



URINARY TRACT INFECTION (UTI)



(Last updated January 1, 2015)

Present on Admission (POA): Infections that are POA, as defined in the “Additional Information” checklist, are not considered HAIs and therefore are never reported to NHSN.

Healthcare-associated infections (HAI): All NHSN site specific information must first meet the HAI definition as defined in the “Additional Information” checklist before a site specific infection (e.g., CAUTI) can be reported to NHSN.

Urinary tract infections (UTI) are defined using Symptomatic Urinary Tract Infection (SUTI) criteria, Asymptomatic Bacteremic UTI (ABUTI), or Urinary System Infection (USI) criteria. For additional information, see table below called “Associating Catheter Use to UTI” and condition specific checklist.

Date of event (DOE): For a UTI, the date of event is the date when the first element used to meet the UTI infection criterion occurred for the first time within the 7-day Infection Window Period. Synonyms: infection date, event date.

Indwelling catheter: 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). These devices are also called Foley catheters. Condom or straight in-and-out catheters are not included nor are nephrostomy tubes, ileoconduits, or suprapubic catheters unless a Foley catheter is also present. Indwelling urethral catheters that are used for intermittent or continuous irrigation are included in CAUTI surveillance.

Catheter-associated UTI (CAUTI): A UTI where

- An indwelling urinary catheter was in place for >2 calendar days on the date of event, with day of device placement being Day 1
- AND**
- An indwelling urinary catheter was in place on the date of event or the day before. If an indwelling urinary catheter was in place for >2 days and then removed, the date of event for the UTI must be the day of discontinuation or the next day for the UTI to be catheter-associated.

EXAMPLE of Associating Catheters Use to UTI:

A patient in an inpatient unit has a Foley catheter inserted and the following day is the date of event for a UTI. Because the catheter has not been in place >2 calendar days on the date of event, this is not a CAUTI. However, depending on the date of admission, this may be a healthcare-associated UTI.

NOTES:

- SUTI 1b and Urinary System Infection (USI) cannot be catheter-associated.
- Indwelling urinary catheters that are removed and reinserted: If, after indwelling urinary catheter removal, the patient is without an indwelling urinary catheter for at least 1 full calendar day (NOT to be read as 24 hours), then the urinary catheter day count will start anew. If instead, a new indwelling urinary catheter is inserted before a full calendar day has passed without an indwelling urinary catheter being present, the urinary catheter day count will continue.

**Surveillance Definitions
URINARY TRACT INFECTION (UTI)**

Associating Catheter Use to UTI

	March 31 Hospital Day 3	April 1	April 2	April 3	April 4	April 5	April 6
Patient A	Foley Day 3	Foley Day 4	Foley removed Foley Day 5	Foley replaced Foley Day 6	Foley Day 7	Foley removed Day 5	No Foley
Patient B	Foley Day 3	Foley Day 4	Foley removed Foley Day 5	No Foley	Foley replaced Foley Day 1	Foley Day 2	Foley Day 3

Rationale:

NHSN surveillance for infection is not aimed at specific devices. Instead, surveillance is aimed at identifying risk to the patient that is the result of devices use in general.

- In the examples above, Patient A is eligible for a CAUTI beginning on March 31, through April 6th, since a Foley was in place for some portion of each calendar day until April 6th. A UTI with date of event on April 6th would be a CAUTI since the catheter has been in place >2 days and was removed the day before the date of event.
- Patient B is eligible for a CAUTI on March 31 (Foley Day 3) through April 3. The catheter had been in place >2 days and an HAI occurring on the day of device discontinuation or the following calendar day is considered a device-associated infection.

Location of Attribution: The inpatient location where the patient was assigned on the date of the UTI event. For additional information, see “Date of event” definition above, and “Exception to Location of Attribution” below.

