Catheter Associated Urinary Tract Infection
Facts about CAUTI

- 12% to 16% of adult patients will receive a urinary catheter during hospitalization.
- 4th most common HAI
- Accounts for more than 12% of acute care infections
- Nearly 100% of CAUTI caused by instrumentation of the urinary tract
- More than 13,000 deaths associated with UTIs
- Associated with an excess length of stay of 2-4 days
- Excess cost per patient approximately $1,000 costing $400 million to $500 million annually

Reference: CDC
Infection rates dropped in all categories nationally except CAUTI
In Texas CAUTI is the only HAI to increase
Key Prevention Measures

• Insert catheters only for appropriate indications (use bladder scanners or alternatives to indwelling catheters)
• Compliance with evidence-based guidelines e.g. Surgical Care Improvement Project (SCIP) requires urinary catheter removal on Post-op Day 1 or 2 with day of surgery being day zero.
• Leave catheters in-place only as long as needed (Nurse Driven removal protocols)
• Only properly trained persons insert and maintain catheters
• Secure catheters
• Catheter/perineal care q 12 hours while has catheters
• Maintain a closed drainage system
• Maintain unobstructed urine flow. No dependent loops
• Hand Hygiene and standard precautions
Practices NOT recommended for CAUTI Prevention (HICPAC guidelines)

- Changing catheters or drainage bags at routine, fixed intervals
- Routine ABX prophylaxis
- Cleaning of periurethral area with antiseptics while catheters is in place. (Soap & water is all you need)
- Irrigation of bladder with ABX
- Instillation of antiseptic or antimicrobial solutions into drainage bags
- Routine screening for asymptomatic bacteria
Key Terms

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).

Includes indwelling catheters used for intermittent or continuous irrigation.

Not Included (Unless Foley also present):

- Condom
- Female external caths
- Straight in-and-out catheters
- Nephrostomy tubes
- Ileoconduits
- Suprapubic catheters
Risk of developing CAUTI

Infection risk increases by 3% to 7% for each day a urinary catheter remains in place

Catheter day 7- What is this patient's risk for CAUTI?

UP TO 49%
Removal Protocols

- Daily/Shift needs assessments
- Bedside shift reports
- Necessity for urinary catheter?
  - Acute urinary retention
  - Accurate measurement in critically ill patient
  - Selected surgeries perioperative
  - Assist with healing stage III or IV perineal and sacral wounds
  - Hospice/Comfort/Palliative care
  - Required immobilization for trauma or surgery
- Nurse driven protocol for removing catheters not meeting necessity
Caution with Spinal Cord Injuries

- Reports of Foley catheters discontinued without adequate alternative bladder emptying method
- Spinal cord injury patients may appear to be voiding voluntarily but actually retaining huge volumes
- Potentially serious adverse effects include bladder damage, renal damage, autonomic dysreflexia, death, etc.
- Use of Foley should be clinical decision providing appropriate alternatives/care
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 calendar 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.

*Reminder!* Yeast not used to meet CAUTI criteria
No more than 2 species of microorganisms

- Urine cultures with > 2 organisms are usually contaminated and not used for care or NHSN
- Urine culture including “mixed flora” or equivalent cannot be used
- Organisms of same genus but different species = 2 organisms. Ex: \textit{Pseudomonas Aeruginosa} and \textit{Pseudomonas stutzeri}
- The same organism with different antimicrobial susceptibilities=1 organism. ES MRSA and MSSA
Know Your Lab’s Reporting

- What are the ranges of CFU reported?
- What minimal CFU are reported i.e. 10,000-100,000 CFU/ml. Can the laboratory tell you this is at least 100,000 CFU/ml?
- Are positive urine cultures reported for the unit on which they were collected or where the patient is housed at the time of report? Consider the Transfer Rule.
- Account for positive cultures from the ED which may represent recently discharged patients.
**Key Terms**

**Present on Admission (POA)** The date of event of the NHSN site-specific infection criterion occurs during the POA time period, which is defined as the day of admission to an inpatient location (calendar day 1), the 2 days before admission, and the calendar day after admission.

