



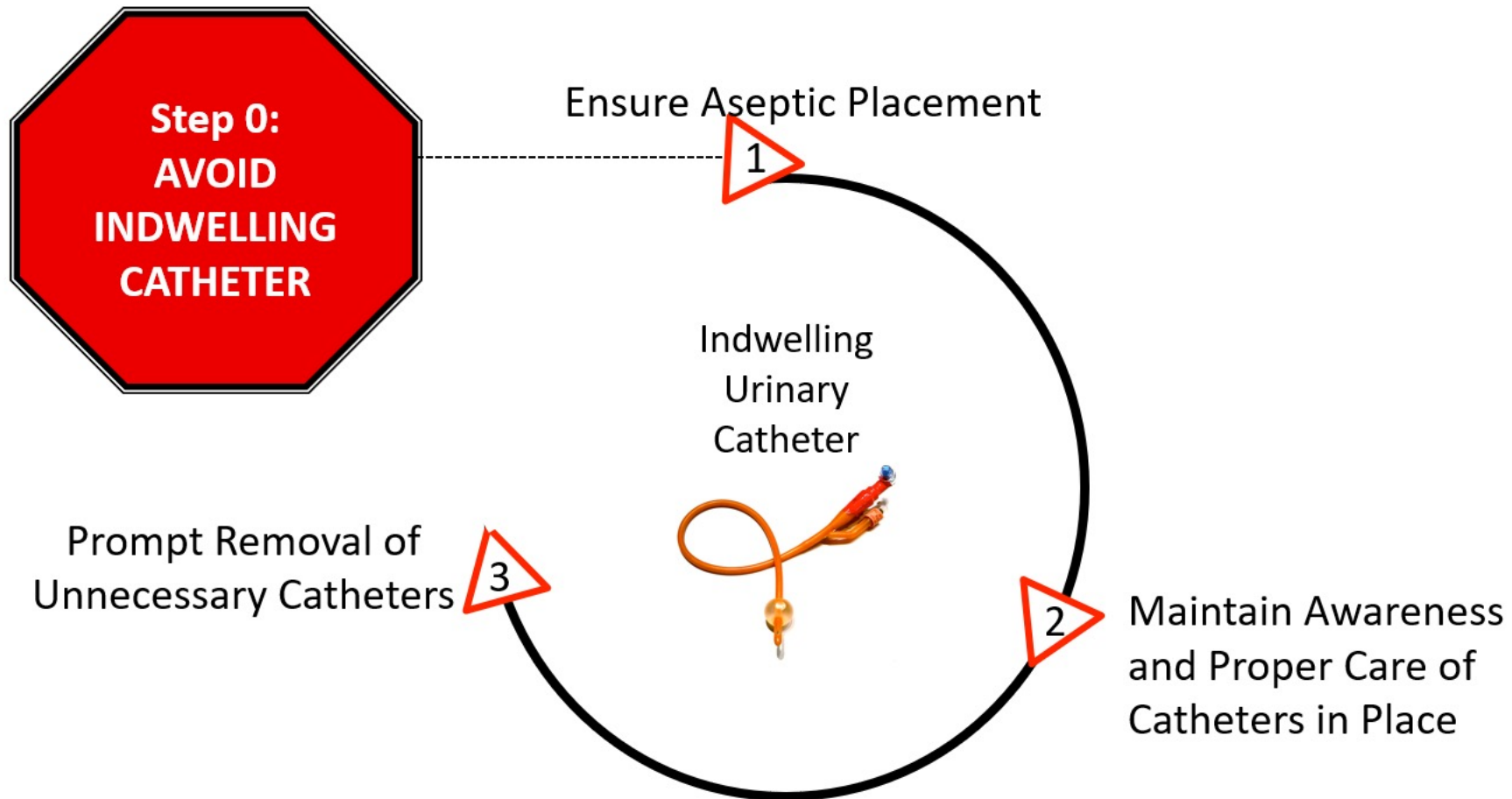
AHRQ Safety Program for Intensive Care Units: Preventing CLABSI and CAUTI

Indwelling Urinary Catheter Alternatives

Avoiding Placement and Determining Appropriateness



Avoid Unnecessary Urinary Catheter Placement^{1,2}



Patel PK, Gupta A, Vaughn VM, et al. Review of Strategies to Reduce Central Line-Associated Bloodstream Infection (CLABSI) and Catheter-Associated Urinary Tract Infection (CAUTI) in Adult ICUs. *J Hosp Med.* 8 November 2017 [online ahead of print]. Used with permission of Journal of Hospital Medicine.

