



UTI Toolkit – Module 3

When to Test a Urine Specimen?



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What is a Urinary Tract Infection (UTI)?

- There is no gold standard definition of UTI, but several consensus definitions have been suggested and revised over time^{1,2}
- These definitions differ slightly, but all require the presence of signs and symptoms localizing to the urinary tract

¹ Loeb et al. ICHE 2001; 22(2): 120-4

² Stone et.al. ICHE 2012; 33(10): 965-77



Signs and Symptoms Specific for UTI

- Dysuria
- New onset
 - Frequency
 - Urgency
 - Incontinence
- Flank pain or tenderness
- Suprapubic pain
- Gross hematuria
- Focal tenderness or swelling of testis, epididymis or prostate
- Recent catheter trauma, obstruction, or purulent drainage around the catheter



What about Non-Communicative Residents?

- Residents frequently have non-specific geriatric symptoms and are unable to tell us what is bothering them
- Non-specific symptoms include:
 - Functional decline
 - Changes in mental status
 - Altered behaviors
 - Falls
- Unfortunately, these symptoms are **non-specific** and often triggered by other (for example, non-infectious) causes



Are Changes in Mental Status, Behavior, or a Fall Symptoms of a UTI?

- Sometimes, but most commonly NOT
- UTI is less likely without specific urinary symptoms
- Non-specific geriatric symptoms, such as change in mental status, fatigue, or a fall may be due to a variety of non-infectious causes including:

Medications (e.g., opiates)	Sleep deprivation	Low oxygen (CHF, COPD)
Dehydration	Hypoglycemia	High carbon dioxide (COPD)
Pain	Electrolyte imbalance	Stroke
Constipation	Depression	Seizure



In other words...

Don't think testing urine first in a resident with a change in condition and no localizing urinary tract signs and symptoms



Non-specific Geriatric Symptoms May Accompany a UTI but...

Without another localizing urinary symptom or fever or leukocytosis and no other identified source of infection, these non-specific symptoms are unlikely a sign of UTI

AND

A urine specimen should NOT be sent





What about Non-Communicative Residents?

“A patient with advanced dementia may be unable to report urinary symptoms. In this situation, it is reasonable to obtain a urine culture if there are signs of systemic infection such as fever (increase in temperature of equal to or greater than 2°F [1.1°C] from baseline) leukocytosis, or a left shift or chills in the absence of additional symptoms (e.g., new cough) to suggest an alternative source of infection.” *



Change in the Character of the Urine \neq UTI

- Dark, concentrated and/or strong smelling urine can be caused by several factors, including dehydration, diet, medication, or the presence of specific bacteria
- Changes in the character of the urine **WITHOUT** specific urinary symptoms do not indicate the presence of UTI
- Without specific urinary tract signs and symptoms, **DO NOT TEST**

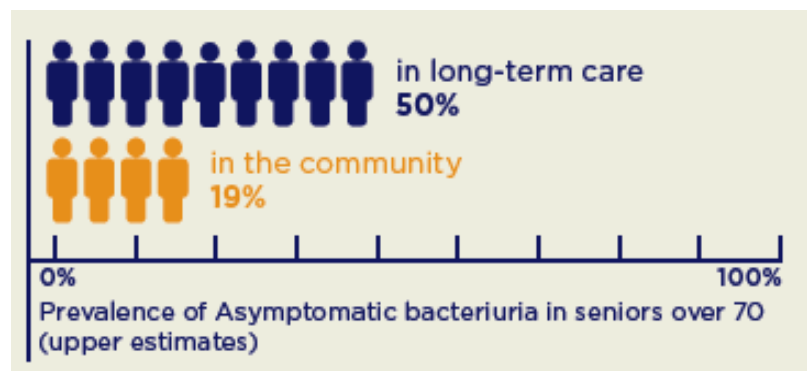




Bacteria in the Urine \neq UTI

- The skin surface is not sterile...
- The mouth is not sterile...
- The colon is not sterile...
- *And in many nursing home residents the bladder is not sterile*

*Up to 50% of LTC residents have bacteria in their urine without any signs of infection**





When Symptoms are Absent:

- “Positive” urine dip is meaningless
- “Positive” urinalysis is meaningless
- “Positive” urine culture is just Asymptomatic Bacteriuria

Regardless of symptoms:

- Poor urine collection technique causes false-positive urinalysis
- See **Module 2** for how to collect urine properly



Positive Urine Culture Without Localizing Urinary Tract Symptoms

DO NOT TREAT