<table>
<thead>
<tr>
<th>Hospital Day</th>
<th>Date of Event Assignment for RIT</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 days before admit</td>
<td>Hospital Day 1</td>
<td>POA</td>
</tr>
<tr>
<td>1 day before admit</td>
<td>Hospital Day 1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Hospital Day 1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Hospital Day 2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Hospital Day 3</td>
<td>HAI</td>
</tr>
<tr>
<td>4</td>
<td>Hospital Day 4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Hospital Day 5</td>
<td></td>
</tr>
</tbody>
</table>
Key Terms

**Date of Event (DOE)** is the date the **first** element used to meet the site-specific infection criterion occurs for the **first** time in the infection window period.

<table>
<thead>
<tr>
<th>HOSPITAL DAY</th>
<th>INFECTION WINDOW PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2 Date of Event</td>
<td>Fever &gt; 38.0 C</td>
</tr>
<tr>
<td>3</td>
<td>Fever &gt; 38.0 C</td>
</tr>
<tr>
<td>4</td>
<td><strong>Urine culture:</strong></td>
</tr>
<tr>
<td></td>
<td>&gt;100,000 CFU/ml</td>
</tr>
<tr>
<td></td>
<td><em>E. coli</em></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
Key Terms: Infection Window Period

<table>
<thead>
<tr>
<th>Infection Window Period</th>
<th>Date of urine culture</th>
<th>1st positive Diagnostic Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>3 days before</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3 days after</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
CAUTI SUTI 1A

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

1. Patient had an indwelling urinary catheter that had been in place for > 2 days on the date of event (day of device placement = Day 1) 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‡

2. Patient has at least **one** of the following signs or symptoms:
   - fever (>38.0°C)
   - suprapubic tenderness*
   - costovertebral angle pain or tenderness*

3. Patient has a urine culture with no more than two species of organisms identified, at least one of which is a bacterium of ≥10⁵ CFU/ml. All elements of the UTI criterion must occur during the Infection Window Period.
Criterion Rationale-SUTI 1a
Catheter removed

UTIs with event date on the day of device discontinuation or the following calendar day are considered device-associated UTIs if the device had been in place already for >2 calendar days. For this criterion urgency, frequency and dysuria are symptoms.

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>CAUTI?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foley placed</td>
<td>Foley in place</td>
<td>Foley in place for part of day only then removed</td>
<td>Date of Event</td>
<td>Yes</td>
</tr>
<tr>
<td>Foley placed</td>
<td>Foley in place for part of day then removed</td>
<td>No Foley</td>
<td>Date of Event</td>
<td>No</td>
</tr>
<tr>
<td>Foley placed</td>
<td>Foley in place for part of day then removed</td>
<td>Date of Event</td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>
Patient must meet 1, 2, and 3 below:

1. One of the following is true:
   - Patient has/had an indwelling urinary catheter but it has/had not been in place
     >2 calendar days on the date of event †
   - OR
   - Patient did not have a urinary catheter in place on the date of event nor the day
     before the date of event †

2. Patient has at least **one** of the following signs or symptoms:
   - fever (>38°C) in a patient that is ≤ 65 years of age
   - suprapubic tenderness*
   - costovertebral angle pain or tenderness*
   - urinary frequency ^
   - urinary urgency ^
   - dysuria ^

3. 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. All elements of the
   SUTI criterion must occur during the Infection Window Period
CAUTI SUIT 2A

Patient must meet 1, 2, and 3 below:

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:
   • fever (>38.0°C)
   • hypothermia (<36.0°C)
   • apnea*
   • bradycardia*
   • lethargy*
   • vomiting*
   • suprapubic tenderness*

