

# HQIN

Health Quality Innovation Network



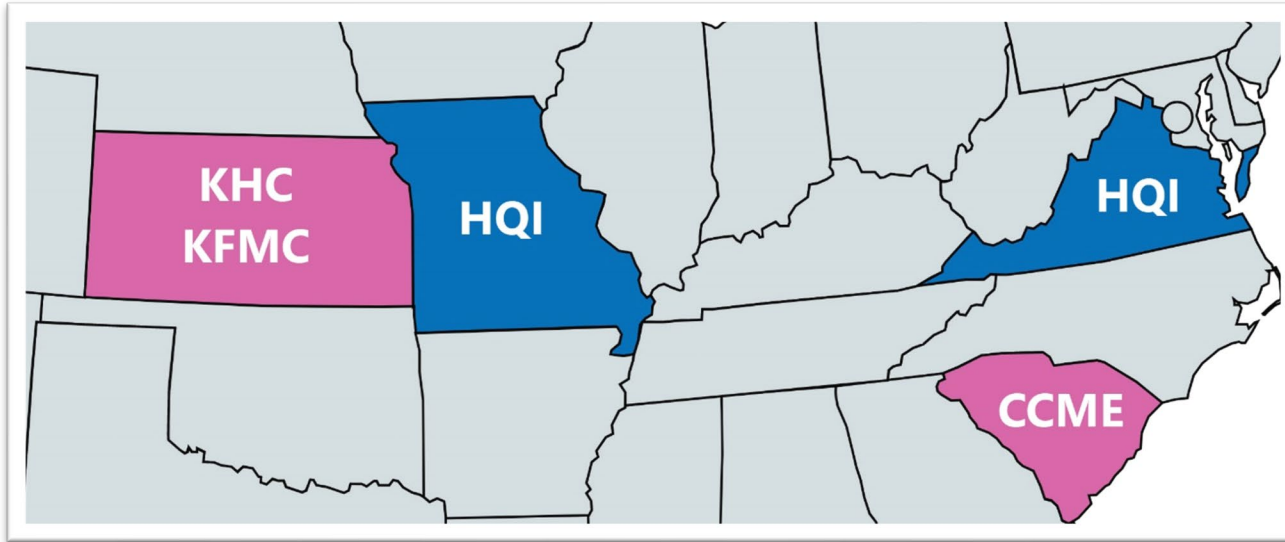
Health Quality Innovation Network

*Simple Strategies Stand-Up*

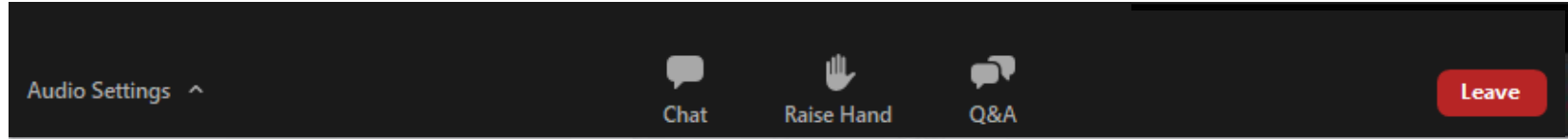
# Is It Really a UTI? Do You Know It When You See It?

7/11/2023

# Health Quality Innovation Network



# Logistics – Zoom Webinar



To ask a question, click on the **Q&A** icon.

Resources from today's session will be posted in **Chat**.

You may adjust your audio by clicking **Audio Settings**.

You have been automatically muted with video turned off.

# Your Team



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# Today's Guest Presenter



**Danny W. Felty  
MD, FFAFP, CMD**

# Objectives

- Define symptomatic UTI versus asymptomatic bacteriuria
- Review UTI assessment criteria
- Discuss communication with prescribers
- Identify UTI prevention strategies



# Why Focus on UTIs in the Nursing Home?

- UTIs are the most frequently reported infections in long term care<sup>1</sup>
- UTIs are a significant cause for hospital readmissions and sepsis<sup>1</sup>
- Monitoring of symptomatic UTIs helps identify trends in these infections and provide data to improve antibiotic use in your facility:
  - 30-60% of antibiotics in SNFs are for suspected UTIs<sup>2</sup>
  - 40-75% of those antibiotics used may be unnecessary or inappropriate<sup>2</sup>



1. Agency for Healthcare Research and Quality (AHRQ) Safety Program for Long-Term Care  
2. CDC's The Core Elements of Antibiotic Stewardship in Nursing Homes