Assess the Patient's Needs³



Does this patient really need a urinary catheter?

OR

Is there an alternative to the catheter that could be used?

Alternatives³⁻⁵

- Consider alternatives based on a patient's individual care needs
- Alternative devices and procedures provide a much lower risk of infectious complications
 - 58% reduction in CAUTIs seen with introduction of a novel female external device
- Can reduce or eliminate noninfectious complications
- When considering alternatives—
 - Involve the Supply Chain/Materials Management Department
 - Have staff provide feedback on alternative products

External or Condom Catheter Basics



Indications for Use of External Catheters^{3,6}

- Stage III or IV or unstageable pressure ulcers
- Incontinence-associated dermatitis
- Daily measurement of urine volume
- Single 24-hour urine sample
- Collection for a urinalysis
- Presence of acute, severe pain with movement
- Patient request for external catheter
- Comfort in dying patient

Inappropriate Use of External Catheters⁷



- Uncooperative or combative patient
- Any type of urinary retention
- Hourly measurement of urine volume required
- Urinary incontinence when nurses can turn/provide skin care
- Routine use to manage incontinence
- To reduce risk of falls
- For convenience of urinary management during transport
- Patient/family/staff request when there are no expected difficulties managing urine
- To prevent urinary tract infection

Male External Urine Collection Devices: Advantages and Disadvantages⁶

Condom Catheter

Advantages

- Reduces risk of complications and is better tolerated compared with indwelling catheter

Disadvantages

- One size does not fit all
- Leakage, skin necrosis, edema, allergy



Newer Male Technology

- One size does fit all based on different design
- Prevents maceration of the shaft
- Reduces leakage



Female External Catheter^{6,8}

- The female external catheter has now become an acceptable alternative
- Correct positioning of the device is important
 - It is placed between the labia and the urethral opening
 - The device is attached to wall suction
 - When female voids, the urine flows thru the fabric into the collection chamber at the distal end, and the suction takes the urine to the collection container
- Studies have reported that this is a feasible alternative to an indwelling urinary catheter for managing urine.



Urinary Retention^{9,10}

Strategies and Alternatives To Overcome Barriers

Use Bladder Scanner



Perform Straight Catheterization



Straight Catheters: Indications¹¹⁻¹³



- Acute urinary retention
- Chronic urinary retention
- Stage III or IV or unstageable pressure ulcer
- Urinary incontinence
- Urine volume measurements
- Random urine sample collection
- Management of urination in patients with immobility
- Postvoid residual urine assessment

The Incontinent Patient¹⁴⁻¹⁶

Minimize the risk of skin breakdown (incontinence-associated dermatitis) by—

- Cleaning and drying the area right away
- Using moisturizing creams
- Avoiding products that contain alcohol
- Considering the use of a skin sealant or moisture barrier
- Considering a male or female external catheter for select patients
- If no other alternatives, use a pad and change frequently