3. Patient has a urine culture with no more than two species of organisms identified, at least one of which is a bacterium of ≥10⁵ CFU/ml. (See Comments) All elements of the SUTI criterion must occur during the Infection Window Period (See Definition Chapter 2 Identifying HAIs in NHSN).
The Logic Behind SUTI Definitions

✓ Symptoms of true UTI will vary depending on if device is present or not

✓ Cannot use the following symptoms to identify UTI in patients with a urinary catheter
  - Frequency
  - Urgency
  - Dysuria

✓ Infants will exhibit infection differently from patients of other ages

✓ For infants, the following additional symptoms may indicate a UTI
  - Apnea
  - Bradycardia
  - Lethargy
  - Vomiting
  - Hypothermia <36.0°C
With No Other Recognized Cause

*With no other recognized cause

**Note:** 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.
**ABUTI** *(Asymptomatic Bacteremic UTI)*

Patient must meet 1, 2, and 3 below:

1. Patient with or without an indwelling urinary catheter 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)*

2. 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 *(see Comment section below)*

3. 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 commensal(s) in the urine. All elements of the ABUTI criterion must occur during the Infection Window Period
Discontinuation & Reinsertions

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, 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.

1. When is patient A eligible for CAUTI?  
   March 31 through April 6

2. When is patient B eligible for CAUTI?  
   March 31 – April 3 then April 6
Investigating a Positive Urine Culture as Possible CAUTI

Proceed in this order*:

1. Determine infection window period (IWP)
2. Determine if all criteria occur within IWP, i.e., is it an event? Yes = continue; No = Stop no event
3. Determine date of event (DOE).
4. Determine if present on admission (POA) or healthcare-associated (HAI).
   - If POA, previously discharged that day or day before? Yes = UTI attributable to discharging location; No = Stop, POA.
   - If HAI, continue
5. Determine if device-associated.
6. Determine attributable location/facility.
7. Determine Repeat Infection Timeframe
8. Determine Secondary BSI Attribution Period (if necessary)
UTI Repeat Infection Timeframe (RIT)

- 14-day timeframe
- No new infections of the same type are reported
- Day 1 is Date of Event (starts 14 day)
- Any additional pathogens in this time are added to event
## UTI Repeat Infection Timeframe (RIT)

<table>
<thead>
<tr>
<th>HOSPITAL DAY</th>
<th>RIT</th>
<th>INFECTION WINDOW PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Urine culture: &gt;100,000 cfu/ml (E. coli)</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Fever &gt; 38.0°C</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>Fever &gt; 38.0°C</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>Urine culture: No growth</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>Urine culture: &gt;100,000 cfu/ml (S. aureus)</td>
</tr>
<tr>
<td>13</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SUTI-HAI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Date of Event = 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pathogens = (E. coli, S. aureus)</td>
</tr>
</tbody>
</table>
Where did the infection happen?

The inpatient location where the patient was assigned on the date of event is the location of attribution.

**Exception** to Location of Attribution:

*Transfer Rule*: 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.
## Transfer Rule Examples

<table>
<thead>
<tr>
<th>Key Terms</th>
<th>Admit Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
<th>Day 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transfer Rule</strong></td>
<td>ICU</td>
<td>ICU</td>
<td>ICU→5W</td>
<td>5W</td>
<td>Date of event for an HAI</td>
<td>5W</td>
<td>HAI is attributable to the ICU</td>
</tr>
<tr>
<td><strong>Transfer Rule</strong></td>
<td>ICU</td>
<td>ICU</td>
<td>ICU→5W</td>
<td>5W</td>
<td>Date of event for an HAI</td>
<td>5W</td>
<td>HAI is attributable to the 5W</td>
</tr>
<tr>
<td><strong>Transfer Rule</strong></td>
<td>5W</td>
<td>5W</td>
<td>5W</td>
<td>5W</td>
<td>Discharged Home</td>
<td>5W</td>
<td>Admit to ED meeting infection criterion</td>
</tr>
<tr>
<td><strong>Multi-transfer Rule</strong></td>
<td>ICU</td>
<td>ICU</td>
<td>ICU→5W→CCU</td>
<td>Date of event for an HAI</td>
<td>CCU</td>
<td>HAI is attributable to the ICU</td>
<td></td>
</tr>
</tbody>
</table>
Meet:
The Unlucky Family

This fun-loving family is about to understand the risks associated with living “la vida loca”.
What If?