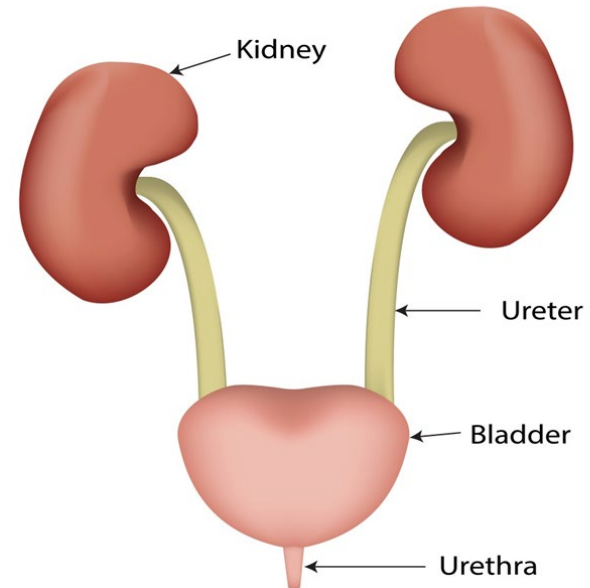
# Urinary Tract Infection

## Definition

An infection that involves any of the organs or structures of the urinary tract, including the kidneys, ureters, bladder and urethra.

Most commonly, it is a bladder infection.

## The Urinary System



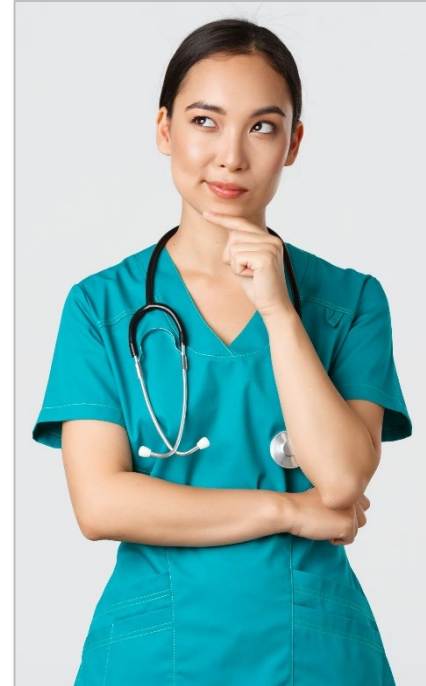
# Risk Factors

- Age (especially over 85)
- Female
- Neurogenic bladder
- Reduced mobility
- Incontinence
- Previous UTI
- Prostate enlargement
- Kidney stones
- Catheters: Foley and condom caths



# Diagnosing UTIs in the Nursing Home

Is it a  
UTI?



# Detecting an Infection

## Can be more difficult in the elderly

- May have subtle symptoms
- May not display “classic” symptoms due to inadequate immune response
- Co-morbidities may impair resident’s ability to verbalize or recognize symptoms

## You should investigate:

- New or increased confusion
- Reduced food intake
- Falls
- New or worsening incontinence



# But There's a Change in Mental Status

**Get a  
urine  
culture!**



**Call the  
doctor!**

# Remember When...

A nursing home UTI used to be characterized by foul smelling, cloudy urine or a change in mental status

