

<b>Section:</b>	<b>UTMB On-line Documentation</b>	<b>01.46-Policy</b>
<b>Subject:</b>	<b>Infection Control &amp; Healthcare Epidemiology Policies and Procedures</b>	
<b>Topic:</b>	<b>01.46 - Prevention of Catheter-Associated Urinary Tract Infections (CAUTI)</b>	<b>11.3.23-Revised 2007-Author</b>

## 01.46 - Prevention of Catheter-Associated Urinary Tract Infections (CAUTI)

Audience All employees of UTMB hospitals, clinics, outpatient surgical center, licensed independent practitioners, contract workers, and students.

- I. Catheter Use
  - A. Urinary catheters should be inserted only when necessary and left in place only for as long as necessary. They should not be used solely for the convenience of patient-care personnel or patient preference.
    1. Alternatives to indwelling catheters must be considered first if suitable in a specific patient. These include the use of external male ('condom') catheter and vacuum-assisted female (e.g. 'Purewick'), intermittent bladder catheterization and bladder massage.
  - B. To avoid urethral strictures associated with prolonged transurethral catheterization, suprapubic or transurethral catheterization should be considered in patients who need prolonged bladder catheterization for more than 4 weeks (e.g. those with neurogenic bladder or ulceration in perineal area).
- II. Leadership for Appropriate Catheter Use
  - A. The clinical unit dyads will oversee and support the safe use of urinary catheters as outlined in this policy.
- III. Indications for Indwelling Bladder Catheters
  - A. Bladder catheters must be inserted only when there is an indication to do so. Indications include:
    1. Acute urinary retention
    2. End of life care
    3. Critically ill-need accurate I/O measurement
    4. Selected surgical procedures-GU or colorectal surgery
    5. To assist in healing open sacral or perineal wound in the incontinent patient
    6. Intraoperative monitoring
    7. Prolonged immobilization
  - B. Orders for insertion and discontinuation
    1. Foley catheters may be inserted in patients only by an order from a physician.
    2. When a Foley catheter is ordered by a physician, the physician must check the indication for catheter insertion from a drop down list of indications in EPIC.
    3. The order will include the approval to discontinue the catheter if the Nursing assessment indicates that the catheter is no longer necessary and the patient's primary care team is in agreement.
    4. The nurse will discontinue the catheter unless the patient's primary care team determines that the catheter is needed. The physician will document the indication(s) and rationale for continued use of the indwelling catheter. **Please see Appendix 2: UTMB Indwelling Urinary Catheter Nurse Driven Protocol Discontinuation Algorithm.**
- IV. Indwelling Transurethral Catheters Present on Admission or Placed Emergently
  - A. If an indwelling transurethral urinary catheter is present on admission, it should be removed **immediately**, and a new catheter inserted if still warranted.

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- Consider alternatives, including external male and female urinary catheters.
- B. If an Indwelling transurethral urinary catheter is placed emergently, it must be removed as soon as possible **(after no longer than 48 hours)** since adherence to aseptic technique cannot be ensured, a base line urine culture obtained, and a new catheter inserted if still warranted.
- V. Catheter Insertion
- A. Personnel who insert urinary catheters must be trained in proper insertion technique.
- B. Hand hygiene must be performed with an antimicrobial soap and water or an alcohol handrub before insertion and immediately before and after any manipulation of the catheter site or drainage system.
- C. Catheters shall be inserted using aseptic technique and sterile equipment.
- D. Sterile gloves, drape, sponges, and appropriate antiseptic solution for periurethral cleansing, and a single-use packet of sterile lubricant jelly shall be used for insertion.
- E. As small a catheter as possible, consistent with good drainage, should be used to minimize urethral trauma.
- F. Only one attempt at insertion is allowed for each catheter; a new catheter must be used for each attempt until the catheter can be inserted without contamination.
- G. Indwelling catheters should be properly secured after insertion to prevent movement and urethral traction.
- VI. Documentation for Catheter Insertion
- A. The following information must be documented in the patient's medical record after catheter insertion
1. Indication(s) for catheter insertion
  2. Date and time of catheter insertion
  3. Individual who inserted the catheter
- B. The date and time of removal of the catheter should also be documented in the patient's medical record.
- C. Include documentation in the nursing flow sheet, nursing notes or physician orders.
- D. Documentation should be accessible in the patient's medical record and recorded in a standard format for data collection and quality improvement purposes.
- VII. Reminders to Nurses to Assess Indications for Catheter.
- A. Nurses will assess the indications for a catheter during each shift and will document in EPIC. If indications are not met for ongoing catheterization, the nurse will contact the physician for an order to discontinue the catheter.
- B. The physician may also indicate that the catheter be removed and replaced with intermittent catheterization for a postoperative patient or the catheter be removed from a male patient followed by placement of a condom catheter.
- VIII. Closed Sterile Drainage
- A. A sterile, continuously closed drainage system sealed to the catheter must be maintained.
- B. If breaks in aseptic technique, disconnection, or leakage occur, the catheter and collecting system sealed to the catheter should be replaced using aseptic technique.
- IX. Irrigation
- A. Irrigation should be avoided unless continuous bladder irrigation is ordered

