


  
**NATIONAL HEALTHCARE SAFETY NETWORK**
  
**CATHETER-ASSOCIATED URINARY TRACT**
  
**INFECTION (CAUTI) - SURVEILLANCE**

Key Concepts  
Definitions



1

**REFERENCE ACKNOWLEDGMENT**
  
**2024 NHSN ANNUAL TRAINING**

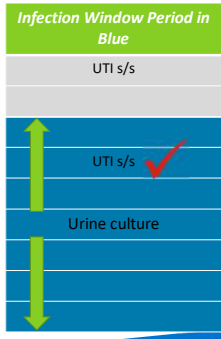
► CAUTION: Is it a CAUTI? Know your CAUTI criteria
   
*Amber Taylor, MPH, BSN, RN, a-IPC*
  
*Protocol and Training Team*

2

**KEY CONCEPT: INFECTION WINDOW PERIOD**

► + Urine culture is always use to set the IWP
   
 ► Use only eligible UTI element within the IWP
 


- Urine culture
- UTI signs/symptoms (s/s) OR matching blood organism



3

**KEY CONCEPT: UTI DATE OF EVENT**

► The UTI DOE is the date the first element used to meet a UTI criterion occurs for the first time within the 7-day IWP
   
 ► First element may be culture OR sign/symptom



DATE	SUTI Criterion	IUC day
3/25	CVA, IUC inserted	1
3/26	IUC in place	2
3/27	IUC in place	3
3/28	IUC discontinued	4
3/29	No fever	
3/30	Elevated wbc's	
3/31	urine culture >100,000 CFU/ml E.coli	
4/1		
4/2		
4/3		

4

**KEY CONCEPT: UTI RIT**

► 14-day timeframe where no 'new' UTI events are reported (SUTI or ABUTI). All UTI events identified set an RIT and SBAP-includes non-catheter-associated events and POA events
   
 ► The RIT for a UTI event is a 'fixed' 14 days. "New" urine cultures identified in the RIT with different eligible pathogens from original culture are added to the event

**NOTE: The original date of event is maintained and DO NOT change device association during the RIT**

5

**TWO SCENARIOS FOR 2<sup>ND</sup> BSI CAN BE APPLIED TO UTI**

► **Scenario 1- Matching organism concept:** At least one organism identified in a positive **BLOOD** culture matches an organism identified from the **URINE** culture used to meet SUTI criteria **AND** the blood culture is collected in the SBAP (IWP + RIT)
   
**OR**
  
 ► **Scenario 2- ABUTI:** The + BC is used as an element in meeting the UTI criterion ABUTI (and collected during UTI IWP)

6

## KEY CONCEPT: INDWELLING URINARY CATHETER (IUC)

- ▶ A drainage tube that is inserted into the urinary bladder through the urethra, is left in place, and is connected to a drainage bag (including leg bags).
- ▶ IUCs are also often called Foley catheters.
- ▶ IUCs used for intermittent or continuous irrigation are also included in CAUTI surveillance.

7

## UTI SITE SPECIFIC CONCEPTS

Unless an IUC is also present, the following do NOT qualify as an IUC

- ▶ Suprapubic catheter
- ▶ Nephrostomy tubes
- ▶ Urostomy
- ▶ Ileal conduit
- ▶ Perineal urethrostomy

### NOTE:

- ▶ Urine collected from **any** source, including the above sites, **CAN** be used to determine a UTI.

8

## URINE CULTURES

### ▶ Eligible Urine Culture

- ▶  $\geq 100K$  CFU/ml of at least one eligible organism.
- ▶ AND
- ▶ No more than two organisms.

### ▶ Urine Source

- ▶ **Any** source, including urine collection devices, such as nephrostomy tubes.

9

## URINE CULTURES

### • Excluded Organisms:

- Any yeast or yeast species, mold, dimorphic fungi or parasites or mold, **including** *Candida auris*
  - Blood with these organisms cannot be secondary to UTIs
- Excluded organisms **can** be in an eligible urine culture, if there is **one** bacterium with  $\geq 100K$  CFU/ml in addition to the excluded organism.

#### Example:

- ▶ Eligible urine culture:  $> 100K$  CFU/ml of *Escherichia coli* and  $> Candida albicans$ .
- ▶ Ineligible urine culture:  $> 100K$  CFU/ml of *Escherichia coli*,  $> 100K$  CFU/ml of *Klebsiella pneumoniae*, and yeast.

10

## URINE CULTURES

### ▶ Mixed Flora

- ▶ Implies  $> 2$  organisms and does **not** meet NHSN UTI criteria
  - ▶ Ineligible urine culture:  $\geq 100K$  CFU/ml of *A.baumannii* and  $10K$  CFU/ml of mixed flora

### ▶ Sensitivities

- ▶ A urine culture that has sensitive and resistant bacteria in the same culture, it is **not** considered two different organisms.
  - ▶ Example:  $> 100K$  MSSA and  $\geq 100K$  MRSA are considered the same organism.

