

VCH Management of Urinary Tract Infections (UTI) in Non-pregnant Adults

KEY POINTS:

1. Malodorous/cloudy urine alone is **NOT** a sign/symptom of UTI and is **NOT** an indication to obtain urine cultures ⁽¹⁾
2. Changes in cognitive function and activities of daily living **REQUIRE** clinical assessment; never assume these are due to UTI
3. Urine should **ALWAYS** be collected midstream, by in/out catheterization, or through a new catheter (unless contraindicated) ⁽²⁾
4. Positive urine cultures in asymptomatic patients should **NOT** be treated except in pregnancy or prior to urologic/gynecologic surgery

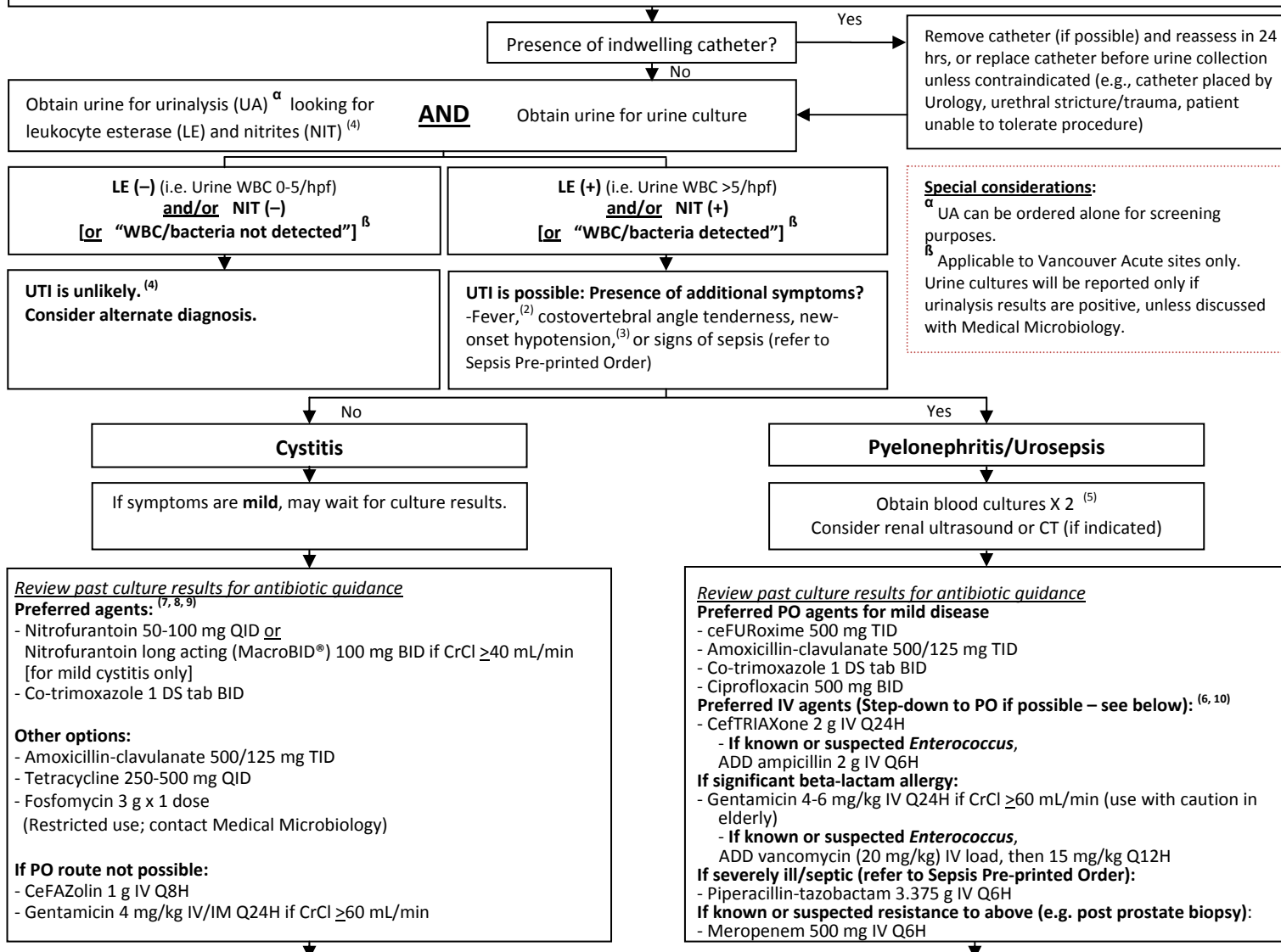
Signs and Symptoms of Suspected UTI ⁽³⁾

-One of the following in febrile patients (oral temperature >37.8 °C [or 1°C above baseline in Spinal Cord Injury]) or two of the following in afebrile patients:

- | | |
|--|--|
| i. Acute dysuria | vi. Suprapubic pain |
| ii. New or marked increase in incontinence | vii. Gross hematuria |
| iii. New or marked increase in urgency | viii. Swelling, or tenderness of the testes, epididymis, or prostate |
| iv. New or marked increase in frequency | ix. New-onset of acute costovertebral angle pain or tenderness |
| v. New or marked increase in urinary retention | x. Episode of autonomic dysreflexia (with no other apparent cause) |

NOTE: Only after clinical assessment and ruling-out of other possible causes should changes in mental status and functional decline, and sudden fever, rigors or new-onset hypotension suggest UTI in patients; use clinical judgment. ⁽³⁾

For Geriatric and Spinal Cord Injury (including conus/cauda equina): UTI may present atypically; use clinical assessment to guide decision for urine culture & urinalysis.