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- by a physician.
- B. The catheter-tubing junction must be disinfected before disconnection.
- X. Specimen Collection
  - A. If small volumes of fresh urine are needed for examination, The sampling port should be cleansed with alcohol. After the alcohol has dried, urine should be aspirated with a sterile needle and syringe.
  - B. Larger volumes of urine for special analyses should be obtained aseptically from the drainage bag.
  - C. Culture collection
    - 1. Prior to obtaining urine culture, please refer to Appendix 3 (**Urine Culture Collection Algorithm**) for proper indication and stepwise investigative approach through urinalysis followed by culture.
    - 2. If the indwelling urinary catheter has been in place for at least 7 days, it should be removed and a new catheter be inserted aseptically prior to collection of urine sample for culture.
    - 3. Urinary catheter tips should not be cultured and are not acceptable for diagnosis of a urinary tract infection.
    - 4. Urine cultures must be obtained using appropriate technique, such as clean catch collection or catheterization. Specimens taken from an indwelling catheter must be aspirated from a disinfected sample port.
    - 5. In infants, urine specimens should be collected by catheterization or superpubic aspiration; positive urine cultures from bag specimens are not acceptable.
    - 6. Urine specimens collected for culture will be sent to the laboratory in a tube with a boric acid preservative (gray or yellow-top tube).
- XI. Urinary Flow and Collection Bag
  - A. Unobstructed flow should be maintained.
  - B. To achieve free flow of urine:
    - 1. the catheter and collection tubing should be kept from kinking;
    - 2. the collection bag should be emptied regularly using a separate collection container for each patient (the drainage spigot and nonsterile collection container should never come in contact);
    - 3. **collection bags should always be kept below the level of the bladder but should never touch the floor.**
  - C. If the catheter becomes obstructed, it should be removed. If there is a continuing need for bladder catheterization, a new catheter should be inserted using the same aseptic technique described above. **The newly inserted catheter must be sealed to a new sterile closed drainage system.**
- XII. Perineal Care
  - A. The perineum should be cleaned daily with soap and water and dried followed by an application of 2% chlorhexidine gluconate to reduce colonization of the perineal skin by bacteria.
  - B. Do not clean the perimeatal area with antiseptics to prevent CAUTI while the catheter is in place. Routine hygiene (e.g., cleaning of the perimeatal surface during daily bathing) is appropriate.
- XIII. Catheter Change Interval: Indwelling catheters should be changed only as clinically indicated.
- XIV. Use of Bladder Scanners
  - A. Refer to Appendix 1 for Bladder Scan Protocol.

