



Indiana
Department
of
Health

PREVENTION OF CATHETER- ASSOCIATED URINARY TRACT INFECTIONS (CAUTI)

PAM BENNETT, RN
TANYA CANALES, RN

OUR MISSION:

**To promote, protect, and improve
the health and safety of all Hoosiers.**

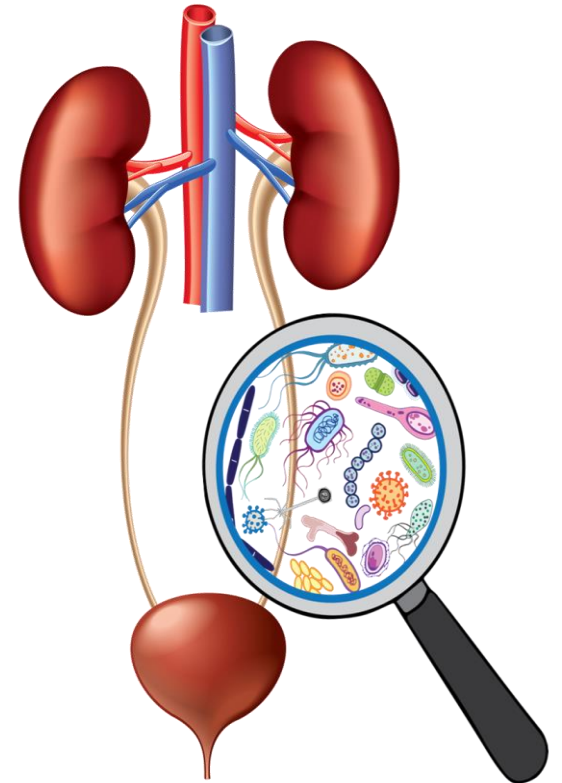
OUR VISION:

**Every Hoosier reaches optimal health
regardless of where they live, learn,
work, or play.**



What is a CAUTI?

According to the CDC, a catheter-associated urinary tract infection (CAUTI) can occur when germs and/or bacteria enter the urinary tract, involving any of the organs or structures of the urinary tract, through the urinary catheter and cause an infection. (Including the kidneys, ureters, bladder, and/or urethra).



Why are CAUTI's bad?

There is strong correlation with CAUTI's and an increased risk of morbidity, mortality, healthcare costs, and increased hospitalization.

- According to the National Healthcare Safety Network (NHSN), UTIs are the most common type of healthcare-associated infection (HAI) reported - approximately 75% are associated with a urinary catheter.
- **CAUTI is a potentially life-threatening HAI for LTC residents:**
 - 1.6 million to 3.8 million infections annually
 - 388,000 deaths annually
- **HAI's in LTC facilities can be costly:**
 - \$38 million to \$137 million annually for antimicrobial therapy
 - \$673 million to \$2 billion due to hospitalizations annually

Best practices for indwelling catheters

- Place only when necessary and remove as quickly as possible
- Catheters should only be inserted by a trained person using aseptic technique
- Clean skin around meatus prior to insertion and routinely
- 18 Fr or larger can increase erosion of bladder neck, so choose the smallest size appropriate for resident
- 30 ml balloons are NOT recommended
- Consider other methods to drain urine: external catheters, intermittent urethral catheterization, suprapubic catheters
- Changing indwelling catheters or drainage bags at routine, fixed intervals is no longer recommended
- Change catheters and drainage bags based on clinical indications such as infection, obstruction, or when the closed system is compromised

Appropriate indications for indwelling catheter in LTC

- Acute urinary retention or bladder outlet obstruction
- Protection of surgical sites or Stage 3 or 4 sacral or perineal wounds in incontinent patients
- To improve comfort for end-of-life care, if needed

Inappropriate catheter uses:

- Substitute for nursing care of the resident with incontinence
- Immobile or obese resident
- Resident or family request

Proper urinary catheter insertion

- Perform hand hygiene
- Perform peri-care
- Re-perform hand hygiene
- Maintain strict aseptic technique
- Insert catheter to appropriate length and check urine flow before balloon inflation
- Inflate balloon correctly (5-10 cc)
- Secure catheter tubing to leg with securement device
- Re-perform hand hygiene upon completion