Special considerations:
^α UA can be ordered alone for screening purposes.
^β Applicable to Vancouver Acute sites only. Urine cultures will be reported only if urinalysis results are positive, unless discussed with Medical Microbiology.

Review cultures at 48 hours for directed therapy

- | | | |
|--|--|--|
| <p>Direct and Tailor Therapy:</p> <ul style="list-style-type: none"> - Select antibiotic with narrowest spectrum based on culture results. - Step-down to PO agent when appropriate. - Assess clinical status; lack of improvement should prompt investigations for alternate cause. | <p>IV to PO Step-down Criteria:</p> <ul style="list-style-type: none"> - Temperature <38°C X 24 hrs; - WBC <11 or decreasing trend; - Clinical improvement on IV therapy; - Ability to absorb through GI tract. | <p>Duration of Therapy:</p> <p>Cystitis:</p> <ul style="list-style-type: none"> - 3 days (healthy, pre-menopausal females); - 5 to 7 days (males, elderly females, or recurrence). <p>Pyelonephritis:</p> <ul style="list-style-type: none"> - 7 to 10 days (if uncomplicated); - 14 days (if urologic structural abnormalities). |
|--|--|--|

Quantitative definitions of bacteriuria:

In an **appropriately collected** single urine specimen,

-Isolation of **one (predominant) bacterial strain** with a count of **≥ 100 million CFU/L** ⁽¹¹⁾

-[If more than one bacterial strain isolated or if bacteria count is < 100 million CFU/L, re-culture urine if symptomatic]

References

1. Ackermann RJ. Nursing home practice. Strategies to manage most acute and chronic illnesses without hospitalization. *Geriatrics*. 2001;56(5):37, 40, 3-4 passim. Epub 2001/05/26.
2. DiPiro JT. *Pharmacotherapy: a pathophysiologic approach*. Toronto: McGraw-Hill; 2008.
3. Stone ND, Ashraf MS, Calder J, Crnich CJ, Crossley K, Drinka PJ, et al. Surveillance Definitions of Infections in Long-Term Care Facilities: Revisiting the McGeer Criteria. *Infection control and hospital epidemiology : the official journal of the Society of Hospital Epidemiologists of America*. 2012;33(10):965-77. Epub 2012/09/11.
4. Patel HD, Livsey SA, Swann RA, Bukhari SS. Can urine dipstick testing for urinary tract infection at point of care reduce laboratory workload? *Journal of clinical pathology*. 2005;58(9):951-4. Epub 2005/08/30.
5. VIHA. Algorithm for Urinary Tract Infection in Adult Patients, March 2011.
6. Gupta K, Hooton TM, Naber KG, Wullt B, Colgan R, Miller LG, et al. International clinical practice guidelines for the treatment of acute uncomplicated cystitis and pyelonephritis in women: A 2010 update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*. 2011;52(5):e103-20. Epub 2011/02/05.
7. Mehnert-Kay SA. Diagnosis and management of uncomplicated urinary tract infections. *American family physician*. 2005;72(3):451-6. Epub 2005/08/17.
8. Nicolle LE. A practical guide to antimicrobial management of complicated urinary tract infection. *Drugs & aging*. 2001;18(4):243-54. Epub 2001/05/09.
9. C R. Compendium of pharmaceuticals and specialties. (available electronically through UBC library). Gentamicin (CPhA Monograph) [Internet].
10. Nowe P. Piperacillin/tazobactam in complicated urinary tract infections. *Intensive care medicine*. 1994;20 Suppl 3:S39-42. Epub 1994/07/01.
11. Nicolle LE, Bradley S, Colgan R, Rice JC, Schaeffer A, Hooton TM. Infectious Diseases Society of America guidelines for the diagnosis and treatment of asymptomatic bacteriuria in adults. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*. 2005;40(5):643-54. Epub 2005/02/17.
12. Colgan R, Williams M. Diagnosis and treatment of acute uncomplicated cystitis. *American family physician*. 2011;84(7):771-6. Epub 2011/10/21.
13. Hooton TM, Bradley SF, Cardenas DD, Colgan R, Geerlings SE, Rice JC, et al. Diagnosis, prevention, and treatment of catheter-associated urinary tract infection in adults: 2009 International Clinical Practice Guidelines from the Infectious Diseases Society of America. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*. 2010;50(5):625-63. Epub 2010/02/23.
14. Ouslander JG, Schapira M, Fingold S, Schnelle J. Accuracy of rapid urine screening tests among incontinent nursing home residents with asymptomatic bacteriuria. *Journal of the American Geriatrics Society*. 1995;43(7):772-5. Epub 1995/07/01.