspx> Accessed January 11, 2021

2. <https://www.cdc.gov/infectioncontrol/guidelines/cauti/recommendations.html>

3. Gould CV, Umscheid CA, Agarwal RK, Kuntz G, Pegues DA. Guideline for Prevention of Catheter-Associated Urinary Tract Infections 2009. Infect Control Hosp Epidemiol 2010;31:319-26. Available at <http://www.jstor.org/stable/10.1086/651091> Accessed January 11, 2021

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