11

## URINE CULTURES

### ▶ Colony Count Ranges

- ▶  $75K$  to  $100K$  does **NOT** meet NHSN UTI criteria.

### ▶ Morphology

- ▶ Differing morphology does **NOT** affect organism count

#### ▶ Eligible Urine Culture

- ▶ *E. coli* #1  $> 100,000$  CFU/ml
- ▶ *E. coli* #2  $> 10,000$  CFU/ml
- ▶ *Staph Aureus*  $> 100,000$  CFU/ml

One Organism

12

## CATHETER DAY COUNT

- Day of insertion = Catheter Day 1.
  - If the catheter is present at the time of admission, then the date of admission (DOA) = Catheter Day 1.
- Each day an IUC is in place for **any** portion of the day counts as an IUC day.
  - When an IUC is removed and later replaced, the IUC day count continues uninterrupted **unless** the patient is without an IUC for at least 1 full calendar day (**NOT to be read as 24 hours**).
  - If there is a full calendar day interruption, the IUC day count will start anew with new IUC placement.

13

## URINARY TRACT INFECTION (UTI) DEFINITIONS

- There are two specific types of UTI:
  - Symptomatic UTI (**SUTI**)
    - **SUTI 1a**- Catheter-associated Urinary Tract Infection (CAUTI) in any age patient
    - **SUTI 1b**- Non-Catheter-associated Urinary Tract Infection (Non-CAUTI) in any age patient
    - **SUTI 2** – CAUTI or Non-CAUTI in patients 1 years of age or less
  - Asymptomatic Bacteremic UTI (**ABUTI**)
 

*Both types, if catheter-associated, must be reported as part of any CMS CAUTI reporting requirements.*

14

## UTI DEFINITIONS

- **SUTI 1a: Catheter-associated Urinary Tract Infection (CAUTI)**
- Patient must meet **1, 2, and 3** during the IWP

- 1 Patient had an indwelling urinary catheter (IUC) that had been in place for more than 2 consecutive days in an inpatient location on the day of event and either:
  - Present for any portion of the calendar day on the DOE **OR**
  - Removed the day before the DOE
- 2 Patient has at least one of the following signs or symptoms:
  - Fever ( $>38^{\circ}\text{C}$ )
  - Suprapubic tenderness\*
  - Costovertebral angle pain or tenderness\*
  - Urinary urgency\*
  - Urinary frequency\*
  - Dysuria\*

\* No other recognized cause  
^ These symptoms cannot be used when catheter is in place
- 3 Patient has a urine culture with no more than two species of organisms identified, at least one of which is a bacterium of  $\geq 10^5$  CFU/ml

15

## SYMPTOMS



- Fever is a **non-specific symptom** of infection and cannot be excluded from UTI determination because it is clinically deemed due to another recognized cause.
- Suprapubic tenderness whether elicited on palpation or as a subjective complaint of suprapubic pain is acceptable as part of the criteria if documented in the medical record during the IWP.
  - Lower abdominal pain or bladder or pelvic discomfort are examples of symptoms that be used as suprapubic tenderness.
  - Generalized "abdominal pain" in the medical record is not to be interpreted as suprapubic tenderness as there are many causes of abdominal pain and is too general.
- Left or right or bilateral lower back are examples of symptoms that can be used as costovertebral angle pain or tenderness.
  - Generalized "low back pain" is not to be interpreted as costovertebral angle pain or tenderness as there can be many causes of low back pain.

16

## UTI DEFINITIONS

- **SUTI 1b: Non-Catheter-associated Urinary Tract Infection (Non-CAUTI)**
- Patient must meet **1, 2, and 3** during the IWP

- 1 One of the following is true:
  - Patient has/had an IUC, but it has/had not been in place for more than 2 consecutive days in an inpatient location on the DOE **OR**
  - Patient did not have an IUC in place on the DOE nor the day before the DOE
- 2 Patient has at least one of the following signs and symptoms:
  - Fever ( $>38^{\circ}\text{C}$ )
  - Suprapubic tenderness\*
  - Costovertebral angle pain or tenderness\*
  - Urinary urgency\*
  - Urinary frequency\*
  - Dysuria\*

\* No other recognized cause
- 3 Patient has a urine culture with no more than two species of organisms identified, at least one of which is a bacterium of  $\geq 10^5$  CFU/ml

17

## NEW IN 2025

**Spinal Cord Injury-associated Neurogenic Bladder (SCI-NB):** For the purpose of NHSN reporting, neurogenic bladder is a condition in which there is dysfunction or damage to the nerves that control the bladder as a result of a spinal cord injury. In order to answer "Yes" to the "Neurogenic bladder" field within the NHSN application you must utilize:

- One of the ICD-10-CM diagnosis codes that indicates a diagnosis of spinal cord injury (SCI) **AND**
- One of the ICD-10-CM diagnosis codes that indicates a diagnosis of neurogenic bladder (NB)

In tandem, these diagnostic codes define SCI-NB for NHSN surveillance purposes. For a complete list of eligible ICD-10-CM codes please visit the Urinary Tract Infection (UTI) Events section of the NHSN website under "[Supporting Materials](#)".

