

When Great Minds Don't Think Alike

CLINICAL DIAGNOSIS VS SURVEILLANCE DEFINITION

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Kentucky
Hospital
Association

Why Does This Matter?

- Promote consistency between coding (billing data) and CMS reporting data
- Promote accuracy in Physician Scorecards
- Maximize reimbursement and quality of care



Expert Answer

Q: What is the difference between a surveillance definition of an infection and a clinical diagnosis?

A: Per CDC and Canadian Pediatric Surveillance Program –
“Surveillance definitions are designed to study and identify trends in a population. The application of their standardized criteria, and only these criteria, in a consistent manner allows, confidence in aggregation and analysis of data. Alternatively, clinical diagnoses are patient specific. Unlike surveillance definitions, ALL available diagnostic data are considered in a clinical diagnosis, including additional clinical, epidemiological and laboratory data. Therefore a clinical diagnosis may be made even when a surveillance definition may not be met. Failure to meet a surveillance definition should never impede or override clinical judgment during diagnosis, management or treatment of patients.”



Now- in English

Clinical

- Patient based
- Based on individual MD judgment
- Dependent on risk to patient of being wrong
- Based on temporal experience of the MD

Surveillance

- Population based
- Reproducible
- Not dependent on outside variables
- Clear and indisputable
- Useful for preventing future SSIs



URINARY TRACT INFECTIONS

Example of variance



Clinical Definitions of Urinary Tract Infections

Infectious Diseases Society of America Definitions

- **Asymptomatic bacteriuria, or asymptomatic urinary infection-** Isolation of a specified quantitative count of bacteria in an appropriately collected urine specimen obtained from a person without symptoms or signs referable to urinary infection.
- **Acute uncomplicated urinary tract infection-** Symptomatic bladder infection characterized by frequency, urgency, dysuria, or suprapubic pain in a woman with a normal genitourinary tract, and is associated with both genetic and behavioral determinants,
- **Acute nonobstructive-pyelonephritis-** Renal infection characterized by costovertebral angle pain and tenderness, often with fever; it occurs in the same population that experiences acute uncomplicated urinary infection.
- **Complicated urinary tract infection-** Symptomatic urinary infection involving either the bladder or kidneys, found in individuals with functional or structural abnormalities of the genitourinary tract.
- **Pyuria-** The presence of increased numbers of polymorphonuclear leukocytes in the urine, evidence of an inflammatory response in the urinary tract.



CLINICAL DEFINITIONS

MCGEER

McGeer- Symptomatic urinary tract infection, one of the following criteria must be met:

1. The resident does not have an indwelling urinary catheter and has at least three of the following signs and symptoms:
 - a. fever ($\geq 38^{\circ}\text{C}$) or chills
 - b. new or increased burning pain on urination, frequency or urgency
 - c. new flank or suprapubic pain or tenderness
 - d. change in character of urine
 - e. worsening of mental or functional status

2. The resident has an indwelling catheter and has at least two of the following signs or symptoms:
 - a. fever ($\geq 38^{\circ}\text{C}$) or chills
 - b. new flank or suprapubic pain or tenderness
 - c. change in character of urine
 - d. worsening of mental or functional status



SYMPTOMATIC URINARY TRACT INFECTION (SUTI)

CLINICAL DIAGNOSIS

Symptomatic Urinary Tract Infection (SUTI)

- Fever
- Dysuria
- Frequency
- Urgency
- Suprapubic pain
- Hematuria
- Other unexplained systemic symptoms such as altered mental status, hypotension, or evidence of a systemic inflammatory response syndrome

Note-Symptoms can be subtle in the very young and the very old

Clinical manifestations of pyelonephritis consist of the above symptoms together with:

- Fever ($>38^{\circ}\text{C}$)
- Chills
- Flank pain
- Costovertebral angle tenderness and
- Nausea/vomiting

Surveillance Definition-CDC

Symptomatic Urinary Tract Infection (SUTI) must meet at least 1 of the following criteria:

Patient has at least one of the following signs or

Symptoms:

- Fever ($>38^{\circ}\text{C}$)
- Urgency
- Frequency
- dysuria
- Suprapubic tenderness
- Costovertebral angle pain or tenderness

And

Patient had a positive urine culture of $\geq 10^5$ CFU/ml with No more than 2 species of microorganisms



ASYMPTOMATIC BACTERIURIA

CLINICAL DIAGNOSIS

Asymptomatic Bacteriuria-Isolation of a specified quantitative count of bacteria in an appropriately collected urine specimen from an individual without symptoms or signs of urinary tract infection

Asymptomatic Bacteriuria in women is defined by the 2005 Infectious Diseases Society of America (IDSA) guidelines as two consecutive clean-catch voided urine specimens with isolation of the same organism in quantitative counts of $\geq 10^5$ CFU/ml.