Review the order and verify catheter is clinically indicated

Gather your insertion kit and other supplies

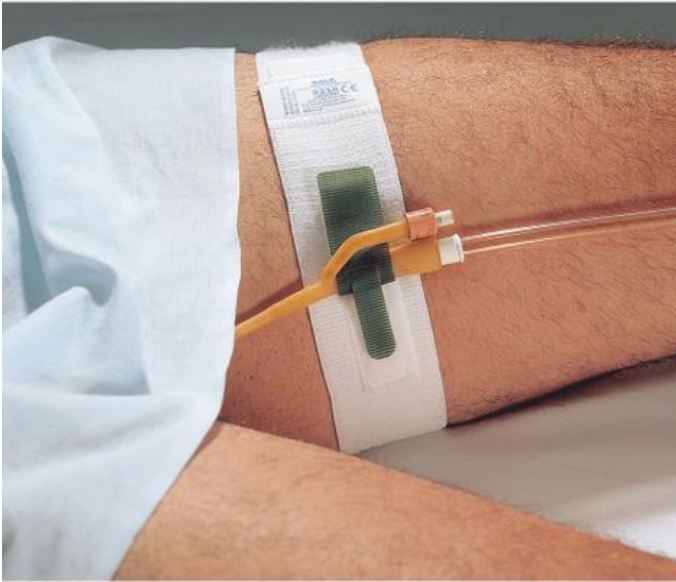
Use the buddy system - get a second pair of hands to help

Urinary catheter maintenance

- Maintain unobstructed urine flow: no kinks, twists, or loops in the tubing
- Keep the collection bag below the level of the bladder at all times without ever resting bag on the floor
- Maintain a closed drainage system at all times
- Empty bag regularly and keep bag under $\frac{3}{4}$ full at all times
- Use individual, labeled collection container for each resident
 - Do not let drainage spigot touch the container (or floor)



Urinary catheter maintenance



- Attach catheter tubing to leg with securement device
- Perform hand hygiene prior to and after catheter contact
- Perform daily perineal care with soap and water and when soiled
- Review necessity of catheter regularly and remove promptly when resident does not meet approved indications

Long-term care facilities

Review and update facility policies and procedures and ensure they include:

- That routine changing of indwelling catheter is no longer supported in Long-term care
 - Only change catheter prior to collection of Urinalysis and Culture and prior to initiating antimicrobial therapy
- Use aseptic technique when disconnecting/reconnecting a catheter bag to a leg bag.
 - Cleanse connection tubing with an alcohol swab.
 - Use a sterile cap to maintain sterility of the system being disconnected.
- Avoid reflux (refer to bundles)



Symptoms of a Urinary Tract Infection

A CAUTI has similar symptoms to a typical urinary tract infection (UTI) which include:

- cloudy urine
- blood in the urine
- strong urine odor
- urine leakage around your catheter
- pressure, pain, or discomfort in your lower back or stomach
- chills
- fever
- unexplained fatigue
- vomiting

If you suspect a CAUTI

Discuss with provider if a urinalysis and culture and sensitivity is appropriate.

- If so, then attain urine specimen prior to antibiotic therapy.

Remember: Do not send a urinalysis or culture in asymptomatic residents.

- How to perform a urine culture:
[Specimen Collection: Urine from a Foley Catheter – YouTube](#)

****Follow up on culture results for proper antibiotic use.**



Antibiotic stewardship

- **Be involved**
- **Advocate for your residents**
- **Ensure accountability**

IDOH LTC Antibiotic Stewardship Program:

<https://www.in.gov/health/erc/files/CoverPageAntibioticStewardshipToolkit.pdf>

AHRQ educational bundles:

Part I: PowerPoint slide set ([PowerPoint](#))

Part II: PowerPoint slide set ([PowerPoint](#))

Additional resources:

AHRQ educational videos and PowerPoints:

Catheter insertion and maintenance

Reducing CAUTI in Long-Term Care Facilities:

- <https://www.youtube.com/watch?v=Ex7QLaa3XF4>

Equipment and Environment - Reducing CAUTI and other HAIs in Long-Term Care Facilities:

- [Equipment and Environment--Reducing CAUTI and Other HAIs in Long-Term Care Facilities - YouTube](#)

Urine culturing and antibiotic stewardship

Know when to order a urine culture:

- <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/quality-resources/tools/cauti-ltc/modules/implementation/educational-bundles/urine-culturing/whento-order/urine-cultures.pptx>

Checklists

Insertion checklist:

[Appendix G. Indwelling Urinary Catheter Insertion Checklist | Agency for Healthcare Research and Quality \(ahrq.gov\)](#)

Maintenance checklist:

[Appendix H. Indwelling Urinary Catheter Maintenance Checklist | Agency for Healthcare Research and Quality \(ahrq.gov\)](#)

Remember C.A.U.T.I. to prevent CAUTI

Infections are a leading cause of illness and death in long-term care facilities.