EXCEPTION TO LOCATION OF ATTRIBUTION:

Transfer Rule: If the date of event for a CAUTI is on the date of transfer or discharge, or the next day, the infection is attributed to the transferring/discharging location. This is called the Transfer Rule and examples are shown below. Receiving facilities should share information about such HAIs with the transferring location or facility to enable reporting.

Examples of the Transfer Rule:

- Patient in the SICU with a Foley catheter, which has been in place for 5 days, is transferred to a surgical ward. The next day is determined to be the date of event for a CAUTI. This is reported to NHSN as a CAUTI for the SICU.
- Patient is transferred in the morning to the medical ward from the MSICU after having the Foley catheter removed, which had been in place for 6 days. Later that night, the patient experiences urinary frequency and the next day, all other UTI criteria are met. This is reported to NHSN as a CAUTI for the MSICU as the date of event (date when the first element of UTI criteria, first appeared during the infection window) was the day of transfer from that location.



Surveillance Definitions
URINARY TRACT INFECTION (UTI)

- On Monday, patient with a Foley catheter in place is transferred from the medical ward to the coronary care unit (CCU). Wednesday in the CCU, patient has a fever and urine culture collected that day is positive for 100,000 CFU/ml of *E. coli*. This is reported to NHSN as a CAUTI for the CCU, as the UTI event date is LATER THAN the day after transfer.
- A patient has a Foley catheter removed on catheter day 5 and is discharged the same day from hospital A's urology ward. The next day, the IP from Hospital B calls to report that this patient has been admitted to Hospital B meeting UTI criteria. This CAUTI should be reported to NHSN for Hospital A and attributed to the urology ward.

Multiple Transfers: In instances where a patient has been transferred to more than one location on the date of a UTI, or the day before, attribute the UTI to the **first** location in which the patient was housed the **day before** the UTI's date of event.

NOTE: Example of multiple transfers within the transfer rule time-frame:

	3/22	3/23	3/24
Locations in which patient was housed	Unit A	Unit A Unit B Unit C	Unit C Unit D This is also the date of event for a CAUTI. CAUTI is attributed to Unit A since Unit A was the first location in which the patient was housed the day before the date of event.

SUTI – Symptomatic Urinary Tract Infection

DEFINITION: A symptomatic urinary tract infection must meet at least **ONE** ☐ of the following criteria:

☐ **Criterion 1a:** *(Last updated January 1, 2015)*

- Patient has **BOTH** ☐ the following:
 - ☐ an indwelling urinary catheter in place for the entire day on the date of event
 - ☐ catheter had been in place for >2 calendar days on that date, with day of device placement being Day 1

AND
- Patient has at least **ONE** ☐ of the following signs or symptoms: *(*with no other recognized cause)*
 - ☐ fever (>38°C)
 - ☐ suprapubic tenderness*
 - ☐ costovertebral angle pain or tenderness*

AND
- Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ colony-forming units CFU/ml. All elements of the UTI criterion must occur during the Infection Window Period**. (***See “Additional Information” checklist for definition of Infection Window Period.*)

OR

- Patient has **BOTH** ☐ the following:
 - ☐ an indwelling urinary catheter in place for >2 calendar days
 - ☐ catheter was removed the day of, or the day before the date of event

AND
- Patient had at least **ONE** ☐ of the following signs or symptoms: *(*with no other recognized cause)*
 - ☐ fever (>38.0 °C)
 - ☐ suprapubic tenderness*
 - ☐ costovertebral angle pain or tenderness*
 - ☐ urinary urgency*
 - ☐ urinary frequency*
 - ☐ dysuria*

AND



URINARY TRACT INFECTION (UTI)



- Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ colony-forming units CFU/ml. All elements of the UTI criterion must occur during the Infection Window Period**. (**See “*Additional Information*” checklist for definition of Infection Window Period.)

NOTES:

- Fever and hypothermia are non-specific symptoms of infection and cannot be excluded from UTI determination because they are clinically deemed due to another recognized cause.



