

## 2023 CAUTI Medical Record Abstraction Tool (MRAT) Instructions

**Section 1a. Patient Information:** Complete patient identifiers and demographics from patient medical record and ADT data.

**Section 1b. Screening Questions:** If the date of event 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. If the patient was in multiple locations within the transfer rule time frame, attribute the infection to the first location in which the patient was housed the day before the infection's date of event. During review of the selected positive urine culture (PUC), if the patient has more than one admit and discharge date close together, the Transfer Rule should be considered and the earlier admission may need to be reviewed to correctly validate the selected PUC. For example, if a patient was discharged from the same facility the day prior to the selected PUC collection date, proceed as if this were a single admission, using the earlier admit date to complete the screening questions below.

**b1. Screening for Present on Admission:** If selected PUC was collected on or before facility day two (2), proceed to Section 8 and select outcome (a), Not a candidate Surveillance Location (SL) CAUTI on page 4 of the MRAT. Complete the rest of Section 8 as appropriate. Validation for this patient is complete. Otherwise, proceed to the next screening question.

**b2. Screening for eligible indwelling urinary catheter (IUC) use:** If an IUC was not in place greater than two (2) days for any SL **and** in place on, or up to 3 days prior to the date the selected PUC was collected, proceed to Section 8 and select outcome (a), Not a candidate SL CAUTI on page 4 of the MRAT. Complete the rest of Section 8 as appropriate. Validation for this patient is complete. Otherwise, proceed to the next screening question. Note: If catheter was placed prior to admission, the day of physical admission to an inpatient location is urinary catheter Day 1.

**b3. Screening for UTI exclusion criteria:** If selected PUC meets any of the exclusion criteria listed, proceed to Section 8 and select outcome (a) Not a candidate SL CAUTI. Complete the rest of Section 8 as appropriate. Validation for this patient is complete. Otherwise, proceed to Section 2. **Note:** An eligible urine culture may include these organisms if one bacterium of  $\geq 10^5$  ( $10^5 = 100,000$ ) CFU/ml is present.

**Section 2a. Positive Urine Cultures:** Document positive urine cultures (PUCs) in reverse chronological order. Start by entering the selected PUC as row 1. Review the 14 days prior to the selected PUC's collection date and document any additional PUCs identified. If additional PUCs are identified during the 14-day period, review the next 14 days prior to the earliest additional collection date and document any additional PUCs found. Repeat this process until no additional PUCs are identified within a 14-day period of each other or the admit date is reached. An eligible PUC should have no more than two species of organisms identified, at least one of which is a bacterium of  $\geq 10^5$  CFU/ml. DO NOT LIST cultures with more than 2 species or those classified as "mixed" flora, as these cannot be used to meet UTI criteria. Exclude urine cultures that are positive only for yeast, mold, dimorphic fungi, or parasites.

- **UTI Repeat Infection Timeframe (RIT)** is a 14-day timeframe during which no new UTIs are reported. The UTI RIT applies to both present on admission (POA) and healthcare-associated infection (HAI) determinations. The date of UTI event is Day 1 of the 14-day RIT. If the date of event for UTI occurs within a previous 14-day UTI RIT, no new UTI is identified nor reported. Additional bacteria of  $\geq 10^5$  CFU/ml from positive urine cultures during the UTI RIT are added to the original event. Assign an RIT number to each occurrence.
- **UTI Infection Window Period (IWP)** is defined as the 7-days during which all UTI criteria must be met. It includes the day the positive urine culture was collected, the 3 calendar days before, and the 3 calendar days after.

**Section 2b. Symptoms:** For each PUC entered in Section 2a, select all symptoms that apply, noting symptom date. Symptoms are required to occur with the Infection Window Period (IWP) for UTI classification.

**Section 3. Location of Attribution:** Determine the selected PUC's location of attribution. Enter the admit/transfer date in, date out, and name of location, including ED.

**Section 4. UTI Event Qualification and Type:** Determine if selected PUC qualifies as a candidate UTI event. If yes, proceed to 4b to select the type of UTI and enter the Date of Event. If selected PUC does not qualify as a UTI event, proceed to Section 8 and select outcome (b) no UTI and specify the reason. Complete the rest of Section 8 as appropriate. Validation for this patient is complete. Otherwise, proceed to Section 5.

**Table 1. URINARY TRACT INFECTION (UTI) CRITERIA**

For the selected PUC, determine which type of UTI criteria [ABUTI, SUTI1a, SUTI1b, and SUTI2] was met, if any. **All elements listed in a column are required within the IWP.**