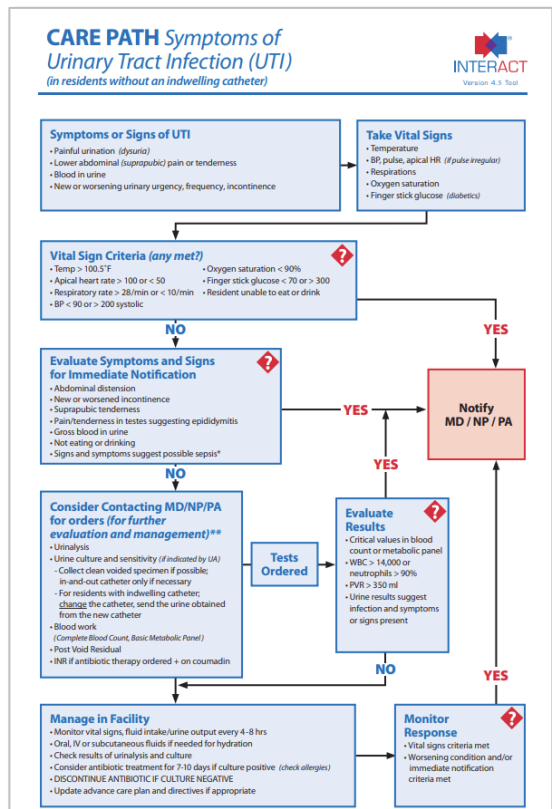


McGeer Criteria 2012 for Surveillance
<p><b>Residents <u>without</u> an indwelling catheter:</b> One of the signs or symptom subcriteria and one of the microbiologic subcriteria must be present:</p> <p><b>Signs or symptoms subcriteria include:</b></p> <ol style="list-style-type: none"> <li>Acute dysuria or acute pain, swelling or tenderness of the testes, epididymis, or prostate</li> <li><b>If fever or leukocytosis are present one of the signs or symptoms localizing subcriteria must be present:</b> Acute costovertebral angle pain or tenderness, suprapubic pain gross hematuria, new or marked increase in incontinence, new or marked increase in urgency, or new or marked increase in frequency</li> <li><b>In the absence of fever or leukocytosis</b>, two or more of the signs or symptoms localizing subcriteria in item 2 must be present</li> </ol> <p><b>Microbiologic subcriteria include:</b></p> <ol style="list-style-type: none"> <li>At least 10<sup>5</sup> cfu/mL of no more than 2 species of microorganisms in a voided urine sample</li> <li>At least 10<sup>2</sup> cfu/mL of any number of organisms in a specimen collected by in-and-out catheter</li> </ol>

Loeb Criteria Minimum Criteria for Initiation of Antibiotics in Long-Term Care Residents
<p><b>Resident <u>without</u> an indwelling catheter</b></p> <ul style="list-style-type: none"> <li>Acute dysuria</li> </ul> <p><b>or</b></p> <ul style="list-style-type: none"> <li>Fever (&gt;37.8°C (100°F) or a 1.5°C (2.4°F) increase above baseline temperature) <b>and</b> at least one of the following: New or worsening: Urgency Frequency Suprapubic pain Gross hematuria Costovertebral angle tenderness Urinary incontinence</li> </ul> <p><b>Resident <u>with</u> an indwelling catheter</b></p> <p>At least one of the following:</p> <ul style="list-style-type: none"> <li>Fever (&gt;37.8°C (100°F) or a 1.5°C (2.4°F) increase above baseline temperature)</li> <li>New costovertebral tenderness</li> <li>Rigors</li> <li>New onset of delirium</li> </ul> <p><b>Note:</b> Foul smelling or cloudy urine is not a valid indication for initiating antibiotics</p>

National Healthcare Safety Network	
<b>Criterion</b>	<i>For residents <b>without</b> an indwelling catheter in place or removed &gt;2 calendar days prior to the date of event, where day of catheter removal is equal to day 1:</i>
<b>1</b>	<p><b>Either</b> of the following (Signs &amp; Symptoms):</p> <ol style="list-style-type: none"> <li>Acute dysuria</li> <li>Acute pain, swelling, or tenderness of the testes, epididymis, or prostate</li> </ol> <p><b>AND</b> A positive urine culture with no more than 2 species of microorganisms, at least one of which is a bacterium of ≥10<sup>5</sup> CFU/ml</p>
<b>2</b>	<p><b>Either</b> of the following:</p> <ol style="list-style-type: none"> <li>Fever<sup>+</sup> [Single temperature ≥ 37.8°C (&gt;100°F), or &gt;37.2°C (&gt; 99°F) on repeated occasions (more than once), or an increase of &gt;1.1°C (&gt;2°F) over baseline]</li> <li>Leukocytosis [defined by NHSN as &gt; 10,000 cells/mm<sup>3</sup>, or Left shift (&gt; 6% or 1,500 bands/mm<sup>3</sup>)]</li> </ol> <p><b>AND</b> <b>One or more</b> of the following (New and/or marked increase):</p> <ol style="list-style-type: none"> <li>Costovertebral angle pain or tenderness</li> <li>Suprapubic tenderness</li> <li>Visible (Gross) hematuria</li> <li>Incontinence</li> <li>Urinary urgency</li> <li>Urinary frequency</li> </ol> <p><b>AND</b> A positive urine culture with no more than 2 species of microorganisms, at least one of which is a bacterium of ≥10<sup>5</sup> CFU/ml</p>
<b>3</b>	<p><b>Two or more</b> of the following (New and/or marked increase):</p> <ol style="list-style-type: none"> <li>Costovertebral angle pain or tenderness</li> <li>Incontinence</li> <li>Urinary urgency</li> <li>Urinary frequency</li> <li>Suprapubic tenderness</li> <li>Visible (gross) hematuria</li> </ol> <p><b>AND</b> A positive urine culture with no more than 2 species of microorganisms, at least one of which is a bacterium of ≥10<sup>5</sup> CFU/ml</p> <p><b>Footnote:</b> +Since fever is a non-specific symptom, it should be used to meet SUTI criteria even if the resident has another possible cause for the fever (for example, pneumonia).</p>