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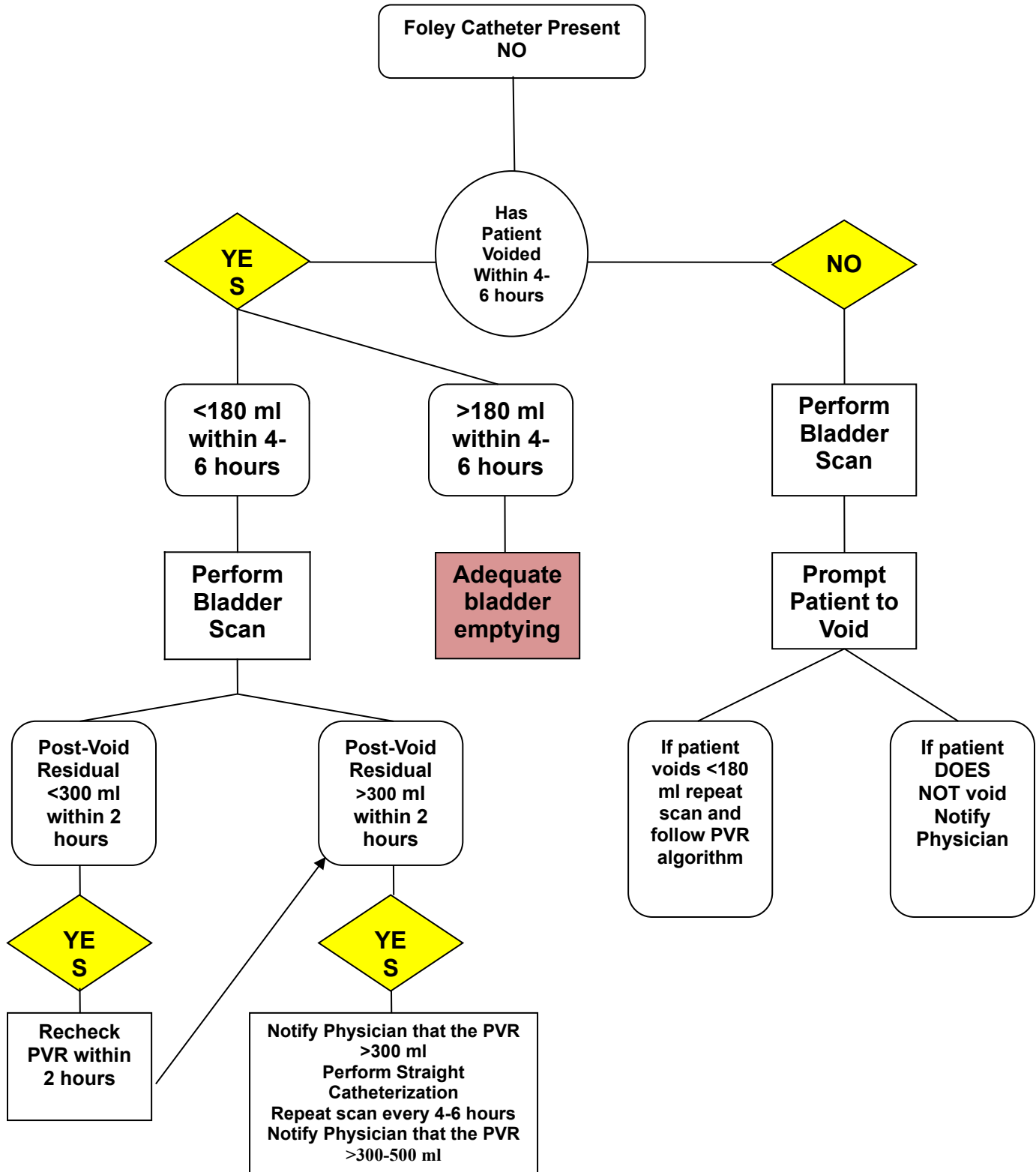
- B. Nursing staff must be trained in their use.
  - C. The equipment must be adequately cleaned and disinfected between patients according to the manufacturer's instructions for use.
  - D. Use a portable bladder scanner to assess urine volume in patients undergoing intermittent catheterization to reduce unnecessary catheter insertions.
  - E. Bladder ultrasound readings should be taken immediately after voiding to get a more accurate assessment of residual volume.
  - F. Each bladder ultrasound should be confirmed with a second reading.
  - G. Consecutive readings should be taken until a full view of the bladder is obtained on the scanner.
- XV. Outcome Measures: Definitions of the National Healthcare Safety Network (NHSN) will be utilized to identify catheter-associated urinary tract infections. <http://www.cdc.gov/nhsn/pdfs/pscmanual/7psccauticurrent.pdf>
- XVI. Insertion of Foley catheters in the Emergency Department (ED)
- A. All catheters inserted in the ED must be ordered by a physician.
    - 1. When the order is entered, it must state the indication for insertion of a Foley catheter.
    - 2. The only indications for Foley catheters are listed in section IIIA.
    - 3. Foley catheters are not indicated for:
      - a. Fall prevention
      - b. Routine urine specimens
      - c. Staff request
      - d. Excoriated skin
      - e. Altered mental status
  - B. Alternatives to indwelling Foley catheters
    - 1. Unisex urinals may be used by both male and female patients to avoid use of a Foley catheter.
    - 2. External male and female urinary catheters should be used when possible.
    - 3. Bladder scanners should be used to measure post-void residuals rather than straight catheter insertions.
    - 4. Alternative products need to be stocked.
    - 5. Need adequate staff for toileting of patients regularly.
    - 6. More bathrooms may be needed.
  - C. Catheter insertion technique
    - 1. Foley catheters may not be inserted by nursing students, medical students or residents unless they are supervised by trained patient care technicians (PCTs) or ED nurses.
    - 2. For patients who are obese, two nurses should work together for safe insertion of Foley catheters.
    - 3. The patient's perineum must be thoroughly cleaned with soap and water followed by application of chlorhexidine gluconate.
    - 4. Catheters must be inserted using aseptic technique and sterile equipment.
      - a. Sterile gloves, drape, sponges, and appropriate aseptic solution for periurethral cleansing, and a single-use packet of sterile lubricant jelly should be used for insertion.
      - b. As small a catheter as possible, consistent with good drainage, should be used to minimize urethral trauma.

