

## Appropriate Assessment and Treatment of UTIs

### Background

Asymptomatic Bacteriuria (ASB) is the presence of bacteria in bladder urine in the absence of clinical symptoms referable to the urinary tract. Antibiotic treatment of ASB does not confer any known benefit in any group other than pregnant women and patients undergoing urologic surgery. Non-treatment of ASB has strong support in the evidence-based guidelines however, there is a gap between guidelines and practice with studies showing up to 80% of episodes of ASB are inappropriately treated with antibiotics. Literature demonstrates the practice of overprescribing antibiotics has generated antibiotic resistance among organisms that continue to challenge health care systems and cause harm to patients/residents.

### Discussion of Issue

Non-specific symptoms among the elderly are often mistaken as Urinary Tract Infections (UTI) when they are in fact reflective of a state of bladder colonization or ASB. There is also an abundance of myths surrounding the diagnosis and treatment of UTI despite clear recommendations regarding the diagnosis and screening of ASB. Urinalysis and urine dip sticks are often over-interpreted leading to the prescribing of antibiotics inappropriately. Both urine dip sticks and urinalysis cannot confirm the presence of infection as positive results can occur as a result of a myriad of non-infectious etiologies. Furthermore, the Infectious Diseases Society of America (IDSA) strongly recommend against screening for ASB in non-pregnant premenopausal women, women with diabetes mellitus, ambulatory elderly adults, elderly **institutionalized residents in long-term care facilities**, patients with spinal cord injuries, or individuals with indwelling urethral catheters.

Despite an increased prevalence of ASB among patients with diabetes mellitus and the concern for increased risk of symptomatic UTI, pyelonephritis, and sepsis, the literature does not support screening for or treating ASB in the diabetic population. Studies have shown that treatment ASB only yields a sterile bladder for a number of hours and the bladder quickly returns to its normal state of colonization. Furthermore, the treatment of non-specific symptoms even in the presence of a positive urine culture do not provide enough evidence to warrant antibiotic therapy. The prevalence of ASB increases with age and is universal among elderly residents with indwelling urinary catheters. Criteria for UTI **must** rely on the presence of symptoms, not bacteria, leukocyte esterase, nitrates, or pyuria alone, to diagnose symptomatic UTI and initiate antibiotic therapy. In the Winnipeg Health Region Long Term Care program, UTI definitions are as follows;

**Without catheter-** significant lab results and one of the following criteria must be met;

- Acute dysuria or acute Pain, swelling or tenderness of the testes, epididymis, or prostate
- fever or leukocytosis and at least one of the following;
  - Acute costovertebral angle pain or tenderness
  - Suprapubic pain
  - Gross hematuria
  - New or marked increase in incontinence
  - New or marked increase in urgency / frequency
  - New or marked increase in frequency
- no fever or leukocytosis and at least 2 of the following:
  - Suprapubic pain
  - Gross hematuria
  - New or marked increase in incontinence
  - New or marked increase in urgency or frequency

**Continued on reverse**

**With catheter-** significant lab results and one of the following criteria must be met:

- fever, rigors, or new-onset hypotension with no alternate site of infection
- acute change in mental status or acute functional decline with **no alternate diagnosis** and leukocytosis
- new onset suprapubic pain or costovertebral angle pain or tenderness
- purulent discharge from around the catheter or acute pain/swelling/tenderness of the testes, epididymis, or prostate

## **Options and Analysis**

1. Continue to use urine dip sticks or urinalysis **only to exclude** the presence of UTI and collaborate all positive urinalysis results with a urine C&S . This option does not manage the risk of over-emphasis on urinalysis results.
2. Proceed with the recommendations listed below.