- Grandpa Unlucky has been cared for in an inpatient rehabilitation following multiple fractures sustained while rock climbing with his girlfriend in Iceland.

- He is now transferred to your hospital with a Foley catheter which has been in place for 2 weeks.

- He had a fever of 38.5°C and a change in mental status the day before transfer, reported by a healthcare worker.

- He is afebrile on admission. Urine cultures collected on admission are positive for 10,000 CFU/ml of E. coli and U/A is positive for nitrites.
Which of the following is most accurate?

- Grandpa does not have an NHSN CAUTI.
- Grandpa has a CAUTI attributed to the new hospital.
- Grandpa has a CAUTI attributed to the Rehab facility and POA to the hospital.
Urine cultures must have a minimum of 100,000 CFU/ml to be used as an element of 2015 NHSN UTI criteria.
What If?

• Grandpa unlucky has been cared for in an inpatient rehabilitation following multiple fractures sustained while rock climbing with his girlfriend in Iceland.

• He is now transferred to your hospital with a Foley catheter which has been in place for 2 weeks.

• He had a fever of 38.5°C and a change in mental status the day before transfer, reported by a healthcare worker.

• He is afebrile on admission. Urine cultures collected on admission are positive for 10,000–100,000 CFU/ml of *E. coli* and U/A is positive for nitrates.
Which of the following is most accurate?

☐ Grandpa does not have an NHSN CAUTI.

☐ Grandpa has a CAUTI attributed to the new hospital.

☒ Grandpa has a CAUTI attributed to the Rehab facility and POA to the hospital.
Device Associated Example #1

• Day 5 – Foley inserted; asymptomatic
• Day 6 – Foley remains in place; Fever 38.2°C
• Day 7 – 38.6°C
• Day 8 – 100,000 CFU *E. coli* in urine

Is this a SUTI catheter associated?

YES or NO
Device associated example #1

- Infection window period = Day 5-11
- The date of event (DOE) is hospital day 6; indwelling urinary catheter (IUC) day 2
- IUC not in place >2 days on DOE
- SUTI, not catheter-associated
Device Associated Example #2

- 1/7  Patient admitted
- 1/8  Temperature 100.9°F; Foley inserted
- 1/9  Temp 102°F
- 1/10 Foley, temp 100.9°F
- 1/11 Foley, temp 101.6°F
- 1/12 Foley, temp Urine culture collected and positive for 100,000 CFU/ml coagulase negative Staphylococcus
Does the patient have a CAUTI?

Yes or No

This is a healthcare-associated UTI which is non-catheter-associated by NHSN Definitions.

- Date of event is 1/9
- Foley was not in place >2 calendar days on 1/9
Device Associated Example #3

Day 1 – Admit to ICU
Day 4 – Foley inserted
Day 8 – Foley removed; asymptomatic
Day 9 – No Foley in place; Fever 100.5 ° F
Day 10 – Fever 100.5° F; Urine (+) 100,000CFU/ml E. faecium

Is this a CAUTI?  Yes or NO
Device Associated Example #4

Day 1 – Admit to ICU
Day 4 – Foley inserted
Day 8 – Foley removed
Day 9 – Foley inserted
Day 10 – Temp of 100.6° F; Urine (+) 100,000 CFU *E. coli*; meets criteria for a symptomatic UTI here.

Is this a CAUTI?  

[Circle] Yes or NO
Entering CAUTI Events into NHSN (Numerator)
Risk Factors CAUTI

Required Field: Three options:

INPLACE- If catheter was in place >2 calendar days for the entire day on the date of event

REMOVE – If Foley catheter was in place >2 calendar days but was removed day of or day before the date of event

NEITHER – if no urinary catheter was in place on the day of or the day before the date of event OR not in place >2 calendar days on the date of event

Optional: Patient location where indwelling urinary catheter inserted.