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- c. Only one attempt at insertion is allowed for each catheter; a new catheter must be used for each attempt until the catheter can be inserted without contamination.
- d. Indwelling catheters should be properly secured after insertion to prevent movement and urethral traction.

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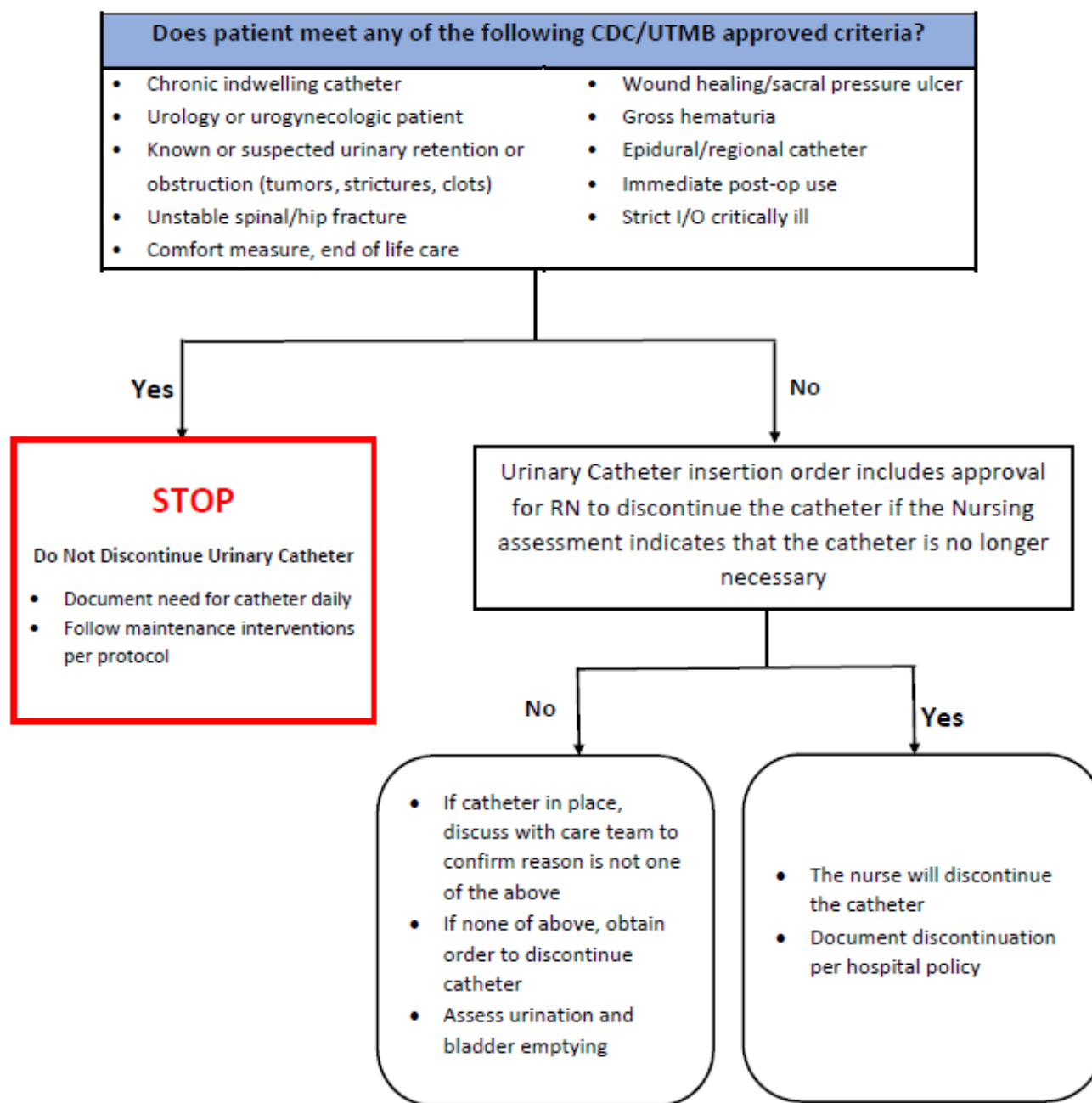
**APPENDIX 1: BLADDER SCAN PROTOCOL**