# Which Criteria Do You Follow?



- Meet with your medical director to determine criteria/UTI definition that works best for your prescribers and your team
- Our guest speaker today will cover the physician's perspective on UTIs in the nursing home
- INTERACT® has a **UTI Care Path** available for download



# When Should a U/A C&S Be Sent?

- Urine testing should be performed when a resident has localized urinary tract signs and/or symptoms
- Odorous or cloudy urine are NOT indications for urine culture or analysis – these changes alone do not represent a UTI
- In one study, using urine odor to identify bacteriuria resulted in error in 1/3 of cases
- Even if urine odor is caused by bacteriuria, this does not indicate that infection needs to be treated unless other symptoms are present



# Important Definitions

## Bacteriuria

- Bacteria in the urine
- Resident has a positive urine culture

## Asymptomatic Bacteriuria (ASB)

- Bacteriuria in the absence of genitourinary signs or symptoms

## Symptomatic UTI

- Bacteriuria in the presence of genitourinary symptoms
  - Symptoms may include fever, dysuria, suprapubic pain or tenderness, frequency or urgency



# Why Not Treat It Just in Case?

Multiple randomized clinical trials in treating **asymptomatic bacteriuria** in LTC residents have shown NO benefit

- No difference in the # of symptomatic UTIs
- No improvement in survival
- Does not reduce risk of sepsis

**Asymptomatic bacteriuria treatment** is known to cause:

- Increased adverse drug events
- *Clostridium difficile* (*C. diff*) infection
- Increased antibiotic-resistant organisms



# The Physician Perspective

## Resident

- Receive the best care possible
- Have engaged medical decision-making

## Caregiver

- Receive care as well as appropriate education and support

## Facility Engagement

- QAPI processes
- With IP and regard to antibiotic stewardship

## Awareness of Other Issues

- Complex residents
  - Catheters
  - Chronic GU issues
- Complex issues
  - Timing of medical issues
  - Staffing
  - Communication challenges

# When Calling the Prescriber

## SBAR Tools for UTI

- Situation
- Background
- Assessment
- Recommendation

Suspected UTI SBAR

Complete this form before contacting the resident's physician. Date/Time \_\_\_\_\_

Nursing Home Name \_\_\_\_\_

Resident Name \_\_\_\_\_ Date of Birth \_\_\_\_\_

Physician/NP/PA \_\_\_\_\_ Phone \_\_\_\_\_

\_\_\_\_\_ Fax \_\_\_\_\_

Nurse \_\_\_\_\_ Facility Phone \_\_\_\_\_

Submitted by  Phone  Fax  In Person  Other \_\_\_\_\_

---

**S Situation**

I am contacting you about a suspected UTI for the above resident.

Vital Signs BP \_\_\_\_\_ / \_\_\_\_\_ HR \_\_\_\_\_ Resp. rate \_\_\_\_\_ Temp. \_\_\_\_\_

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**B Background**

Active diagnoses or other symptoms (especially, bladder, kidney/genitourinary conditions)

Specify \_\_\_\_\_

No  Yes The resident has an indwelling catheter

No  Yes Patient is on dialysis

No  Yes The resident is incontinent. **If yes, new/worsening?**  No  Yes

No  Yes Advance directives for limiting treatment related to antibiotics and/or hospitalizations

Specify \_\_\_\_\_



No  Yes Medication Allergies

Specify \_\_\_\_\_

\_\_\_\_\_

No  Yes The resident is on Warfarin (Coumadin®)

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www.ahrq.gov/NH-ASPGuide • June 2014  
AHRQ Pub. No. 14-0010-2-EF

# SBAR & INTERACT®

## Where are these fantastic tools?

- [Toolkit 1. Suspected UTI SBAR Toolkit | Agency for Healthcare Research and Quality](#)
- [INTERACT® Version 4.5 Tools For SNFs/Nursing Homes – Pathway](#)