TENNESSEE DEPARTMENT OF HEALTH
HEALTHCARE-ASSOCIATED INFECTIONS AND ANTIMICROBIAL RESISTANCE PROGRAM
Surveillance Definitions
URINARY TRACT INFECTION (UTI)



Criterion 1b: *(Last updated January 1, 2015)*

- Patient has **ONE** Δ the following:
 - Δ indwelling urinary catheter, but it has not been in place for >2 calendar days
 - Δ did not have a urinary catheter in place on the date of event nor the day before the date of event

AND
- Patient has at least **ONE** Δ of the following signs or symptoms: *(*with no other recognized cause)*
 - Δ fever ($>38.0^{\circ}\text{C}$) in a patient that is ≤ 65 years of age
 - Δ suprapubic tenderness*
 - Δ costovertebral angle pain or tenderness*
 - Δ urinary frequency*
 - Δ urinary urgency*
 - Δ dysuria*

AND
- Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ colony-forming units CFU/ml. All elements of the UTI criterion must occur during the Infection Window Period**. (**See “Additional Information” checklist for definition of Infection Window Period.)

NOTES:

- An indwelling urinary catheter in place would constitute “other recognized cause” for patient complaints of “frequency”, “urgency” or “dysuria” and therefore these cannot be used as symptoms when catheter is in place.
- Fever and hypothermia are non-specific symptoms of infection and cannot be excluded from UTI determination because they are clinically deemed due to another recognized cause.

Criterion 2: (Last updated January 1, 2015)

- Patient ≤1 year of age with or without an indwelling urinary catheter
AND
- Patient has at least **ONE** **Δ** of the following signs or symptoms: (**with no other recognized cause*)
 - Δ** fever (>38.0 °C)
 - Δ** hypothermia (<36.0 °C)
 - Δ** apnea*
 - Δ** bradycardia*
 - Δ** lethargy*
 - Δ** vomiting*
 - Δ** suprapubic tenderness***AND**
- Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ colony-forming units CFU/ml. All elements of the UTI criterion must occur during the Infection Window Period.**. (**See “Additional Information” checklist for definition of Infection Window Period.)

NOTE:

- If patient had an indwelling urinary catheter in place for >2 calendar days, and catheter was in place on the date of event or the previous day the CAUTI criterion is met. If no such indwelling urinary catheter was in place, UTI (non-catheter associated) criterion is met.
- Fever and hypothermia are non-specific symptoms of infection and cannot be excluded from UTI determination because they are clinically deemed due to another recognized cause.



TENNESSEE DEPARTMENT OF HEALTH
HEALTHCARE-ASSOCIATED INFECTIONS AND ANTIMICROBIAL RESISTANCE PROGRAM
Surveillance Definitions
URINARY TRACT INFECTION (UTI)



ABUTI – Asymptomatic Bacteremic Urinary Tract Infection

DEFINITION: Asymptomatic bacteremic urinary tract infection must meet the **FOLLOWING** □ criterion:

□ **Criterion 1:** *(Last updated January 1, 2015)*

- Patient with* or without an indwelling urinary catheter
*(*Patient had an indwelling urinary catheter in place for ≥ 2 calendar days , with day of device placement being Day 1, and catheter was in place on the day of event or the day before.)*

AND

- Patient has no signs or symptoms of SUTI 1 or 2 according to age (Note: Patients > 65 years of age with a non-catheter-associated ABUTI **may** have a fever and still meet the ABUTI criterion)

AND

- Patient has a urine culture with no more than two species of organisms, at least one of which is a bacteria of $\geq 10^5$ CFU/ml (see Comment section below)

AND

- Patient had a positive blood culture with **ONE** △
 - △ at least 1 matching bacteria to the urine culture
 - △ meets LCBI criterion 2 (without fever) and matching common commensal(s) in the urine. All elements of the UTI criterion must occur during the Infection Window Period**. (****See “Additional Information” checklist for definition of Infection Window Period.**)

COMMENT: *(Last updated January 1, 2015)*

- “Mixed flora” is not available in the pathogen list within NSHN. Therefore it cannot be reported as a pathogen to meet the NHSN UTI criteria. Additionally, “mixed flora” represent at least two species of organisms. Therefore an additional organism recovered from the same culture, would represent >2 species of microorganisms. Such a specimen also cannot be used to meet the UTI criteria.