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**APPENDIX 2:**

## UTMB Indwelling Urinary Catheter – Nurse Driven Protocol Discontinuation Algorithm



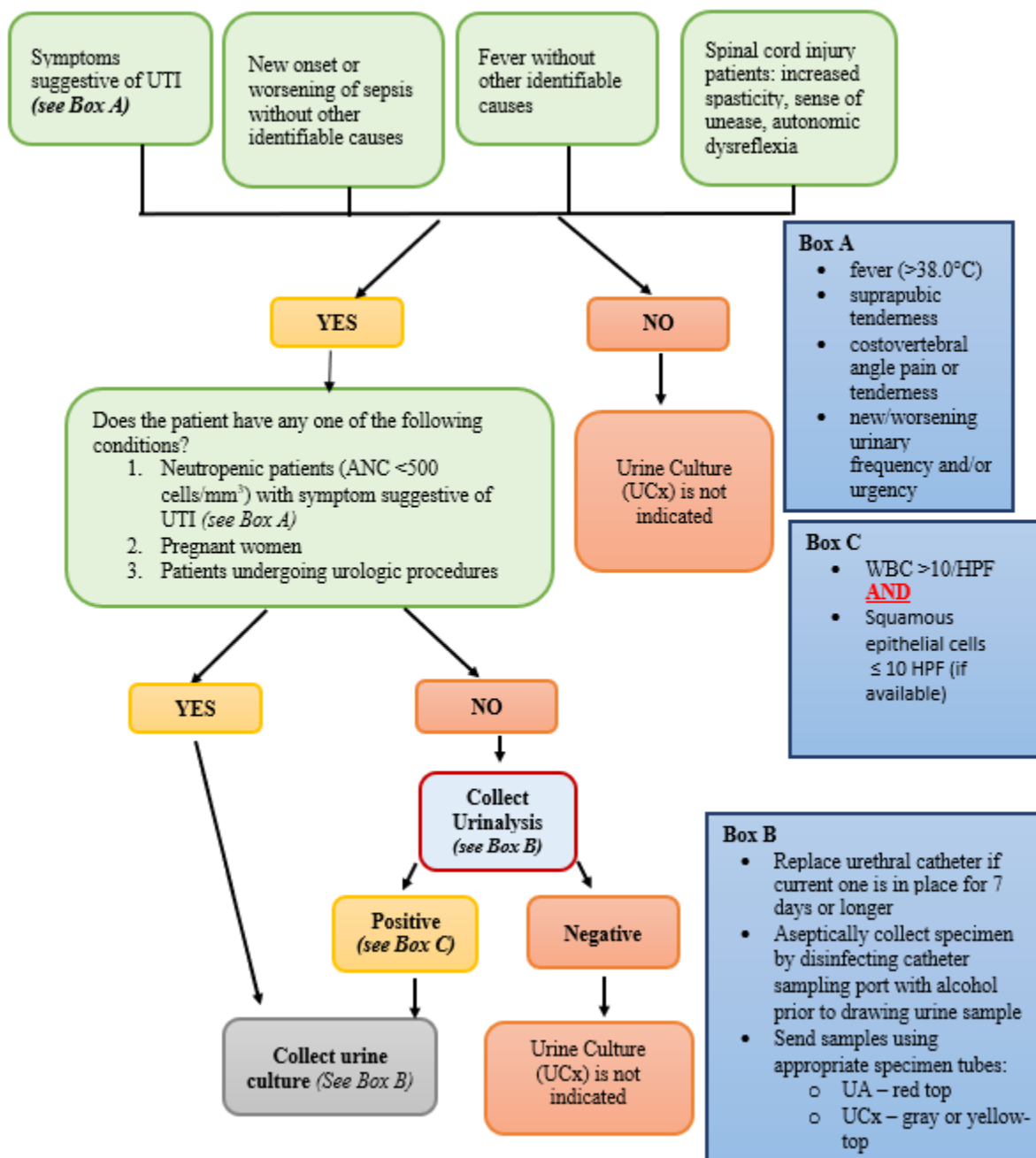
**Reference:**

[https://www.utmb.edu/policies\\_and\\_procedures/Non-IHOP/Healthcare\\_Epidemiology/01.46%20-%20Prevention%20of%20Catheter-Associated%20Urinary%20Tract%20Infections.pdf](https://www.utmb.edu/policies_and_procedures/Non-IHOP/Healthcare_Epidemiology/01.46%20-%20Prevention%20of%20Catheter-Associated%20Urinary%20Tract%20Infections.pdf)

