



Infectious Disease CCG

Management of Asymptomatic Pyuria and Bacteriuria: Adult

Kickoff Date: 4/29/2019
Go-Live Date: 5/13/2019

Clinical Practice: Practice Statement

- Adult patients with no symptoms of urinary tract infection (UTI) should not be screened for UTI with urinalysis or culture, including patients with an indwelling or supra pubic catheter. In the event that an asymptomatic patient is screened, a finding of pyuria and/or growth of bacteria or fungi should not lead to treatment with antibiotics based on IDSA (Infectious Disease Society of America) guidelines of 2005. Exceptions for whom screening and antibiotic treatment may be indicated are asymptomatic patients who are pregnant or are pending urologic surgery or prosthetic joint procedures.

Clinical Practice: Rationale

Asymptomatic bacteriuria (ASB) is defined as the isolation of bacteria or yeast in a urine specimen, collected in a manner to minimize contamination, obtained from a person without symptoms or signs referable to a urinary infection (IDSA, 2005).

Antibiotic therapy in patients with ASB exposes patients to risk of side effects, toxicities, antimicrobial resistance, *Clostridium difficile* colitis, treatment of future UTIs with second- and third-tier antibiotics, and increased cost (Avelluto & Bryman, 2018). Antibiotic use should thus be avoided unless clearly needed.

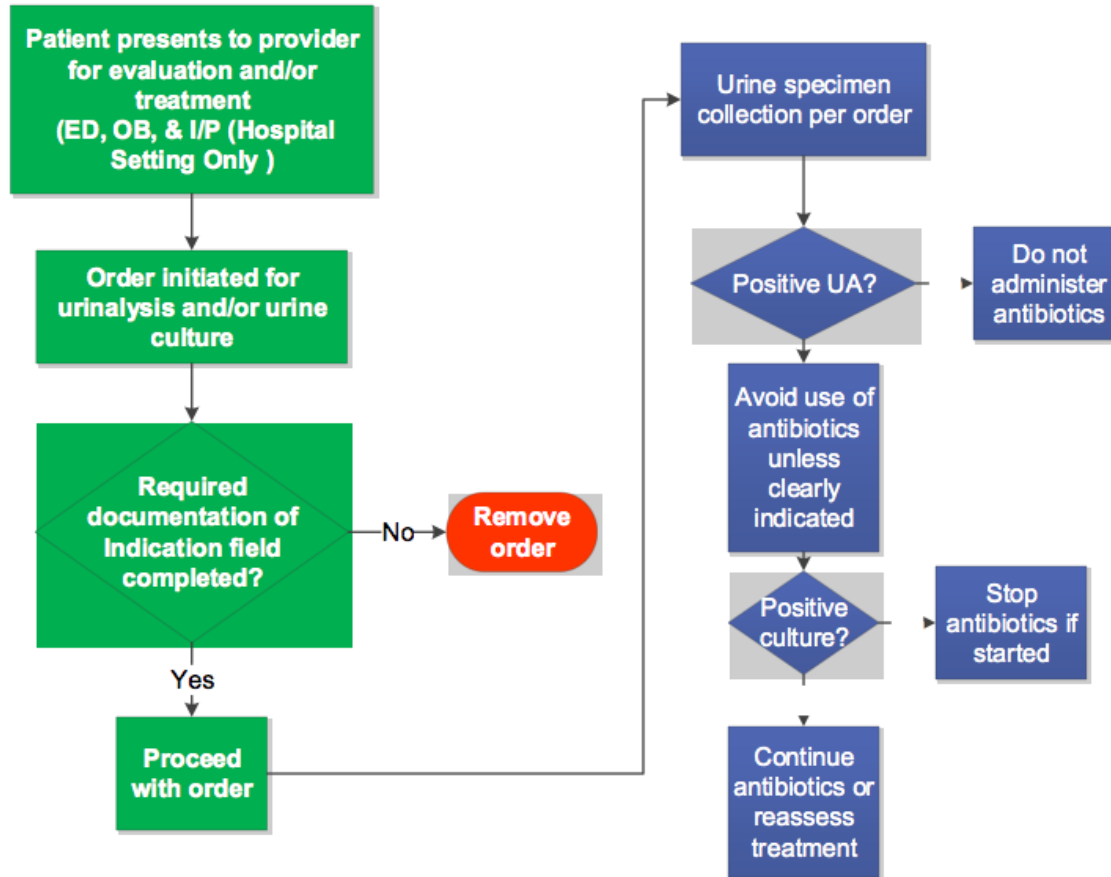
Clinical Practice: Clinical Approach

Patient must be identified as having symptoms of UTI prior to be tested. Symptoms include:

