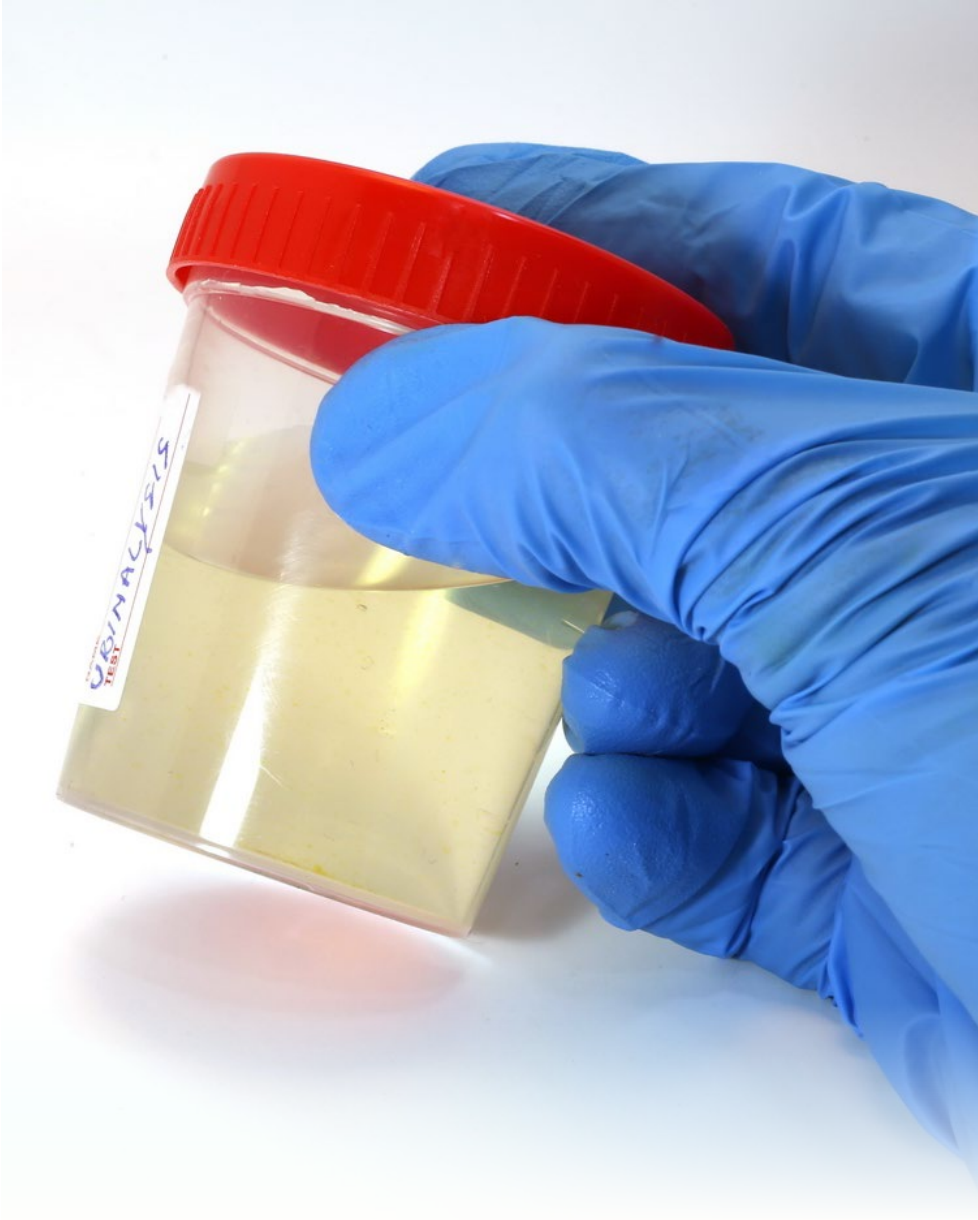
Key Concepts and Best Practices for the Prevention of Catheter-Associated Urinary Tract Infections



Presented by:

Jessica Fielek, MPH CIC CHOP
Clinical Infection Preventionist
Sentara Williamsburg Regional Medical Center

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VCU

VDH VIRGINIA DEPARTMENT OF HEALTH

It’s time for a poll question!