Nursing Home Name \_\_\_\_\_ Facility Fax \_\_\_\_\_  
Resident Name \_\_\_\_\_

**A Assessment Input (check all boxes that apply)**

Resident WITH indwelling catheter The criteria are met to initiate antibiotics if one of the below are selected	Resident WITHOUT indwelling catheter Criteria are met if one of the three situations are met
<b>No Yes</b> <input type="checkbox"/> <input type="checkbox"/> Fever of 100°F (38°C) or repeated temperatures of 99°F (37°C)* <input type="checkbox"/> <input type="checkbox"/> New back or flank pain <input type="checkbox"/> <input type="checkbox"/> Acute pain <input type="checkbox"/> <input type="checkbox"/> Rigors /shaking chills <input type="checkbox"/> <input type="checkbox"/> New dramatic change in mental status <input type="checkbox"/> <input type="checkbox"/> Hypotension (significant change from baseline BP or a systolic BP <90)	<b>No Yes</b> <input type="checkbox"/> <input type="checkbox"/> 1. Acute dysuria alone <b>OR</b> <input type="checkbox"/> <input type="checkbox"/> 2. Single temperature of 100°F (38°C) and at least one new or worsening of the following: <input type="checkbox"/> urgency <input type="checkbox"/> suprapubic pain <input type="checkbox"/> frequency <input type="checkbox"/> gross hematuria <input type="checkbox"/> back or flank pain <input type="checkbox"/> urinary incontinence <b>OR</b> <input type="checkbox"/> <input type="checkbox"/> 3. No fever, but two or more of the following symptoms: <input type="checkbox"/> urgency <input type="checkbox"/> suprapubic pain <input type="checkbox"/> frequency <input type="checkbox"/> gross hematuria <input type="checkbox"/> incontinence

**Nurses:** Please check box to indicate whether or not criteria are met  
 **Nursing home protocol criteria are met.** Resident may require UA with C&S or an antibiotic.†  
 **Nursing home protocol criteria are NOT met.** The resident does NOT need an immediate prescription for an antibiotic, but may need additional observation.††

**R Request for Physician/NP/PA Orders**

Orders were provided by clinician through:  Phone  Fax  In Person  Other \_\_\_\_\_

Order UA  
 Urine culture  
 Encourage \_\_\_\_\_ ounces of liquid intake \_\_\_\_\_ times daily until urine is light yellow in color.  
 Record fluid intake.  
 Assess vital signs for \_\_\_\_\_ days, including temp, every \_\_\_\_\_ hours for \_\_\_\_\_ hours.  
 Notify Physician/NP/PA if symptoms worsen or if unresolved in \_\_\_\_\_ hours.  
 Initiate the following antibiotic  
 Antibiotic: \_\_\_\_\_ Dose: \_\_\_\_\_ Route: \_\_\_\_\_ Duration: \_\_\_\_\_  
 No  Yes Pharmacist to adjust for renal function  
 Other \_\_\_\_\_

Physician/NP/PA signature \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Telephone order received by \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Family/POA notified (name) \_\_\_\_\_ Date/Time \_\_\_\_\_

\* For residents that regularly run a lower temperature, use a temperature of 2°F (1°C) above the baseline as a definition of a fever.  
 † This is according to our understanding of best practices and our facility protocols. Minimum criteria for a UTI must meet 1 of 3 criteria listed in box.  
 †† This is according to our understanding of best practices and our facility protocols. The information is insufficient to indicate an active UTI infection.

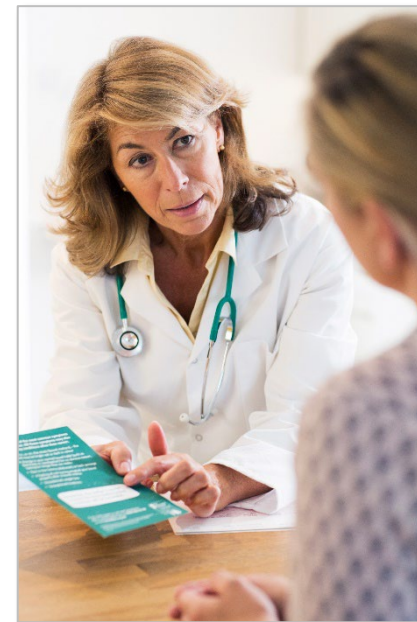
# UTI Prevention

- Hand hygiene for both residents and staff
- Genital hygiene
- Adequate hydration
- Routine toileting
- Consider alternatives to indwelling catheters



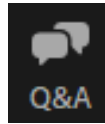
# Resident and Family Education

- What is a UTI
- When antibiotics are prescribed for UTIs
- What antibiotics are and the associated risks
- What the nursing home is doing
- Ways to make sure a resident is getting the best care





# Questions? Comments? Share With Colleagues What is Working or What is Difficult for Your Team!



Type a question by clicking the **Q&A** icon

*Don't hesitate to ask a question at any time  
during the presentation of the remaining slides*

# FOR MORE INFORMATION

Call 877.731.4746 or visit [www.hqin.org](http://www.hqin.org)

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From HQIN:

To all essential care giving teams  
supporting residents and families,

*Thank you for attending*

# CONNECT WITH US

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