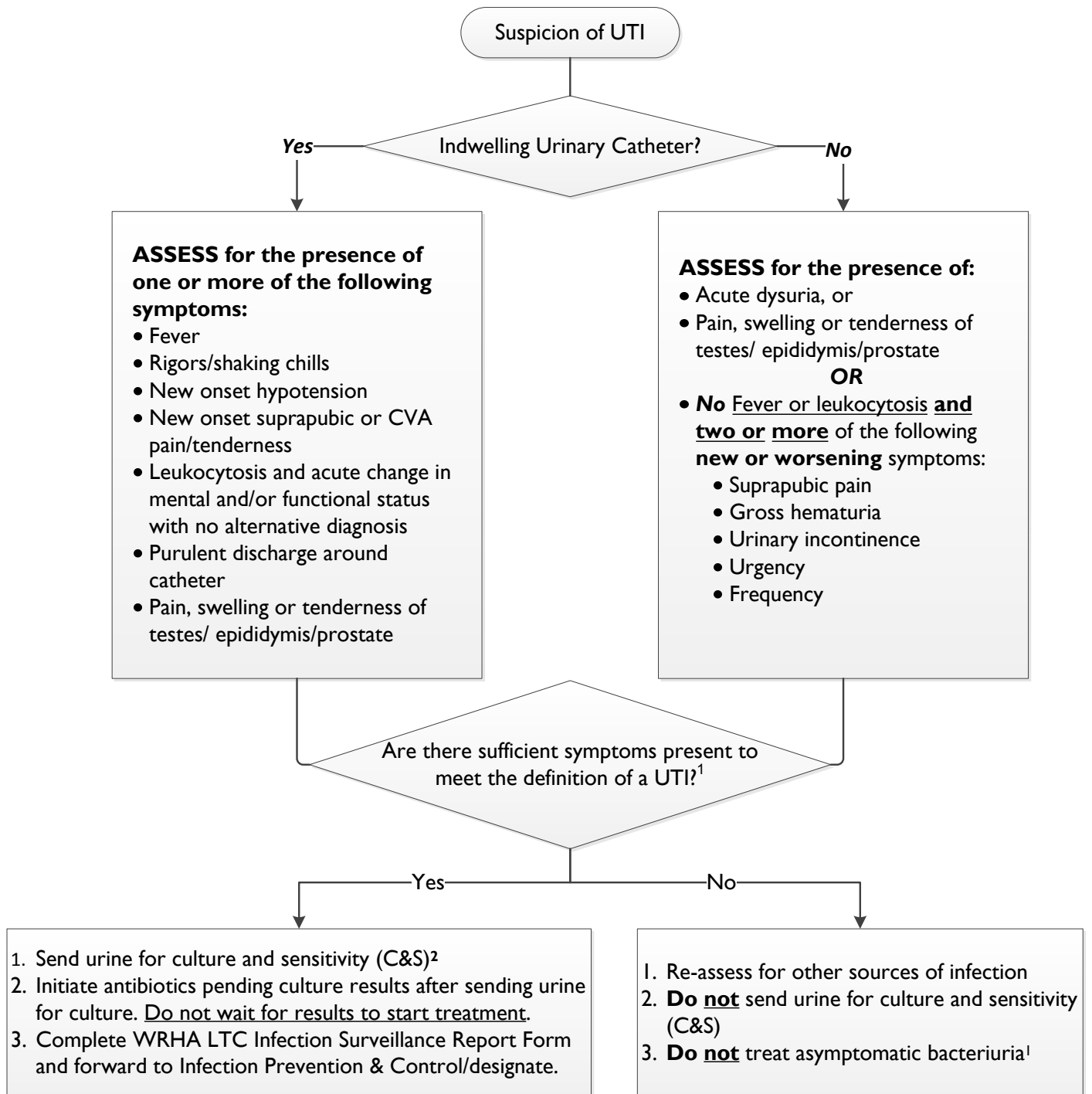
### **Recommendations:**

1. Follow evidence informed practice and **discontinue the use urine dip sticks and/or urinalysis** as both are unreliable tests that lead to over-interpretation which in turn leads to inappropriate antibiotic therapy for ASB.
2. **Do not perform routine urine screening** for any population other than pregnant women and individuals undergoing urologic surgery.
3. **Do not perform “test for cure”** as antimicrobial treatment in the elderly does not often render the bladder sterile.
4. Initiate antibiotic therapy **only** when the presence of compatible signs and symptoms have been confirmed on assessment (i.e., UTI definition has been met) and collect a urine C&S before therapy begins to determine if the causative pathogen is sensitive to the prescribed antimicrobial, adjusting therapy as necessary.
5. In the presence of signs and symptoms that meet UTI or CAUTI definition, **do not withhold antibiotic therapy while waiting for culture results.** (See UTI Algorithm attached)

### **References:**

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## Urinary Tract Infection Assessment Guide