Objectives

- Highlight the recent updates to the SHEA/IDSA/APIC Compendium of Strategies to Prevent HAIs– What's new in CAUTI prevention?
- Review Compendium Essential Practices, Additional Approaches to Consider, Approaches That Should Not Be Used and Unresolved Issues
- Identify CAUTI prevention best practices as well as resources to take back to your facility

Overview: SHEA Compendium of Strategies to Prevent Healthcare-Associated Infections (HAIs) in Acute Care

Compendium of Strategies to Prevent HAIs in Acute Care Hospitals

- Joint effort between SHEA, IDSA and APIC
- Offers current and practical guidance and evidence-based HAI prevention efforts for:
  - CLABSI
  - CAUTI
  - VAE, VAP and NV-VAP
  - CDI
  - MRSA transmission and infection
  - SSI
  - Hand Hygiene
- **Open access pdfs**
- Concise and practical recommendations for essential infection prevention practice
- Updated in 2022
- **Focus is on acute care** - these strategies may or may not be applicable for other healthcare settings
- Strategies can be used to help facilities create or update policies and procedures

Recent Updates to the SHEA Compendium: CAUTI

Compendium Updates: CAUTI

Summary table embedded in the article for easy reference includes updates to:

- Essential practices
- Additional approaches
- Approaches that should not be used
- Unresolved Issues

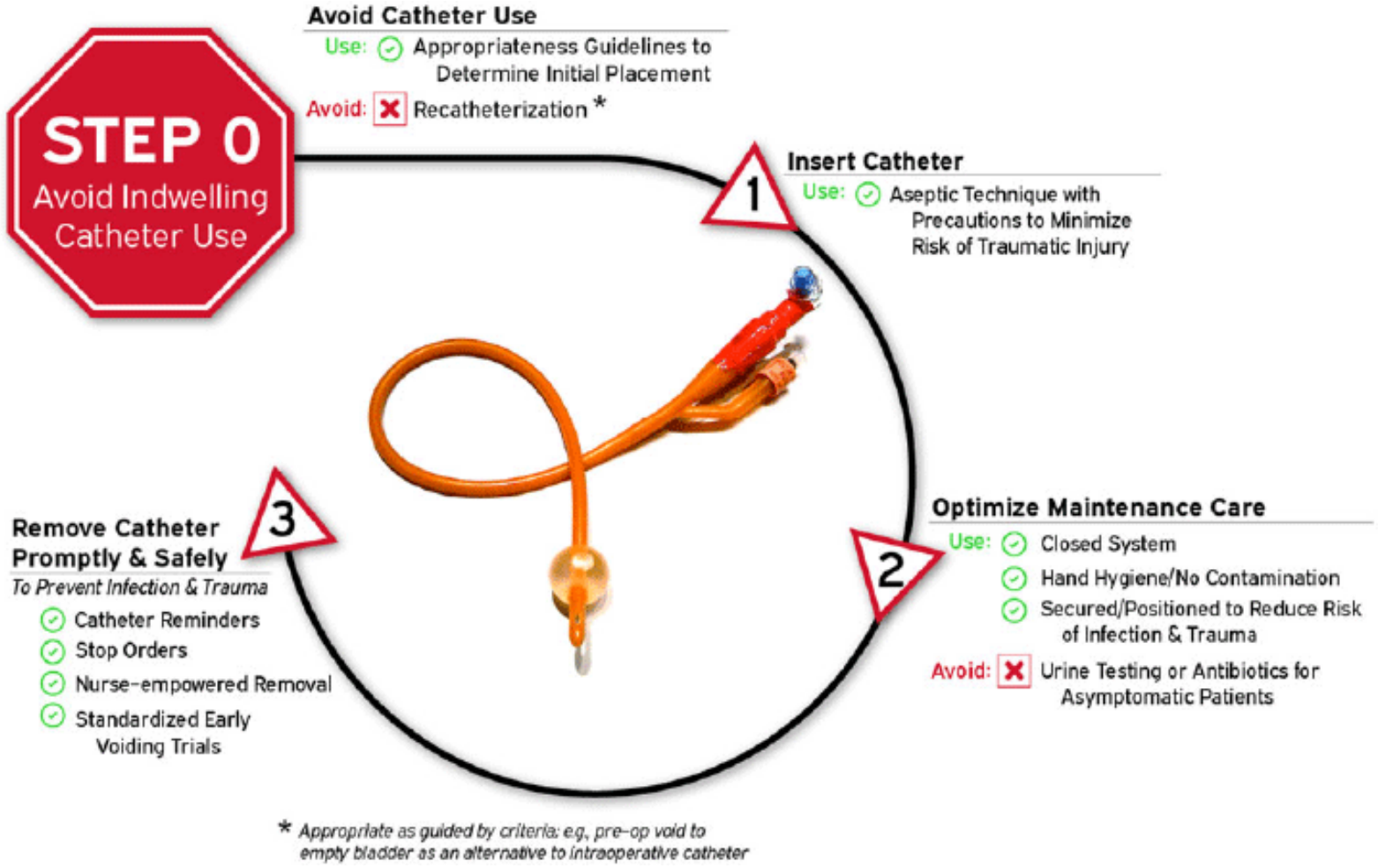
Recommendations are classified by the quality of evidence to support them (low, moderate, high)