**Urinary System Infection (USI)
(Formerly OUTI)
(kidney, ureter, bladder, urethra, or tissue surrounding the retroperitoneal
or perinephric space)**

DEFINITION: Other infections of the urinary tract must meet at least **ONE** ☐ of the following criteria:

☐ Criterion 1: *(Last updated January 1, 2015)*

- ☐ Patient has microorganisms isolated from **ONE** ☐ of the following:
 - ☐ culture of fluid (excluding urine) from affected site
 - ☐ tissue from affected site

☐ Criterion 2: *(Last updated January 1, 2015)*

- ☐ Patient has **ONE** ☐ of the following:
 - ☐ an abscess seen during **ONE** ☐ of the following:
 - ☐ gross anatomical exam
 - ☐ invasive procedure
 - ☐ histopathologic examination
 - ☐ other evidence of infection seen during **ONE** ☐ of the following:
 - ☐ gross anatomical exam
 - ☐ invasive procedure
 - ☐ histopathologic examination

☐ Criterion 3: *(Last updated January 1, 2015)*

- ☐ Patient has at least **ONE** ☐ of the following signs or symptoms: *(* with no other recognized cause)*
 - ☐ fever (>38.0 °C)
 - ☐ localized pain or tenderness*
- AND**
- ☐ Patient has at least **ONE** ☐ of the following:
 - ☐ purulent drainage from affected site
 - ☐ **BOTH** ☐ of the following:
 - ☐ organisms cultured from blood
 - ☐ imaging test evidence of infection (e.g., ultrasound, CT scan, magnetic resonance imaging [MRI], or radiolabel scan [gallium, technetium])



TENNESSEE DEPARTMENT OF HEALTH
HEALTHCARE-ASSOCIATED INFECTIONS AND ANTIMICROBIAL RESISTANCE PROGRAM
Surveillance Definitions
URINARY TRACT INFECTION (UTI)



□ Criterion 4: *(Last updated January 1, 2015)*

- Patient ≤1 year of age has at least **ONE** **△** of the following signs or symptoms: (* *with no other recognized cause*)

- △** fever (>38.0 °C)
- △** hypothermia (<36.0 °C)
- △** apnea*
- △** bradycardia*
- △** lethargy*
- △** vomiting*

AND

- Patient has at least **ONE** **△** of the following:
 - △** purulent drainage from affected site
 - △ BOTH** **□** of the following:
 - organisms cultured from blood
 - imaging test evidence of infection (e.g., ultrasound, CT scan, magnetic resonance imaging [MRI], or radiolabel scan [gallium, technetium])

NOTES:

- Fever and hypothermia are non-specific symptoms of infection and cannot be excluded from UTI determination because they are clinically deemed due to another recognized cause.
- All elements of the USI criterion must occur during the Infection Window Period**. (**See “Additional Information” checklist for definition of Infection Window Period.)

COMMENTS:

- Report infections following circumcision in newborns as SST-CIRC.
- If patient meets USI criteria and they also meet UTI criteria, report UTI only, unless the USI is a surgical site organ/space infection, in which case, only USI should be reported.
- For NHSN reporting purposes, Urinary System Infection (USI) cannot be catheter associated, therefore, USI will only present as specific event type if urinary catheter status is marked “Neither”.

Identifying Symptomatic Urinary Tract Infections (SUTI) and Asymptomatic Bacteremic Urinary Tract Infections (ABUTI)

(Last updated January 1, 2015)