18

## FIND YOUR UTI DEFINITION

19

## KNOWLEDGE CHECK-IS THIS A CAUTI?

### True or False

The patient's complaint of urinary frequency on 3/28 is after the IUC was removed, so can be used to meet SUTI

Date	Details
3/25	Patient admitted to acute care hospital for CVA; IUC inserted
3/26	IUC in place
3/27	IUC in place
3/28	IUC discontinued early morning, at noon complained of urinary frequency
3/29	No fever
3/30	Elevated WBCs
3/31	Positive urine culture with $>10^5$ CFU/ml <i>E. coli</i>

20

## SUTI KNOWLEDGE CHECK IS THIS A CAUTI?

- 3/31 Positive urine culture sets the IWP: 3/28-4/3

**The 3/28 urinary frequency is first element to occur within the IWP therefore it is the DOE**

- The IUC was in place > 2 days on the DOE = HAI SUTI 1a-CAUTI

Date	SUTI Criterion	IUC Day
3/25 Admit	CVA, IUC inserted	1
3/26	IUC in place	2
3/27	IUC in place	3
3/28	IUC discontinued; urinary frequency	4
3/29	No fever	
3/30	Elevated WBCs	
3/31	Urine culture $> 10^5$ CFU/ml <i>E. coli</i>	

21

## UTI DEFINITIONS

- SUTI 2: CAUTI or Non-CAUTI in patients 1 year of age or less

- Patient must meet **1, 2, and 3** during the IWP

1	Patient is < 1 year of age (with or without an indwelling urinary catheter)
2	Patient has at least one of the following signs or symptoms <ul style="list-style-type: none"> <li>Fever (<math>&gt;38^\circ\text{C}</math>)</li> <li>Hypothermia (<math>&lt;36.0^\circ\text{C}</math>)</li> <li>Apnea*</li> <li>Bradycardia*</li> <li>Lethargy*</li> <li>Vomiting*</li> <li>Suprapubic tenderness*</li> </ul>
3	Patient has a urine culture with no more than two species of organisms identified, at least one of which is a bacterium of $\geq 10^5$ CFU/ml

\* No other recognized cause

22

## ASYMPTOMATIC BACTEREMIC URINARY TRACT INFECTION (ABUTI) – all ages

Patient must meet **1, 2, and 3** below:

- Patient with or without an indwelling urinary catheter has **no signs or symptoms of SUTI 1 or 2 according to age**
- Patient has a urine culture with no more than two species of organisms identified, **at least one of which is a bacterium of  $>10^5$  CFU/ml**
- Patient has organism identified from blood specimen with at least **one matching** bacterium to the bacterium identified in the urine specimen **OR** meets LCBI criterion 2 (without fever) and matching common commensals(s) in the urine

23

## ASYMPTOMATIC BACTEREMIC URINARY TRACT INFECTION (ABUTI) KNOWLEDGE CHECK

Date	Details
2/20	Patient admitted to ICU with MI, IUC inserted
2/21-23	No UTI signs/symptoms
2/24	Elevated WBCs, no UTI s/s, positive blood with <i>S. aureus</i> and positive urine culture with $> 10^5$ CFU/ml <i>S. aureus</i>
2/25-2/27	No UTI s/s
2/28	IUC removed, Discharged to home

Is this a reportable UTI?

24

## COMMON MISCONCEPTIONS



- ▶ **UTI as secondary infection - Never**
  - UTI is a primary site of infection and **cannot** be considered secondary to another site of infection.
- ▶ **Positive urine culture on admission automatically = Present on Admission (POA) – No**
  - A Positive urine culture during the POA timeframe without UTI signs or symptoms nor matching blood organism in the IWP is not an event **and can therefore this not meet POA.**
- ▶ **UTI signs or symptoms such as fever on admission automatically = POA- No**
  - The positive urine culture sets the IWP, therefore if the sign or symptom occurs before the IWP set by the urine culture it cannot be POA.
- ▶ **RIT continues during readmission- No**
  - The RIT applies during a patient's single admission, including the day of discharge and the after, in keeping with the transfer rule.
  - An RIT does not carry over from the one admission the another even if the readmission is to the same facility.

25

## RESOURCES:

- ▶ CAUTI Surveillance  
<https://www.cdc.gov/nhsn/psc/uti/index.html>
- Patient Safety Component Manual
  - Chapter 2-Identifying HAI for NHSN Surveillance
  - Chapter 7-Urinary Tract Infection (UTI) Event
  - Chapter 16-NHSN Key Terms
- FAQs

26

## QUESTIONS



27