Essential practices
Infrastructure and resources
1. Perform a CAUTI risk assessment and implement an organization-wide program to identify and remove catheters that are no longer necessary using 1 or more methods documented to be effective.[34,35,51,52] (Quality of evidence: MODERATE)
a. Develop and implement institutional policy requiring periodic, usually daily, review of the necessity of continued catheterization.
b. Consider utilizing electronic or other types of reminders (see Supplementary Content, Appendices 2 and 3 online) of the presence of a catheter and required criteria for continued use.[63]
c. Conduct daily review during rounds of all patients with urinary catheters by nursing and physician staff to ascertain necessity of continuing catheter use.[64]
2. Provide appropriate infrastructure for preventing CAUTI.[56] (Quality of evidence: LOW)
a. Ensure that the supplies for following best practices for managing urinary issues are readily available to staff in each unit, including bladder scanners, non-catheter incontinence management supplies (urinals, garments, bed pads, skin products), male and female external urinary catheters, straight urinary catheters, and indwelling catheters including the option of catheters with coude tips.
b. Ensure that non-catheter urinary management supplies are as easy to obtain for bedside use as indwelling urinary catheters.
c. Ensure the physical capability for urinary catheters with tubes attached to patients (eg, indwelling urinary catheters, some external urinary catheters[EUCs]) to be positioned on beds, wheelchairs, at an appropriate height and without kinking for patients in their rooms and during transport.
3. Provide and implement evidence-based protocols to address multiple steps of the urinary catheter life cycle (Fig. 1): catheter appropriateness (step 0), insertion technique (step 1), maintenance care (step 2), and prompt removal (step 3) when no longer appropriate. (Quality of evidence: LOW)
a. Adapt and implement evidence-based criteria for acceptable indications for indwelling urethral catheter use, which may be embedded as standardized clinical-decision support tools within electronic medical record (EMR) ordering systems. Expert-consensus–derived indications for indwelling catheter use have been developed, although there is limited research that assesses the appropriateness of these uses.[34,65]
4. Ensure that only trained HCP insert urinary catheters and that competency is assessed regularly.[65] (Quality of evidence: LOW)
a. Require supervision by experienced HCP when trainees insert and remove catheters to reduce the risk of infectious and traumatic complications related to urinary catheter placement.[69–71]
5. Ensure that supplies necessary for aseptic technique for catheter insertion are available and conveniently located. (Quality of evidence: LOW)
6. Implement a system for documenting the following in the patient record: physician order for catheter placement, indications for catheter insertion, date and time of catheter insertion, name of individual who inserted catheter, nursing documentation of placement, daily presence of a catheter and maintenance care tasks, and date and time of catheter removal. Record criteria for removal and justification for continued use. (Quality of evidence: LOW)
a. Record in a standard format for data collection and quality improvement purposes and keep accessible documentation of catheter placement (including indication) and removal.
b. If available, utilize electronic documentation that is searchable.
c. Consider nurse-driven urinary catheter removal protocols for first trial of void without an indwelling catheter when the indication for placement has resolved (see Essential Practices, 3).
7. Ensure that sufficiently trained HCP and technology resources are available to support surveillance for catheter use and outcomes.[73] (Quality of evidence: LOW)
8. Perform surveillance for CAUTI if indicated based on facility risk assessment or regulatory requirements. as described in Section 5.[73] (Quality of evidence: LOW)
9. Standardize urine culturing by adapting an institutional protocol for appropriate indications for urine cultures in patients with and without indwelling catheters.[27,53,74–76] Consider incorporating these indications into the EMR, and review indications for ordering urine cultures in CAUTI risk assessment.[77] (Quality of evidence: LOW)

