



WISCONSIN DEPARTMENT
of HEALTH SERVICES

Urinary Tract Infection (UTI) Myths and Facts

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Disclosures

- Member and facilitator of the WI Healthcare-Associated Infections (HAIs) in Long-Term Care (LTC) Coalition
- Portions of this presentation are based on information from the WI HAI in LTC Coalition's 2016 UTI 101 Workshops* and the WI LTC UTI Toolkit**

*<https://www.dhs.wisconsin.gov/regulations/nh/hai-events-index.htm>
**<https://erc.chsra.wisc.edu/uti-toolkit/overview.php>

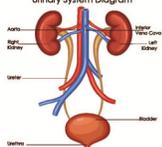
Outline

- Define and differentiate UTI and asymptomatic bacteriuria
- Dispel myths and reinforce facts about UTIs
- Discuss antibiotic resistance as a consequence of inappropriate antibiotic use
- Discuss how to evaluate and prevent falls as a change of condition

UTI

Laboratory Diagnosis

An infection caused by bacteria that involves any part of your urinary system, which includes your kidneys, bladder, ureters, and urethra


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Asymptomatic Bacteriuria

Presence of bacteria in the urine *without clinical signs and symptoms localizing to the urinary tract*



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Prevalence of Asymptomatic Bacteria

Population	Prevalence (%)
Elderly in the community (age ≥ 70)	
Women	10.8 - 16
Men	0.7 - 11
Elderly in a long-term care facility	
Women	25-50
Men	15-50
Persons with indwelling catheter use	
Short-term	3% - 5%/ day of catheter
Long-term	100

Clinical Practice Guideline for the Management of Asymptomatic Bacteriuria: 2019 Update by the Infectious Disease Society of America

Research is creating new knowledge.

Neil Armstrong
Astronaut

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UTI Clinical Diagnosis

- 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* (s/s) localizing to the urinary tract

¹Loeb et al. ICHE 2001; 2001; ²Stone et al. ICHE 2012; 33(10): 965-77

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Localizing Urinary Signs and Symptoms

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

Nace, et. al. JAMDA 2014; 15(2): 133-39

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What About Non-Communicative Residents?

- Residents frequently have non-specific geriatric symptoms and can't tell us what is bothering them

Behavior changes	Functional decline
Changes in mental status	Falls
Restlessness	Fatigue

- Unfortunately, these symptoms are non-specific and often triggered by other (for example, non-infectious) causes

Nace, et.al. JADA 2014; 15(2): 133-39 10

What About Non-Communicative Residents?

- A resident with advanced dementia may be unable to report symptoms
- It is reasonable to obtain a urine culture if there are signs of systemic infection such as:
 - Fever - ↑ in temperature of ≥ 2°F
 - Leukocytosis
 - Hemodynamic instability
 - Chills in the absence of additional symptoms (e.g., new cough) to suggest an alternative source of infection.*

*AMDA Choosing Wisely Campaign (See Item 3, <https://paltc.org/choosing-wisely/>) 11

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



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Non-Specific Symptoms in Absence of Urinary Symptoms

It's important to consider a range of possible causes for non-specific geriatric symptoms to prevent missing the real diagnosis.

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Common UTI Myths and Facts

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Bacteria in the Urine ≠ UTI

- The skin surface is not sterile...
 - The mouth is not sterile...
 - The colon is not sterile...
 - *And in many elderly residents the bladder is not sterile.*
- Up to 19% of community elderly and 50% of the elderly in LTC have bacteria in their urine without any signs of infection**

*Clinical Practice Guideline for the Management of Asymptomatic Bacteriuria: 2019 Update by the IDSA 15

Asymptomatic Bacteriuria (ASB) ≠ UTI

- ASB frequently mistaken for a UTI and leads to unnecessary testing and inappropriate treatment with antibiotics
- Inappropriate treatment is all harm and no benefit*
 - Drug to drug interactions
 - Promotes antibiotic resistance
 - Increases risk of C. difficile infection
 - Nausea and vomiting
 - Adverse drug reactions

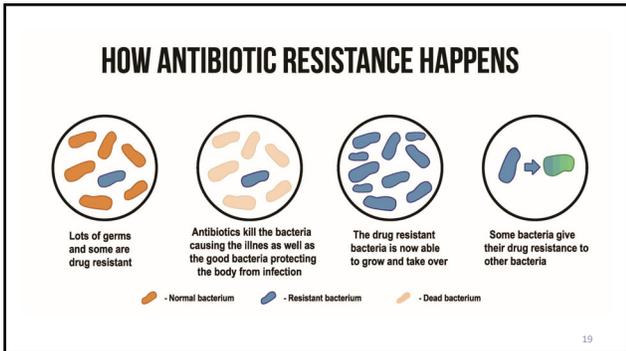
*Massachusetts Coalition for Patient Safety - <http://mccoalition.org/evaluation-and-treatment-uti-elderly.shtml> 16

Adverse Drug Events

<https://www.fda.gov/news-events/fda-brief/fda-brief-fda-warns-fluoroquinolone-antibiotics-can-cause-aortic-aneurysm-certain-patients>

Antibiotic Resistance

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CDC Antibiotic Resistance Threats in the United States, 2019

<https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf>

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Change in the Character of the Urine ≠ UTI

- Dark concentrated urine 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 s/s, DO NOT TEST

WI HAI in LTC Coalition UTI Toolkit

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A Change in Mental Status, Behavior, Functional Status or a Fall ≠ UTI?

- There is no evidence that behavior change, falls, or functional status are associated with UTI
- Non-specific geriatric symptoms may be due to a variety of non-infectious causes

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

WI UTI Toolkit 22

When Symptoms Are *Absent*:

- “Positive” urine dip is meaningless
- “Positive” urinalysis is meaningless
- “Positive” urine culture is just asymptomatic bacteriuria



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In other words...

Don't think urine first in a resident with a change of condition such as a fall and no localizing urinary tract signs and symptoms

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Evaluation of Falls as a Change of Condition

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Resources

Interventions to Reduce Acute Care Transfer

- Communication Tools
 - Stop & Watch
- Decision Support Tools
 - Acute Change in Condition File Cards
 - Care Paths for Multiple Issues (Falls, UTI...)
- Resources
 - Fall Prevention Program
 - Guidance on Identification & Management of Infections

<https://pathway-interact.com/>

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Thank You