- Dysuria
- Urinary Frequency or Urgency
- Suprapubic Pain
- Flank Pain or Tenderness
- Fever
- Altered Mental Status in Elderly
- Hematuria
- Unexplained Leukocytosis
- Noninfectious (ex: protein determination)
- For Research
- Exceptions: Pregnancy, Pending Urologic Surgery or Pending Prosthetic Joint Surgery

Process Flow

Management of Asymptomatic Pyuria and Bacteriuria – Adult Process Flow



Urinalysis order including urine culture indications and specimen

*Indication (If none, cancel order):	<input type="text"/>
*Collection Priority:	Dysuria
*Collection date and time:	Frequency
Print Label By Order Location:	Urgency
	Suprapubic pain
	Flank pain or tenderness
	Fever
	Altered mental status, Elderly
	Hematuria
	Unexplained Leukocytosis
	Lower Extremity Fracture
	Pregnancy
	Pending urologic procedure
	Patient under 18 years old
	Non-infectious
	Research
	Lab Use Only

Interactive View and I&O specimen source alignment for Clean catch mid stream

*Specimen Type:

*Reporting Priority:

Label Comment:

*Urinalysis Specimen Type:

	10:15 - 10:29 MST	10:00 - 10:14 MST	9:45 - 9:59 MST	9:30 - 9:44 N
Specimen Collection				
Performed By				
Date/Time Specimen Obtained				
Specimen Type				
Specimen Source				
Gave Specimen to Law Enforcement				
Law Enforcement (badge #, name, report#)				
Bladder Scan				
Bladder Distention				
Time Scan Performed				
Voided Within 15 Minutes Prior to Scan				
Urine Voided				
Urine Amount Unmeasured				
Post Void Bladder Volume Instrument				
Random Bladder Volume Instrument				
Was Patient Catheterized				
Patient Response				
Response				

Specimen Source [X]

Clean catch mid stream

Catheter

Throat

Nasopharyngeal

Wound

Vagina

Penis

Rectum

Ear

Eye

ET tube

Other

- If a true midstream sample is not collected, the specimen will be contaminated with normal bacterial flora from the peri-urethral plug, ejected during the initial void, which can inoculate the urine sample and spike the bacterial count in the urine.
- *E. coli* can double in number every 20 minutes in a room temperature urine sample, if not transferred to the proper gray-top stasis tube.
- Both can cause a falsely elevated bacterial count which could trigger an unnecessary urine culture reflex order.



Single Point Lesson Sheet

Author/Team: Infectious Disease CCG	Category: Clinical Practice
Facility: System	Date: February 7, 2019
<p>Background/Introduction: Adult patients with no symptoms to suggest Urinary Tract Infection (UTI) should not have urinalysis or urine culture performed including those with an indwelling or suprapubic catheter. These patients should not be treated with antibiotics for UTI even if such testing is done and pyuria or bacteriuria are found. Exceptions are patients who are pregnant or who are undergoing urologic procedures.</p> <p>Why: Antibiotic use in patients with asymptomatic bacteriuria exposes patients to increased risk of development of side effects, toxicities, antimicrobial resistance, Clostridium difficile colitis, need to treat future UTIs with 2nd and 3rd tier antibiotics and increased cost (Avelluto & Bryman, 2018)</p>	
<p>What:</p> <ul style="list-style-type: none"> Only patients with one or more of the following symptoms or exceptions should have a urinalysis and/or urine culture ordered. From the dropdown select the order reason: <div data-bbox="349 648 865 953" style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> Dysuria Urinary frequency or urgency Suprapubic pain Flank pain or tenderness Fever Altered Mental status in elderly Hematuria Unexplained Leukocytosis Noninfectious (e.g., protein determination) For Research Exceptions are Pregnancy or Pending Urologic or Prosthetic Joint Procedures </div>	<p>Who:</p> <p>Providers and Registered Nurses who may enter orders for urinalysis or urine culture</p> <p>Lab technicians</p> <p>ED technicians</p>
<p>How:</p> <ul style="list-style-type: none"> When an order is initiated for urinalysis or urine culture: <ol style="list-style-type: none"> An order detail screen will appear asking which symptom(s) or exceptions(s) the patient has If one or more are marked, the order can be completed. If none is marked, the order needs to be removed 	<p>When:</p> <p>Anytime a urinalysis or urine culture is ordered.</p>

FEMALES STANDARD URINE SPECIMEN COLLECTION



FEMALES

STANDARD URINE SPECIMEN COLLECTION

1. Wash hands with soap.
2. Open the container **WITHOUT TOUCHING THE INSIDE OF THE CUP.**
3. Separate the folds of the urinary opening and use the towelettes to cleanse the area wiping from front to back.
4. Keep the labia open and begin urinating into the toilet. While continuing to urinate, bring the cup into the stream and continue to urinate until cup is at least $\frac{1}{2}$ full.
5. Finish voiding into the toilet.
6. Replace lid on cup. Tighten securely.
7. Give the specimen to a technician or place in the designated area.