Optional: Date indwelling urinary catheter inserted.
Collecting Summary Denominator Data - Manual Collection -

For all locations, count **at the same time each day**
- Number of patients on the unit
- Number of patients with an indwelling urinary catheter

<table>
<thead>
<tr>
<th>Facility ID: 10000</th>
<th>Location Code: ORTHO</th>
<th>Month: July</th>
<th>Year: 07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Number of patients</td>
<td>Number of patients with 1 or more central lines</td>
<td>Number of patients with a urinary catheter</td>
</tr>
<tr>
<td>1</td>
<td>23</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>18</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Collecting Summary Denominator Data

Optional alternatives:

- Electronically collected
  - Following validation of the electronic method against the manual method
  - 3 months concurrent data collection with both methods
  - Difference between methods must be within +/- 5% of each other

- Weekly Sampling
Documenting Summary Data or No Events

Denominators for Intensive Care Unit (ICU)/Other locations (not NICU or SCA)

Mandatory fields marked with *

- Facility ID*: 15331 (Decennial Medical Center)
- Location Code*: MICU - MEDICAL ICU
- Month*: April
- Year*: 2013

Report No Events

- CLABSIs: □
- CAUTI: □
- VAE: □
- PedVAP: □

Sum for Month

Check box if No CAUTI events to report
Denominator Sampling

Denominators for Intensive Care Unit (ICU)/Other locations (not NICU or SCA)

Mandatory fields marked with *

Facility ID*: 10000 (DHQP Memorial Hospital)
Location Code*: MICU-2 - MEDICAL ICU
Month*: January
Year*: 2015

Total Patient Days*: 
Central Line Days*: 
Urinary Catheter Days*: 
Ventilator Days: 
APRV Days: 

Report No Events

CLABSI: 
CAUTI: 

Sample Patient Days: 
Sample Central Line Days: 
Sample Urinary Catheter Days: 

Custom Fields

Save Back

Summed sampling data for month
### Incomplete/Missing List

In-plan denominators reported for these locations with no associated events

<table>
<thead>
<tr>
<th>Location</th>
<th>CDC Location</th>
<th>Month/Year</th>
<th>Alert Type</th>
<th>Event Type/Pathogen</th>
<th>Summary Data Form Type</th>
<th>Report No Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU/CCU</td>
<td>IN: ACUTE: CC:C</td>
<td>04/2013</td>
<td>Summary but no events</td>
<td>CLABSI</td>
<td>DA-ICU/Other</td>
<td>☐</td>
</tr>
<tr>
<td>ICU/CCU</td>
<td>IN: ACUTE: CC:C</td>
<td>04/2013</td>
<td>Summary but no events</td>
<td>CAUTI</td>
<td>DA-ICU/Other</td>
<td>☐</td>
</tr>
<tr>
<td>MICU</td>
<td>IN: ACUTE: CC:M</td>
<td>04/2013</td>
<td>Summary but no events</td>
<td>CLABSI</td>
<td>DA-ICU/Other</td>
<td>☐</td>
</tr>
<tr>
<td>SICU</td>
<td>IN: ACUTE: CC:S</td>
<td>04/2013</td>
<td>Summary but no events</td>
<td>VAE</td>
<td>DA-ICU/Other</td>
<td>☐</td>
</tr>
</tbody>
</table>
Case Studies
Case 1

- February 1, hospital day 4. Foley has been in place for >2 days and patient spikes temp of >38.0°C. Urine culture collected and positive for $10^5$ CFU/ml of *Klebsiella pneumoniae*, *and Citrobacter freundii* (2 species)
- February 3, urine culture collected and positive for $10^5$ CFU/ml *Klebsiella ornithinolytica*