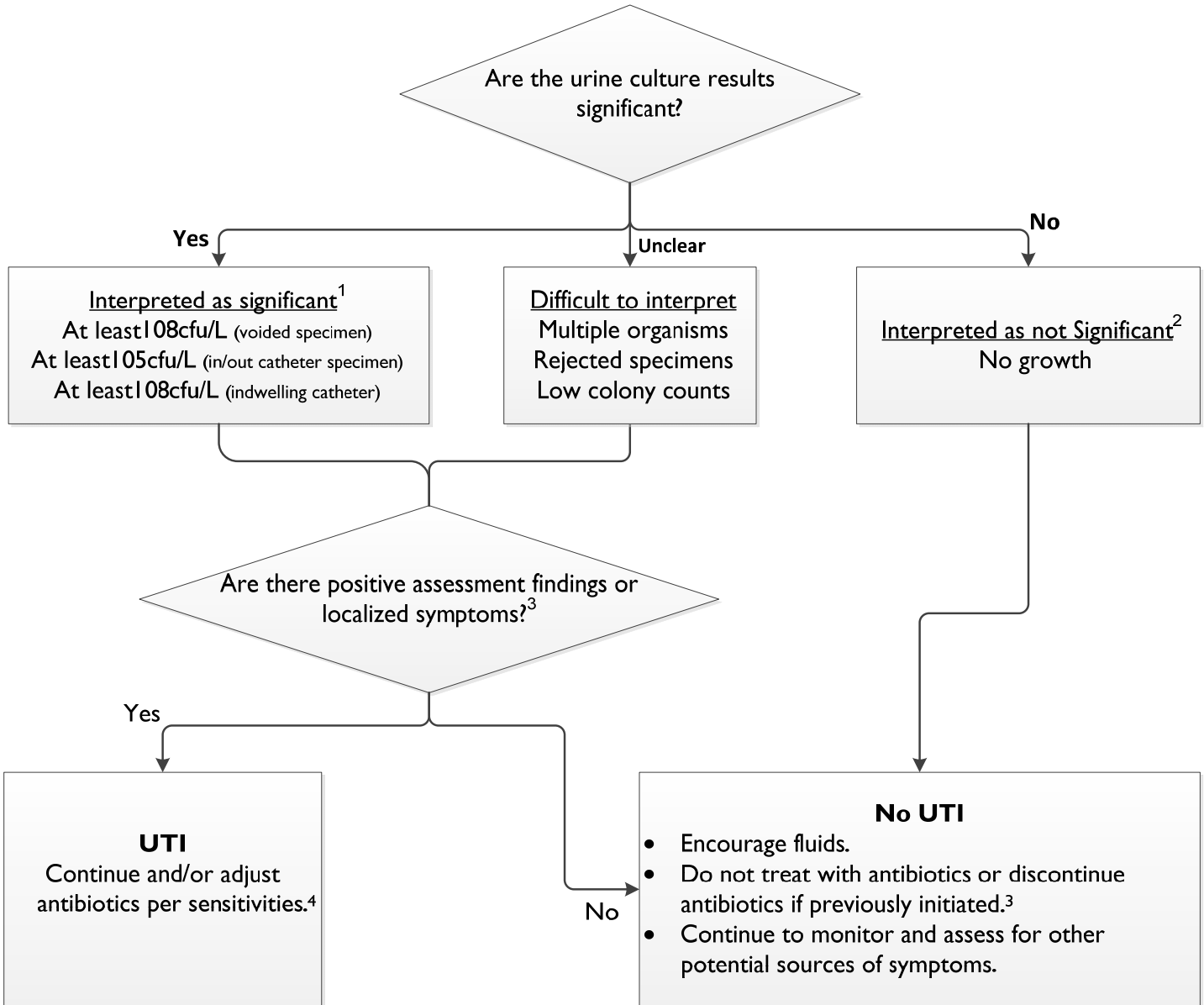


### PRACTICE POINTS

- 1 Cloudy or foul-smelling urine are not reliable symptoms of UTI in an elderly population.
- 2 Change urinary catheter and collection bag prior to taking urine sample for C&S.
- 3 Encourage fluids for 24 hours unless medical status is rapidly declining or contraindicated due to other medical condition.

*The WRHA would like to acknowledge Revera's contributions in the development of this algorithm. It is intended to be used as a guideline as there may be situations where Residents present with atypical symptoms of UTI. It is important to know the individual Resident and document atypical presentations in their care plan.*

## Urinary Tract Infection Assessment Guide



### PRACTICE POINTS

- 1 Recommended quantitative bacterial counts by specimen source. Urine specimens from an in-out catheter are considered positive with at least 105 cfu/L of any number of organisms. Urine specimens from an in-dwelling catheter are considered positive with at least 108 cfu/L of any number of organisms
- 2 More than 2 species in a voided sample can suggest contamination however the elderly are more likely to have multiple organisms.
- 3 Clinical correlation with localizing genitourinary symptoms is necessary for diagnosis of a UTI.
- 4 Do not test for cure. Repeat C&S after antibiotic therapy should not be performed unless treatment failure is suspected (persisting genitourinary specific signs and symptoms that are not attributable to a non-infectious cause).

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