These infections include catheter-associated urinary tract infections (CAUTIs).

REMEMBER C.A.U.T.I. TO PREVENT CAUTI

C **A** **U** **T** **I**

Catheter Removal
 Think about catheters in any of your residents. Are the catheters really necessary?
 Remove the catheter if there is no good indication for it. (See below.)
 Every resident deserves a chance to be catheter-free and infection-free.

Aseptic Insertion
 Only trained personnel should insert catheters.
 Use hand hygiene, and insert using aseptic technique.
 Use the smallest catheter size that will allow good drainage for the resident.
 Avoid contamination of the catheter.
 Use catheter securement devices.

Use Regular Assessments
 Insert new urinary catheters only where there is a good indication. Incontinence is NOT an appropriate indication for an indwelling urinary catheter.
 Consider alternatives to using a urinary catheter.
 Use a bladder ultrasound to guide management.
 Implement a process to see whether residents need catheters.

Training for Catheter Care
 Train staff, resident, and family.
 Maintain a closed drainage system, and maintain unobstructed urine flow.
 Use routine hygiene. Do not clean the perineural area with antiseptics.
 Routine catheter changes, urinalysis, and cultures are not required.

Incontinence Care Planning
 Consider alternatives to using a urinary catheter when developing individual resident care plans and behavioral interventions.
 Consider timed and prompted voiding and use of a voiding diary.

Remember: No catheter means no CAUTI!

Appropriate Indications for an Indwelling Urinary Catheter
 To assist in healing of open sacral or perineal wounds in incontinent residents
 For acute urinary retention or bladder outlet obstruction
 To improve comfort for end-of-life care if needed

Source: Centers for Disease Control and Prevention Healthcare Infection Control Practices Advisory Committee. Guideline for Prevention of Catheter-associated Urinary Tract Infections, 2009. <http://www.cdc.gov/ncidod/dhqp/HAI/cauti.html>

The AHRQ Safety Program for Long-Term Care: HAIs/CAUTI provides guides, tools and educational videos that will help you provide safer care for residents. Visit <https://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/cauti-ltc/index.html> for more information.



AHRQ Safety Program for Long-Term Care: HAIs/CAUTI

AHRQ Pub No. 16(17)-0003-16-02
March 2017

References:

- Agency for Healthcare Research and Quality (2017). AHRQ Safety Program for Long-Term Care: Preventing CAUTI and Other HAIs. Retrieved from <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/quality-resources/tools/cauti-ltc/modules/final-report.pdf>
- Agency for Healthcare Research and Quality (2017) Appendix G. Indwelling Urinary Catheter Insertion Checklist. Retrieved from <https://www.ahrq.gov/hai/quality/tools/cauti-ltc/modules/resources/tools/prevent/insertion-checklist.html>
- Agency for Healthcare Research and Quality (2017). Appendix H. Indwelling Urinary Catheter Maintenance Checklist. Retrieved from <https://www.ahrq.gov/hai/quality/tools/cauti-ltc/modules/resources/tools/prevent/maintenance-checklist.html>
- Agency for Healthcare Research and Quality (2019). Educational Bundles. Retrieved from <https://www.ahrq.gov/hai/quality/tools/cauti-ltc/education-bundles.html>
- Agency for Healthcare Research and Quality (2018). Prevent Catheter-Associated Urinary Tract Infection. Retrieved from <https://www.ahrq.gov/hai/quality/tools/cauti-ltc/prevent.html>
- Center for Disease Control and Prevention (2010). Frequently Asked Questions about Catheter-associated Urinary Tract Infections. Retrieved from https://www.cdc.gov/hai/ca_uti/cauti_faqs.html
- Hanchett, M. (2012). Preventing CAUTI: A patient-centered approach. *Prevention*, 43, 42-50.

Questions?

CONTACT:

Pam Bennett: PBennett@isdh.IN.gov

Tanya Canales: TCanales@isdh.IN.gov