Measuring Urine Output in Adults: Weighing Pads¹⁷

Wet Pad – Dry Pad = Output

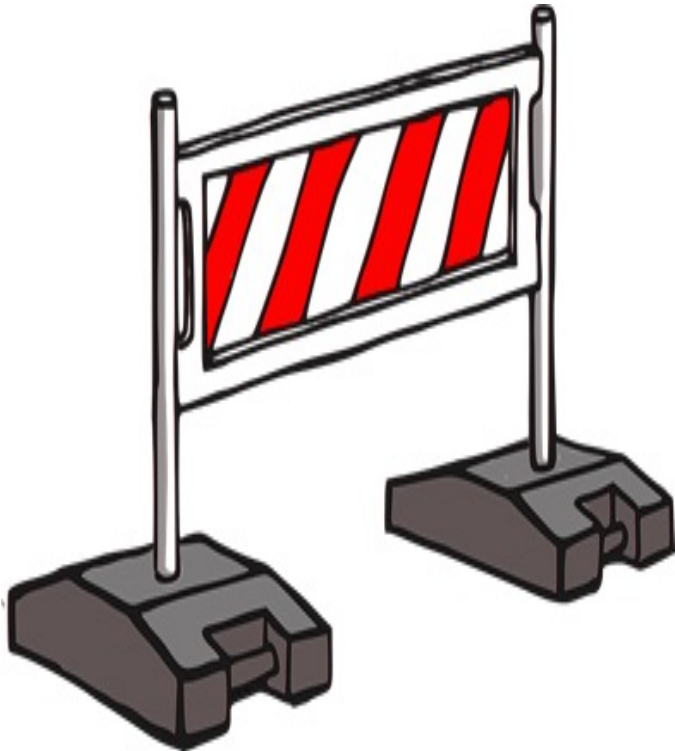


Other Essentials



- Bedside commode
- Bedpan
- Hats – urine or specimen containers used inside toilets
- Urinals

Barriers to Alternatives



Time



Perception patient must have a urinary catheter for accurate intake and output



Unit culture issues



Nursing reluctance



Lack of physician support



Lack of available or appropriate supplies

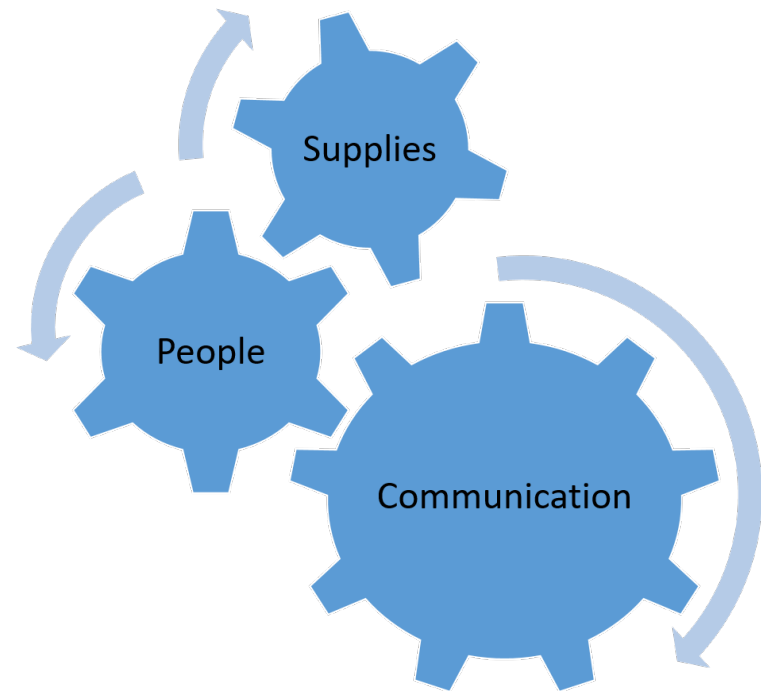
Tips for Implementation

- Recognize that nurses and physicians may have different perceptions on use of alternatives
- Include discussions on the use of alternatives during rounds
- Use the Comprehensive Unit-based Safety Program (CUSP) team or equivalent to help communicate expectations
- Consider the rapid cycle methodology—Plan, Do, Study, and Act (PDSA) cycles—to test alternatives on small groups of patients

Multidisciplinary Rounds

Rounding provides an excellent opportunity to—

- Verify the need for the catheter
- Evaluate alternative strategies
- Ensure post-residual voiding
- Educate patient and family



Take-Home Points

- Stop and think critically about whether your patient needs a urinary catheter or if there are alternatives that may be appropriate
- Accurate intake and output can be achieved without the use of a urinary catheter
- Educate staff on the use of alternatives and include them in the trialing and selection process
- Include discussion of alternatives in daily rounding

