

Best Practice Update: Asymptomatic Bacteriuria & Acute Uncomplicated Cystitis

Current Primary Care Prescribing Practices:

- More than 1 out of 10 visits receiving antibiotics in primary care was for uncomplicated urinary tract infection (UTI), also known as cystitis.
- Top 3 most common prescriptions for uncomplicated UTI are nitrofurantoin, ciprofloxacin and trimethoprim-sulfamethoxazole.

1. Asymptomatic bacteriuria

- a. Healthy nonpregnant women (regardless of age) should not be screened or treated for asymptomatic bacteriuria (ASB).¹
- b. Prevalence of ASB is 1-5% in healthy premenopausal women, and 2.8-8.6% in healthy postmenopausal women.^{1,2}
- c. ASB should only be treated in:¹
 - 1) Pregnant patients
 - 2) Prior to invasive urologic procedures
 - 3) Potentially in kidney transplant patients who are less than 30 to 60 days from transplant^{1,3}
- d. Up to 45 percent of ASB cases are inappropriately treated⁴ This can lead to harm including antimicrobial resistance, *Clostridium difficile* infections or other antibiotic adverse effects.

2. Acute uncomplicated cystitis

- a. Classic signs/symptoms include new dysuria, frequency, urgency, suprapubic pain.
- b. Most common organisms include *E. coli*, *Klebsiella pneumoniae* and *Proteus mirabilis*.
- c. If urine culture data is available from last 6 months, use this to tailor initial therapy. Otherwise, use local antibiogram to guide empiric treatment. **Avoid fluoroquinolones without prior or current culture data; historically have had poor fluoroquinolone sensitivities at VUMC.**
- d. Empiric treatment of cystitis based on VUMC antibiogram:
 - i. Nitrofurantoin 100 mg BID x 5 days
 - ii. Cephalexin 500 mg BID x 5-7 days (recent data demonstrated that BID dosing was as effective as 4x daily dosing)⁵
 - iii. Amoxicillin-clavulanate 875/125 mg x 5-7 days
- e. When susceptibilities are confirmed:
 - i. Nitrofurantoin and cephalexin as above
 - ii. Trimethoprim-sulfamethoxazole 1 double strength tablet BID x 3 days
 - iii. Amoxicillin 500 mg TID or 875 mg BID x 5-7 days
 - iv. Ciprofloxacin 250 mg BID or levofloxacin 250 mg daily x 3 days
 - v. Fosfomycin is an option for *E. coli* but only if for cystitis
- f. Dysuria symptom management:
 - i. Acetaminophen 650 mg q6h PRN x 7 days
 - ii. If CrCl>50: phenazopyridine 200 mg TID x 2 days
 - iii. If CrCl >30: ibuprofen 400 mg q6h PRN x 7 days (use shortest duration possible if CrCl <60)

References:

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2. Nicolle LE. Asymptomatic bacteriuria: When to screen and when to treat. *Infectious Disease Clinics of North America*. 2003;17(2):367-394. doi:10.1016/S0891-5520(03)00008-4
3. Goldman JD, Julian K. Urinary tract infections in solid organ transplant recipients: Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice. *Clin Transplant*. 2019 Sep;33(9):e13507. doi: 10.1111/ctr.13507. Epub 2019 Mar 28. PMID: 30793386.
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