Summary of major updates to the compendium

- Identifying non-infectious harms to the patient
- Discussion of catheter harm in addition to CAUTI
- Additional clarification on recommended process measures
  - Insertion techniques, training and education for HCP, management of the indwelling catheter
- Illustrating the lifecycle of the urinary catheter and how to disrupt it
- Urine culture stewardship (lots of current research happening)

Compendium Updates:
The life cycle of a urinary catheter



Review of Updates to Essential Practices

What are **Essential Practices?**

Essential Practices are recommendations that should be adopted by all acute-care hospitals OR considered as additional approaches for other locations who care for patients with urinary catheters.

Updates to Essential Practices: Infrastructure and Resources

1. Perform a CAUTI risk assessment and implement an organization-wide program to identify and remove catheters that are no longer necessary
2. Providing the appropriate infrastructure for preventing CAUTI in your facility
    - Supplies
3. Implement evidence-based protocols to address multiple steps of the catheter lifecycle
4. Ensure only trained HCPs insert urinary catheters and competency is regularly assessed

Essential Practices continued:

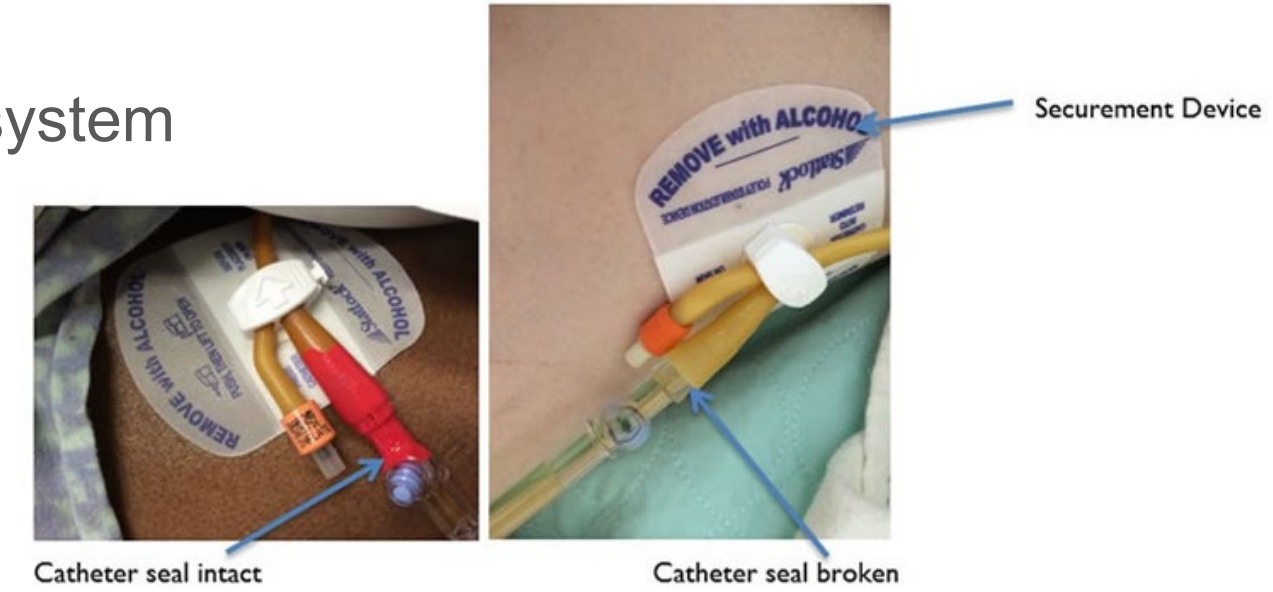
5. Make sure supplies are available for catheter insertions using aseptic technique
6. Implement a system for documenting: physician order for catheter placement, evidence-based indication, date and time of insertion, who inserted, nursing documentation of care/maintenance tasks related to the catheter and date/time of removal.
7. Perform surveillance for CAUTI
8. Standardize urine culturing practices by adopting an institutional protocol for sending urine cultures in patients both with and without a urinary catheter