This patient has a CAUTI with date of event February 1

True or False
Case Study 1

This patient meets criteria for CAUTI on February 1 because

- Fever
- Positive urine $\geq 100,000$ CFU/ML
- No more than 2 organisms
- Foley in place $> 2$ days

NOTE: Do not total # organisms from multiple urine cultures.
Case 2

• 03/02/15 – 66 y.o. to OR from ER for exploratory lap; Foley inserted in OR. Transferred to surgical ward post-op.
• 03/03/15 – Patient is stable, Foley in place.
• 03/05/15 – Foley remains in place. Patient febrile (38.9°C) and complaining of pain in right lower back. WBC increased to 19,000/mcL. He has cloudy, foul-smelling urine. Urine collected for culture positive for >100,000 CFU/ml *E. coli*.

Is this a CAUTI? If so, what type?

1. No UTI
2. Yes, catheter-associated SUTI criterion 1A
3. Yes, catheter-associated SUTI criterion 2A
4. Yes, catheter-associated ABUTI
Case 2 - Rationale

SUTI 1a: Patient must meet 1, 2, and 3 below:

- Patient has an indwelling urinary catheter in place for the entire day on the date of event and such catheter had been in place for \( \geq 2 \) calendar days, on that date (day of device placement = Day 1)
- Patient has at least one of the following signs or symptoms:
  - fever (>38.0 °C)
  - suprapubic tenderness*
  - costovertebral angle pain or tenderness*

- 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. All elements of the UTI criterion must occur during the Infection Window Period

Date of event (3/5) occurred on or after day 3 of admission. This UTI is catheter-associated because the date of event was Foley day 4. Right or left lower back is the CVA and there was no other cause for the CVA pain. Patient has \( >10^5 \) CFU/ml of single bacteria in urine.
Case 3

- Day 1: 58-year-old patient is admitted to the ED with GI bleed. Foley inserted.
- Day 2: Patient spikes temp of 38.6°C. Indwelling catheter remains in place.
- Day 3: Urine specimen is collected.
- Day 4: Culture results 100,000 CFU/ml *Pseudomonas aeruginosa*. Antibiotics started.
- Day 5: Patient asymptomatic and afebrile.

Is this an HAI? If so, what type?

1. Yes, healthcare-associated UTI but not CAUTI
2. No, it is a UTI that is POA
3. Yes, CAUTI criterion 1A
Case 3 Rationale

- Date that the first element of the SUTI 1a criterion occurred during the infection window period was on Day 2 of hospitalization.
- Date of event = Day 2. This is within the POA time period.
Case 3-Continued

Day 15: Foley remains in place. Patient completed treatment for UTI on hospital day 11 and has been afebrile since. Hospitalization has been complicated by development of DVT. Temperature today 38.1°C. Cough productive of yellow phlegm. Rhonchi present.


Day 17: Urine specimen collected.

Day 18: Urine and sputum cultures both positive for *S. aureus* with > 100,000 CFU/ml in urine.

Should another CAUTI be reported? YES or NO
Case 3-Rationale

• Unlike CLABSI, CAUTIs may NOT be excluded as secondary to another infection. Fever cannot be attributed to another source of infection.‡

• The date of event for this UTI would be Day 15 (date of fever) which is within RIT for POA UTI from Day 2.

• If earlier UTI was HAI and was reported, S. aureus would be added as pathogen to that event.

‡ See March 2012 Newsletter; also note the lack of “*” following fever in criteria.
<table>
<thead>
<tr>
<th>Hosp Day</th>
<th>Device</th>
<th>UTI Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Foley</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>Temp 38.6°C</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>Urine culture (‘+’ 10^5 CFU/ml <em>P. aeruginosa</em>)</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>F</td>
<td>Temp 38.1°C</td>
</tr>
<tr>
<td>16</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>F</td>
<td>Urine culture collection (positive 10^6 CFU/ml <em>S. aureus</em>)</td>
</tr>
</tbody>
</table>