Asymptomatic Bacteriuria in men is defined by the IDSA guidelines as a single clean-catch voided urine specimen with isolation of a single organism in quantitative counts of $\geq 10^5$ CFU/ml

In **asymptomatic catheterized men or women**, bacteriuria is defined by IDSA as a single catheterized specimen with isolation of a single organism in quantitative counts of $\geq 10^2$ CFU/ml

****Surveillance Definition

Asymptomatic Bacteriuria-Patient with or without an indwelling urinary catheter who has no signs or symptoms (no fever $>38^\circ$ C, urgency, frequency, dysuria, suprapubic tenderness, costovertebral angle pain or tenderness,

and

a positive urine culture of $\geq 10^5$ CFU/ml with no more than 2 species of uropathogen microorganisms

and

a positive blood culture with at least 1 matching uropathogen microorganism to the urine culture, or at least 2 matching blood cultures drawn on separate occasions if the matching pathogen is a common skin commensal.



Why is this so important?

- Besides the fact that we don't count this in our CAUTI rate data-
 - Should we be treating these asymptomatic bacteruria patients with antibiotics?
 - Not a simple issue for us!!
 - Clinical judgment
 - MDRO s
 - C. difficile



DIAGNOSTIC TOOLS Point of agreement!!

Urine Specimen

CLINICAL DIAGNOSTIC

Up to Date

- Ideally urine specimen collection should be obtained by removing the indwelling catheter and obtaining a midstream specimen**
- If ongoing catheterization is needed, the catheter should be replaced prior to collecting a urine sample for culture, to avoid culturing bacteria present in the biofilm of the catheter but not in the bladder.
- ****I would add “clean catch”- is this done consistently and well?**

SURVEILLANCE DIAGNOSTIC

Guide to the Elimination of Catheter-Associated Urinary Tract Infections

- If a CAUTI is suspected, the best practice is removal of the old catheter before obtaining the specimen in order to eliminate the confounding factor of possible catheter biofilm.
- If an indication for urinary catheterization still exists in a patient suspected of having a CAUTI, obtain the specimen after replacing the old one.



LITERATURE REVIEW

- WHOM TO TREAT: Screening for and treatment of asymptomatic bacteriuria is appropriate for pregnant women and for patients undergoing urologic procedures in which mucosal bleeding is anticipated (*Up to Date, Approach to the Adult With Asymptomatic Bacteriuria*)
- WHOM TO TREAT: Asymptomatic bacteriuria is presence of bacteria in urine from a patient who does not have typical symptoms of a urinary tract infections. This requires confirmation by two consecutive samples. (*Up to Date, Hospital Management of Older Adults*)
- UTI IS COMMONLY OVERDIAGNOSED AND OVERTREATED: Studies suggest that UTI is incorrectly diagnosed in as many as 40% of hospitalized older people...emerging antibiotic resistance highlights the importance of obtaining a firm diagnosis, treating with appropriate antibiotics. (*Up to Date, Approach to the Adult With Asymptomatic Bacteriuria*)
- Bacteria can establish colonization of a patient's bladder within 3 days of their introduction onto the inner or outer surface of urinary catheters. This bacteria that is introduced is often associated with catheter biofilms and this biofilm formation within invasive devices can be the primary mechanism for developing catheter associated UTIs. (*APIC Guide to the Elimination of Catheter-Associated Urinary Tract Infections*)
- Studies have shown a strong and direct correlation between catheter use greater than six days and CAUTI occurrence. In the same study, it was also reported that bacteriuria is nearly universal by day 30 of catheterization. (*Engineering Out the Risk of Infection with Urinary Catheters, Emerging Infectious Disease, 2001*)



LITERATURE REVIEW

- In the long-term care setting, the McGreer definitions of infection are often used to guide clinical diagnosis and urine culture results are not included in their criteria for a symptomatic urinary tract infection. (*APIC Guide to the Elimination of Catheter-Associated Urinary Tract Infections*)
- In the long-term care setting, surveillance for asymptomatic bacteriuria is not recommended as it represents the baseline status of many long-term care residents. (*APIC Guide to the Elimination of Catheter-Associated Urinary Tract Infections*)
- The standard definition of a positive urine culture is $\geq 10^5$ CFU/ml together with pyuria (e.g., leukocyte count $\geq 10^5$ WBC/ml). This definition does not apply to all patients. If fecal contamination has been ruled out, a lower colony count may be indicative of UTI. There are also several other settings in which a colony count of $\leq 10^5$ /ml often represents true infection rather than contamination:
 - Patients already being treated with antimicrobials
 - In men in whom contamination is a much lesser problem
 - When organisms other than E. Coli and Proteus are present (*Urine Sampling and Culture in the Diagnosis of Urinary Tract Infection in Adults, Up to Date*)



So...how do we improve?

- Education of clinicians and coders
- Strong communication skills for crucial conversations
- Culture of safety- patients first!
- Willingness to work together to attain accurate, appropriate documentation
- Changes in processes
 - Concurrent review
 - Others?



Concurrent Review

- Concurrent review of Micro reports, high risk medical records, etc.
- MDRO, C.difficile tracking.
- Rounding and getting information from direct care staff
- Core Measure /Quality staff, pharmacy, etc. providing eyes and ears
- Monthly reporting of data
- Clinical Documentation Improvement
 - Specific Person assigned to concurrent review charts for conditions that could show up
 - Search/View Records
 - Initiate Concurrent Queries
 - Re-route Incomplete Concurrent Queries



Let's Talk

- What barriers have you faced?
- What communication techniques have you found useful/successful?
- What tools would help you be more successful?