Updates to Essential Practices: Education and Training

- Educate staff in the insertion, care and maintenance of UCs including alternatives to catheter insertion
  - Who is allowed to insert urinary catheters in your facility? Who is allowed to perform care and maintenance?
- Assess competency in catheter use, care and maintenance on a regular basis
- Educate on the importance of urine culture stewardship
  - The appropriate indications are included in the compendium update
- Train on the appropriate collection of urine for culture
- **Share data in a timely fashion to appropriate stakeholders**

Updates to Essential Practices: Insertion and Management

- Properly secure catheters after insertion to prevent movement and other complications
- Maintain a sterile, closed drainage system
- Maintain unobstructed urine flow



References:

https://www.ahrq.gov/hai/cauti-tools/phys-championsgd/section4.html

Additional Approaches to CAUTI prevention

Additional approaches are recommended for use in locations and/or populations with high CAUTI rates or SIRs despite the implementation of all essential CAUTI prevention strategies.

- Consider developing a protocol for the diagnosis and management of postop urinary retention
  - Using bladder scans/intermittent cath vs indwelling catheters
- Define and monitor adverse events related to catheter use (including non-CAUTI catheter harm)

Approaches That Should Not Be Considered for Routine CAUTI Prevention

1. Routine use of antimicrobial- or antiseptic-impregnated catheters
   (Quality of evidence: HIGH)
2. Breaking a closed system
   (Quality of evidence: LOW)
3. Screening for asymptomatic bacteriuria in catheterized patients
   (Quality of evidence: HIGH)

   *Exceptions for patient populations in which there may be greater benefit than harm such as pregnant women, patients undergoing certain endoscopic urologic procedures
4. Catheter irrigation as a strategy to prevent infection
   (Quality of evidence: MODERATE)

Approaches That Should Not Be Considered continued

5. Routine use of systemic antimicrobials as prophylaxis
   (Quality of evidence: LOW)
6. Alcohol-based products on the genital mucosa
   (Quality of evidence: LOW)
7. Routine changing of catheters to avoid infection
   (Quality of evidence: LOW)

*In the case of a patient with a long-term catheter in place (ie, >7 days), catheter replacement can be considered at the time of specimen collection for urine testing to obtain a fresh sample

References:

Frontera JA, Wang E, Phillips M, et al. Protocolized Urine Sampling is Associated with Reduced Catheter-associated Urinary Tract Infections: A Pre- and Postintervention Study. Clin Infect Dis. 2021;73(9):e2690-e2696. doi:10.1093/cid/ciaa1152

Unresolved Issues

1. Use of antiseptic solution versus sterile saline pericare cleansing prior to catheter insertion

2. Use of urinary antiseptics to prevent UTI

3. Standard of care for routine replacement of urinary catheters in place >30 days for infection prevention

Summary and Discussion

- Compendium update reflects more work around AMS, testing stewardship for diagnosis of UTI
  - Appropriateness of ordering urine cultures
  - Appropriate treatment
  - Many references in the Compendium to help start an initiative in your facility

- CAUTI prevention starts before the catheter goes in
- What part of the catheter lifecycle could your facility focus on first?
- Carry ideas and practices back to your facility to augment the HAI prevention practices already in place

Summary and Questions