Reference:

Sonora Quest Laboratories LLC

Males Standard Urine Specimen Collection



MALES

STANDARD URINE SPECIMEN COLLECTION

1. Wash hands with soap.
2. Open the container WITHOUT TOUCHING THE INSIDE OF THE CUP.
3. Use the towelette to clean the end of the penis. Discard and clean again with the second towelette. If not circumcised, hold foreskin back before cleansing.
4. Begin urinating into the toilet and while continuing to urinate, bring the cup into the stream and continue to urinate until cup is at least $\frac{1}{2}$ full.
5. Finish voiding into the toilet.
6. Replace lid on cup. Tighten securely.
7. Give the specimen to a technician or place in the designated area.

Reference:

Sonora Quest Laboratories LLC

Outcome Measure

- 1) Urinalysis(UA) orders per 1k patient days
- 2) Urine Culture(UC) orders per 1k patient days
- 3) Urine Culture contamination rate

Outcome Measure Formula

Measure1-UA/1k patient days:

Numerator: Adult (>18 years) patients with Urinalysis orders.

Denominator: Per 1k patient days

Measure2: -UC/1k patient days:

Numerator: Adult (>18 years) patients with Urine Culture orders.

Denominator: Per 1k patient days

Measure3: -Urine Culture contamination rate

Numerator: Urine Culture with contamination

Denominator: Number of Urine Culture orders

Measure Population

Inclusion:

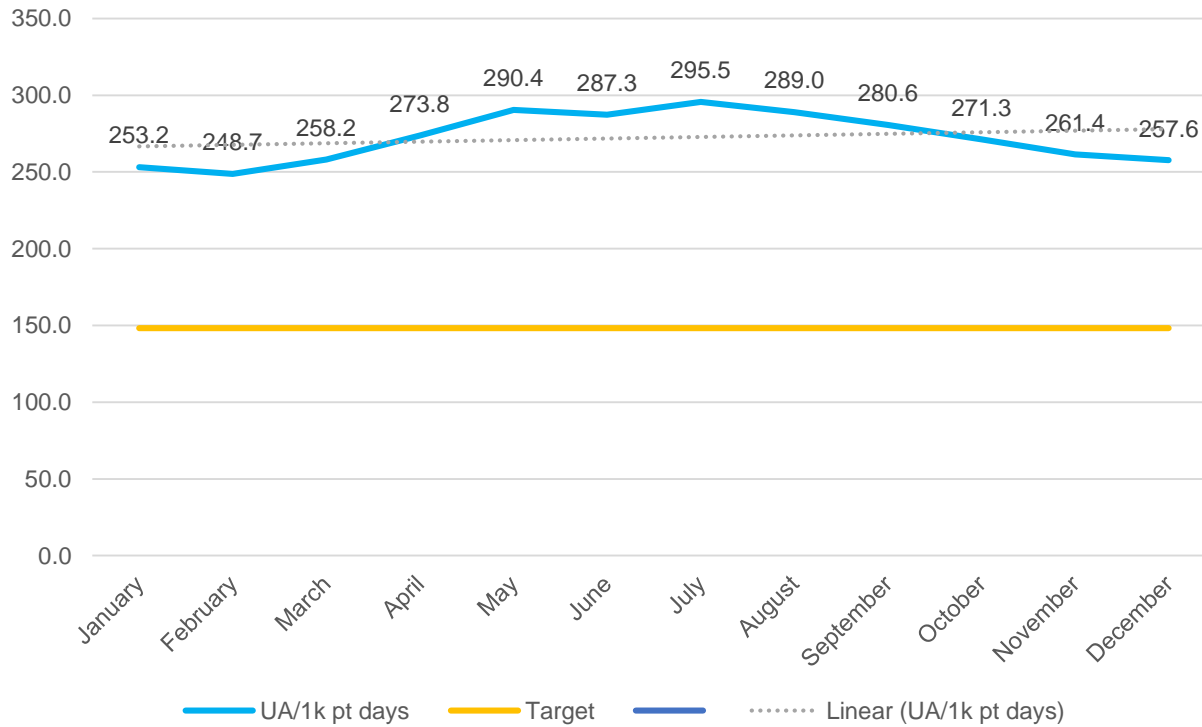
- Adult (≥ 18 years)
- All Measures: Inpatients, observation and Emergency patients

