



UC Davis Health Antimicrobial Stewardship Program

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The UC Davis Antimicrobial Stewardship Program (ASP) was first established in 1986 and then expanded in pediatrics in 2011 and hospital wide in 2013 in response to the growing challenge of antibiotic resistance. Due to increasing antibiotic resistance, patients are at a higher risk for adverse effects and poor outcomes and treatment strategies become more complex.

Antibiotics are life-saving drugs, and their use has important implications for patient care and public health. With this in mind, the UC Davis Health ASP strives to ensure all patients receive optimal antibiotic therapy when indicated. We thank you for your support in putting this very important program into action.

*Image: "Seemingly Simple Elegance," Arwa Hadid, Undergraduate MLS Student, Oakland University, Rochester Hills, MI, United States.
Source: <https://asm.org/Events/ASM-Agar-Art-Contest/Previous-Winners>*

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Asymptomatic Bacteriuria

Diagnosis

- Asymptomatic bacteriuria (ASB) is a positive urine culture in a patient with no signs or symptoms of a UTI (dysuria, frequency, urgency, fever, flank pain).
- Asymptomatic bacteriuria (ASB) is common and often associated with pyuria (urine containing ≥ 10 WBCs per high-powered field). Although pyuria predicts the presence of bacteriuria, in the absence of symptoms this bacteriuria is not clinically meaningful in most cases.

Population	Prevalence of ASB	Prevalence of Pyuria in Persons With ASB
Healthy premenopausal women	< 5%	32%
Women 65-90 years old	6-16%	
Women > 90 years old	22-43%	
Diabetic women	9-27%	70%
People receiving hemodialysis	28%	90%
Female long-term care residents	25-50%	90%
Male long-term care residents	15-35%	90%
Presence of indwelling urinary catheter	100%	50-100%

Treatment

- Most patients with asymptomatic bacteriuria **SHOULD NOT** be treated.
- Treatment provides no clinical benefits and is associated only with the development of future UTIs that are antibiotic resistant.
- Exceptions: (1) pregnant patients or (2) patients about to undergo a urologic procedure.

How can I prevent unnecessary treatment of asymptomatic bacteriuria?

- Do not order “urinaylsis with reflex” unless your patient has signs and symptoms of a UTI. Order “urinaylsis - complete” for simple urinalysis purposes.
 - Foul-smelling or cloudy urine does not indicate a UTI.
 - Mental status change alone does not indicate a UTI.

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Gonorrhea Treatment Changes per CDC

Q: You are seeing a 35-year-old sexually active man in clinic. He reports cloudy urethral discharge. You send a urine sample for Chlamydia/Gonorrhea nucleic acid amplification testing (NAAT). While awaiting the results, you would like to start empiric therapy for urethritis. What would be the recommended treatment course?

A: Ceftriaxone 500 mg IM plus doxycycline 100 mg PO BID x 7 days.

Changing resistance patterns of *N. gonorrhoeae* isolates in the United States have led to frequent changes in treatment recommendations. In December 2020, the CDC again updated their recommendations for treatment of gonococcal infections. Prior recommendations from 2010 suggested that dual therapy with IM ceftriaxone (250 mg) and oral azithromycin (1 g) would prevent emergence of antimicrobial resistance and simultaneously treat *Chlamydia* coinfections. However, increasing azithromycin resistance has now prompted the CDC to make a new recommendation to treat uncomplicated gonococcal infections with **a single high dose of ceftriaxone (500mg). If Chlamydia co-infection has not been ruled out, treatment with both a single IM dose of ceftriaxone and 7 days of doxycycline is recommended.**

A test of cure is generally not recommended following treatment, unless symptoms persist or in persons with pharyngeal gonorrhea. For persistent symptoms, a culture should be submitted so that antimicrobial susceptibility testing can be performed to evaluate for a ceftriaxone-resistant strain. Repeat gonococcal NAAT testing is recommended 3 months after treatment to evaluate for re-infection.

Summary: Uncomplicated gonococcal infections should be treated with high-dose IM ceftriaxone (500 mg). Azithromycin is no longer recommended for gonococcal infections. If empiric therapy is desired prior to results of NAAT testing, treatment with high dose ceftriaxone and a 7-day course of doxycycline (for *Chlamydia* co-infection) is recommended.

Please contact Dr. Natasha Nakra, Assistant Professor of Pediatric Infectious Diseases, at nnakra@ucdavis.edu with any questions or comments.

Meet the Stewardship Team

Monica Donnelley began her career at UC Davis Health after graduating from Touro University, College of Pharmacy and completing a PGY2 Infectious Diseases (ID) Residency. In 2016 she assumed directorship of the PGY2 ID Residency Program. She is on faculty at UCD School of Medicine, UCSF School of Pharmacy, and Touro University College of Pharmacy. Areas of research interest include dosing antimicrobials in the critically ill, OPAT, and optimizing antimicrobial use. Outside of the hospital, you will find Monica on the volleyball court, training for a triathlon, or experimenting with elaborate desserts. She enjoys spending time outdoors with her husband Nathan, son Luke, and fluffy pup Maya.



Test Your Knowledge

Would you like to win a \$10 gift certificate to the Sunshine Café? Complete the following post-newsletter quiz and submit to hs-ASP@ucdavis.edu to be entered into a raffle for a free lunch!

A 63-year-old female with Type II diabetes is seen in the ED following 24 hours of vomiting and dysuria. She is hemodynamically stable and afebrile. Exam is notable for some right-sided CVA tenderness, but she is otherwise non-toxic appearing. Her CBC is unremarkable, and she is discharged home.

1. What empiric antibiotic course is most appropriate for this patient?
 - a. Nitrofurantoin 100 mg PO BID x 10-14 days
 - b. Fosfomycin 3 g sachet PO x 1
 - c. Levofloxacin 750 mg PO daily x 5-7 days
2. True or False: A urine culture growing >100,000 CFUs of *Pseudomonas aeruginosa* in a stable patient with a foley catheter (bladder catheter was switched out prior to obtaining the culture) and no fever or localizing symptoms still requires treatment with antibiotics to prevent complications.
3. When should urine cultures be obtained in a patient with a foley catheter in place?
 - a. When the urine appears cloudy / foul smelling & after the catheter has been replaced
 - b. When symptoms suggestive of a UTI are present & after the catheter has been replaced
 - c. Immediately when symptoms suggestive of a UTI are present to prevent delay
4. True or False: Higher dose IM ceftriaxone (500 mg) is now recommended for the treatment of uncomplicated gonococcal infections.

Answers to last Newsletter's quiz: 1. B, 2. False, 3. A., 4. T

ASP Gold Star Winners for May 2021



The following staff have been recognized by the ASP team for their dedication to combatting antimicrobial resistance and commitment to the principles of antimicrobial stewardship:

- Tisha Yeh (Peds)
- Felipe Arredondo (IM)

Fun Microbe Fact:

Up to 15 percent of the calories present in your food are extracted by guest bacteria in your colon and used to feed you.

Contact Us

The Antimicrobial Stewardship Program team members

Adult ASP Physicians:

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Antibiotic questions? Contact us.

See the On-Call Schedule for the ASP attending/fellow of the day

Contact the ASP Pharmacist at 916-703-4099 or by Vocera "Infectious Disease Pharmacist"