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**APPENDIX 3:**

**Urine Culture Collection Algorithm**



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## **References**

1. Lo E, Nicolle L, Classen D, et al. Strategies to prevent catheter-associated urinary tract infections in acute care hospitals. *Infect Control Hosp Epidemiol* 2008; 29 (Suppl 1):S41-S50.
2. Huang W-C, Wann S-R, Lins-L, et al. Catheter-associated urinary tract infections in intensive care units can be reduced by prompting physicians to remove unnecessary catheters. *Infect Control Hosp Epidemiol* 2004; 25:974-978.
3. Apisarnthanarak A, Thongphubeth K, Sirinvaravong S, et al. Effectiveness of multifaceted hospitalwide quality improvement programs featuring an intervention to remove unnecessary urinary catheters at a tertiary care center in Thailand. *Infect Control Hosp Epidemiol* 2007; 28:791-798.
4. Saint S, Kowalski CP, Forman J, et al. A multicenter qualitative study on preventing hospital-acquired urinary tract infection in U.S. hospitals. *Infect Control Hosp Epidemiol* 2008; 29:333-341.
5. Reilly L, Sullivan P, Ninni S, et al. Reducing Foley catheter device days in an intensive care unit. Using the evidence to change practice. *AACN Adv Crit Care*. 2006; 17:272-283.
6. Knoll BM, Wright D, Ellingson L, et al. Reduction in inappropriate urinary catheter use at a Veterans Affairs Hospital through a multifaceted quality improvement project. *Clin Infect Dis* 2011;52:1283-1290.
7. Chenoweth C, Saint S, Preventing catheter-associated urinary tract infections in the intensive care unit. *Crit Care Clin* 2013;29:19-32.
8. Kassakian SZ, Mermel LA, Jefferson JA, et al. Impact of chlorhexidine bathing on hospital-acquired infections among general medical patients. *Infect Control Hosp Epidemiol*. 2011;32:238-243.
9. Cassir N, Thomas G, Hraiech S, et al. Chlorhexidine daily bathing: impact on healthcare-associated infections caused by gram-negative bacteria. *Am J Infect Control*. 2015;43:640-643.
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;23:277-289.
11. Carter EJ, Pallin DJ, Mandel L, et al. Emergency department catheter-associated urinary tract infection prevention: multisite qualitative study of perceived risks and implemented strategies. *Infect Control Hosp Epidemiol* 2015;
12. Marra AR, Camargo TZS, Goncalves P, et al. Preventing catheter-associated urinary tract infection in the zero tolerance era. *Am J Infect Control* 2011; 39:817-822.
13. Phillips JK. Integrating bladder ultrasound into a urinary tract infection-reduction project. *Am J Nurs* 2000;suppl:3-12.
14. Dromerick AW, Edwards DF. Relation of postvoid residual to urinary tract infection during stroke rehabilitation. *Arch Phys Med and Rehabil* 2003; 84:1369-1372.
15. Stevens E. Bladder ultrasound: avoiding unnecessary catheterizations. *MEDSURG Nursing* 2005; 14:249-253.

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16. Centers for Disease Control and Prevention. Healthcare Infection Control Practices Advisory Committee. Guideline for prevention of catheter-associated urinary tract infections 2009;Division of Healthcare Quality Promotion. 1-67
17. Liang SY, Theodoro DL, Schuur JD, Marschall J. Infection Prevention in the Emergency Department. Ann Emerg Med 2014;64:299-313.
18. Fakhri MG, Heavens M, Grotenmeyer J, et al. Avoiding potential harm by improving appropriateness of urinary catheter use in 18 Emergency Departments. Ann Emerg Med 2014;63:671-768.
19. Schuur JD, Chambers JG, Hou PC. Urinary catheter use and appropriateness in U.S. Emergency Departments, 1995-2010. Acad Emerg Med 2014;21:292-300.
20. Scott RA, Oman KS, Makic MBF, et al. Reducing indwelling urinary catheter use in the Emergency Department: A successful quality-improvement initiative J Emerg Nurs 2014;40:237-244.