Exclusion:

- All measures: Pediatrics (age < 18)
- Measure3: Western region:
BCCH, BFCMC, BLMC, EMCH, MMC, NCMC, OCH, PCMH, SRM, TCH, WMC

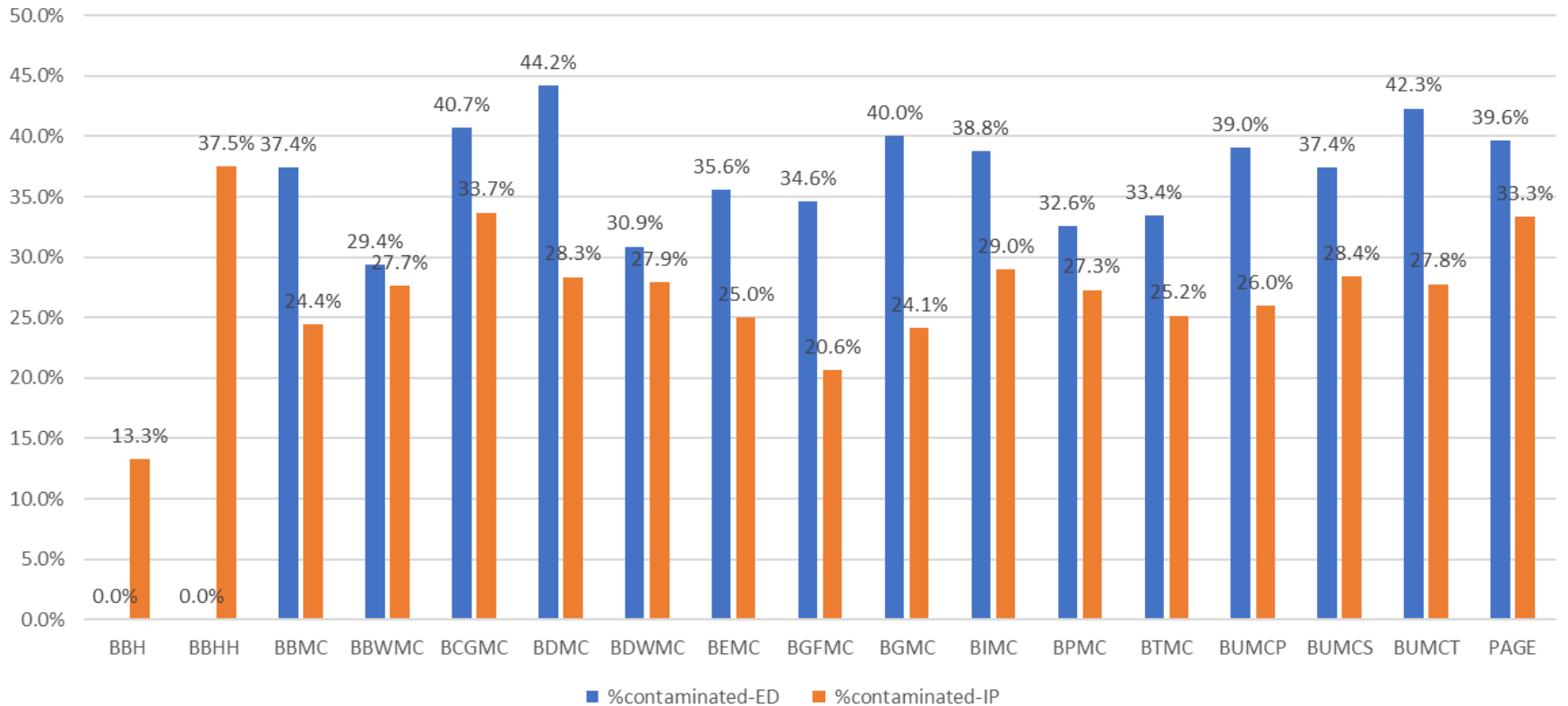
Banner Health

UA Orders/1k Pt Days
BANNER 2018



Jan-April 2019 Contamination Rate

Urine Culutre Contamination Rate 2019 ED vs. IP





THANK YOU