UTI type:	SUTI 1a (CAUTI) (Symptomatic, any age)	SUTI 1b (non-CAUTI) (Symptomatic, any age)	SUTI 2 (Symptomatic, ≤ 1 year of age)	ABUTI (Asymptomatic, any age)
Urine culture element	<input type="checkbox"/> ≥ 10 <sup>5</sup> CFU/ml urine with no more than 2 species of organisms, at least one of which is a bacterium of ≥10 <sup>5</sup> CFU/ml.	<input type="checkbox"/> ≥10 <sup>5</sup> CFU/ml urine with no more than 2 species of organisms, at least one of which is a bacterium of ≥10 <sup>5</sup> CFU/ml.	<input type="checkbox"/> ≥ 10 <sup>5</sup> CFU/ml urine with no more than 2 species of organisms, at least one of which is a bacterium of ≥10 <sup>5</sup> CFU/ml.	<input type="checkbox"/> ≥ 10 <sup>5</sup> CFU/ml urine with no more than 2 species of organisms, at least one of which is a bacterium of ≥10 <sup>5</sup> CFU/ml.
Blood culture(s) element	↓	↓	↓	<input type="checkbox"/> Organism identified from blood specimen with at least one matching bacterium to a bacterium of ≥ 10 <sup>5</sup> CFU/ml in urine.  If common commensal organism, must meet all LCBI 2 criteria including chills and/or hypotension; excluding fever.
Symptoms and urinary catheter status elements	(Any age, urinary catheter present)  <input type="checkbox"/> At least ONE of the following: ○ Fever >38.0°C ○ Suprapubic tenderness* ○ Costovertebral angle pain or tenderness* ○ Urinary urgency+ ○ Urinary frequency+ ○ Dysuria+ <b>AND</b> <input type="checkbox"/> Urinary catheter in place for >2 days and <u>in place</u> on the date of event, present for any portion of the calendar day on the date of event, or removed the day before the date of event.	(Any age)  <input type="checkbox"/> At least ONE of the following: ○ Fever (>38°C) ○ Suprapubic tenderness* ○ Costovertebral angle pain or tenderness* ○ Urinary frequency+ ○ Urinary urgency+ ○ Dysuria+ <b>AND</b> <input type="checkbox"/> Patient has/had an indwelling urinary catheter, but it has/had not been in place for >2 calendar days on the date of event. <b>OR</b> <input type="checkbox"/> Patient did not have a urinary catheter in place on the date of event nor the day before the date of event.	(With or without a urinary catheter)  <input type="checkbox"/> Patient age ≤1 year <b>AND</b> <input type="checkbox"/> At least ONE of the following: ○ Fever (>38.0°C) ○ Hypothermia (<36.0°C) ○ Apnea* ○ Bradycardia* ○ Lethargy* ○ Vomiting* ○ Suprapubic tenderness*	(Any age, with or without a urinary catheter)  <input type="checkbox"/> No listed symptoms allowed within IWP

\*With no other recognized cause.

+These symptoms cannot be used when a catheter is in place but can be used if symptoms occur after urinary catheter removal, on the day of removal or day after removal.

**Section 5. Was selected PUC's UTI Healthcare-Associated (HAI) or Present on Admission (POA)?**

If the date of event of UTI occurred during the POA time period of 2 days before admission to the day after admission, the UTI event was POA. Proceed to Section 8 and select outcome (c) POA UTI; complete the rest of Section 8 as applicable. Otherwise, UTI is HAI, proceed to Section 6.

Acceptable documentation includes patient-reported signs or symptoms documented in the current medical record by a healthcare professional (e.g., "patients states measured fever > 38.0° C or > 100.4° F", "nursing home documents fever prior to arrival to the hospital", "patient complains of dysuria").

**Section 6. Was this HAI-UTI a CAUTI?**

If a urinary catheter was in place for > 2 days **in an inpatient location** (day of physical admission to an inpatient location is urinary catheter Day 1) on the date of event AND was either present for any portion of the calendar day on the date of event OR removed the day before the date of event, then HAI-UTI is CAUTI. Proceed to Section 7. If not, HAI-UTI is not CAUTI. Proceed to Section 8 and select (d) HAI-UTI not CAUTI; complete the rest of Section 8 as applicable.

**Section 7. Was Location of Attribution (LOA) a Surveillance Location (SL)?**

Work through Section 7 parts a, b, and c to determine if the LOA was a SL. Note: If the date of event is on the date of transfer or discharge, or the next day, the infection is attributed to the transferring/discharging location per the Transfer Rule. If the patient was in multiple locations within the transfer rule time frame, attribute the infection to the **first** location in which the patient was housed the **day before** the infection's date of event.

**Section 8. Outcome and Case Classification:** Select the outcome for the selected PUC, then determine the case classification. If the selected PUC was correctly reported or correctly not reported, the validation for this patient is complete. If the selected PUC was over- or under-reported, proceed to 8c to select the most appropriate reason identified for misclassification. If an "Other" option is selected, enter the specific reason.

**Examples of misapplied definition:**

- Incorrect use of Transfer Rule when applied to the LOA.
- Not using the first element of criteria to meet an NHSN site-specific infection to set the date of event. If the date of event is not correctly identified, the LOA and RIT will not be correctly identified.

**Examples of misapplied CAUTI criteria:**

- Not recognizing there were more than 2 organisms listed on the culture results. Urine cultures with more than 2 organisms cannot be used to meet UTI criteria.
- Incorrectly identifying the date of catheter was placement or discontinuation.

**Examples of additional reasons:**

- Physician diagnosis can be accepted as evidence of an infection only when physician diagnosis is an element of the specific infection definition. For example, physician diagnosis of a UTI is not an element of any UTI criteria; therefore, physician diagnosis of a UTI may not be used to satisfy POA status of a UTI.