References

1. Meddings J, Saint S. Disrupting the life cycle of the urinary catheter. *Clin Infect Dis*. 2011 Jun;52(11):1291-3. PMID: 21596672.
2. Patel PK, Gupta A, Vaughn VM, et al. Review of strategies to reduce central line-associated bloodstream infection (CLABSI) and catheter-associated urinary tract infection (CAUTI) in adult ICUs. *J Hosp Med*. 2018 Feb;13(2):105-16. PMID: 29154382.
3. Lo E, Nicolle L, Coffin S, et al. Strategies to prevent catheter-associated urinary tract infections in acute care hospitals: 2014 update. *Infect Control Hosp Epidemiol*. 2014 May;35(5):464-79. doi: 10.1086/675718. PMID: 24709715.
4. Saint S, Trautner BW, Fowler KE, et al. A multicenter study of patient-reported infectious and noninfectious complications associated with indwelling urethral catheters. *JAMA Intern Med*. 2018;178(8):1078-85. doi:10.1001/jamainternmed.2018.2417. PMID: 29971436.
5. Zavodnick J, Harley C, Zabriskie K, et al. Effect of a female external urinary catheter on incidence of catheter-associated urinary tract infection. *Cureus*. 2020;12(10):e11113. PMID: 33240709.
6. Gray M, Skinner C, Kaler W. External collection devices as an alternative to the indwelling catheter. *J Wound Ostomy Continence Nurs*. 2016; 43(3): 301-7. PMID: 26974963.
7. Agency for Healthcare Research and Quality. Technical Interventions To Prevent CAUTI. <https://www.ahrq.gov/hai/cauti-tools/guides/implguide-pt3.html>. Accessed October 12, 2021.
8. Beeson T, Davis C. Urinary management with an external female collection device. *J Wound Ostomy Continence Nurs*. 2018 Mar; 45(2): 187–9. PMID: 29394218.
9. Agency for Healthcare Research and Quality. Appendix C. Sample Bladder Scan Policy. October 2020. <http://www.ahrq.gov/professionals/quality-patient-safety/hais/cauti-tools/impl-guide/implementation-guide-appendix-c.html>. Accessed October 12, 2021.
10. Meddings J, Rogers MA, Krein SL, et al. Reducing unnecessary urinary catheter use and other strategies to prevent catheter-associated urinary tract infection: an integrative review. *BMJ Qual Saf*. 2014 Apr;23(4):277-89. PMID: 24077850.
11. Association for Professionals in Infection Control and Epidemiology. Guide to Preventing Catheter-Associated Urinary Tract Infections. <https://apic.org/Professional-Practice/Implementation-guides/#implementaion-guide-7454>. Accessed October 11, 2021.
12. Gould CV, Umscheid CA, Agarwal RK, et al. Guideline for prevention of catheter-associated urinary tract infections 2009. *Infect Control Hosp Epidemiol*. 2010 Apr;31(4):319-26. PMID: 20156062.
13. Meddings J, Saint S, Fowler K, et al. The Ann Arbor criteria or appropriate urinary catheter use in hospitalized medical patients: results obtained by using the RAND/UCLA appropriateness method. *Ann Intern Med*. 2015 May 5;162(9 Suppl):S1-S34. PMID: 25938928.
14. Doughty D, Junkin J, Kurz P, et al. Incontinence-associated dermatitis: consensus statements, evidence-based guidelines for prevention and treatment, and current challenges. *J Wound Ostomy Continence Nurs*. 2012; 39(3): 303-15. PMID: 22572899.
15. Gray M, Beeson T, Kent D, et al. Interventions Post Catheter Removal (iPCaRe) in the Acute Care Setting: An Evidence- and Consensus-Based Algorithm. *J Wound Ostomy Continence Nurs*. 2020;47(6):601-618. PMID: 33201147.
16. McNichol LL, Ayello EA, Phearman LA, et al. Incontinence-associated dermatitis: state of the science and knowledge translation. *Adv Skin Wound Care*. 2018;31(11):502-13. PMID: 30303813.
17. Beuscher T. Pad weighing for reduction of indwelling urinary use and catheter-associated urinary tract infection: a quality improvement project. *J Wound Ostomy Continence Nurs*. 2014;41(6):604-8. PMID: 25377111.