A petri dish containing several bacterial colonies of Paenibacillus dendritiformis. The colonies are circular and have a fuzzy, radiating appearance. They are arranged in a pattern that leaves gaps between them, which are described as 'toxic no-man's land'. The colonies are illuminated with a blue light, making them appear bright blue and white. The petri dish is white and has some handwritten text on the bottom edge, including '1.5.19.2.03.-95.2.03.' and 'T56/48 6 7/8/195'.

# UC Davis Health Antimicrobial Stewardship Program

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The UC Davis Antimicrobial Stewardship Program (ASP) was first established in pediatrics in 2011 and then 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: Chemicals are released when colonies of Paenibacillus dendritiformis grow too close to each other, creating a toxic no-man's land in between.*  
Source: <https://www.flickr.com/photos/microbeworld/5793249453>

## In This Issue

- Asymptomatic Bacteriuria: What You Need to Know
- Got GAS? Testing for Group A Strep
- Test Your Knowledge
- ASP Gold Star Winners for November 2018
- Meet the Stewardship Team

# 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  $\geq 10$  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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## Got GAS? Testing for Group A Strep

**Q: Should testing for Group A Strep be performed for all patients prior to prescribing antibiotics for suspected bacterial pharyngitis?**

**A: Yes. The Infectious Diseases Society of America recommends testing all patients with suspected pharyngitis prior to treatment with antibiotics.**

UC Davis Outpatient Antibiotic Stewardship Program has implemented new tools for the diagnosis and management of bacterial pharyngitis. New molecular testing can reliably identify which patients have a bacterial infection and testing children 2-18 years of age is a national quality improvement metric. Fewer than 10% of adults with suspected pharyngitis will have a bacterial etiology so testing prior to treatment can help reduce unnecessary exposure to antibiotics and subsequent complications, including *C. difficile* infection.

The goal of treatment of streptococcal pharyngitis is to reduce the onset of rheumatic fever in children, which is extremely rare in this country. Treatment will not reduce the chance of glomerulonephritis or other complications. To help guide your management of patients with pharyngitis, please see the figure on the next page.

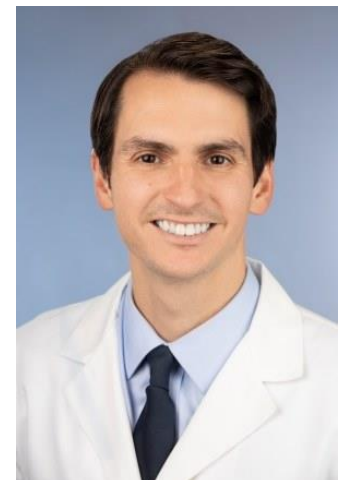
*Please contact Dr. Larissa May, Director of ED and Outpatient Antibiotic Stewardship, at [ismay@ucdavis.edu](mailto:ismay@ucdavis.edu) or Dr. Ritu Cheema, Assistant Professor of Pediatric Infectious Diseases, at [ritcheema@ucdavis.edu](mailto:ritcheema@ucdavis.edu) with any questions or comments.*

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## Meet the Stewardship Team

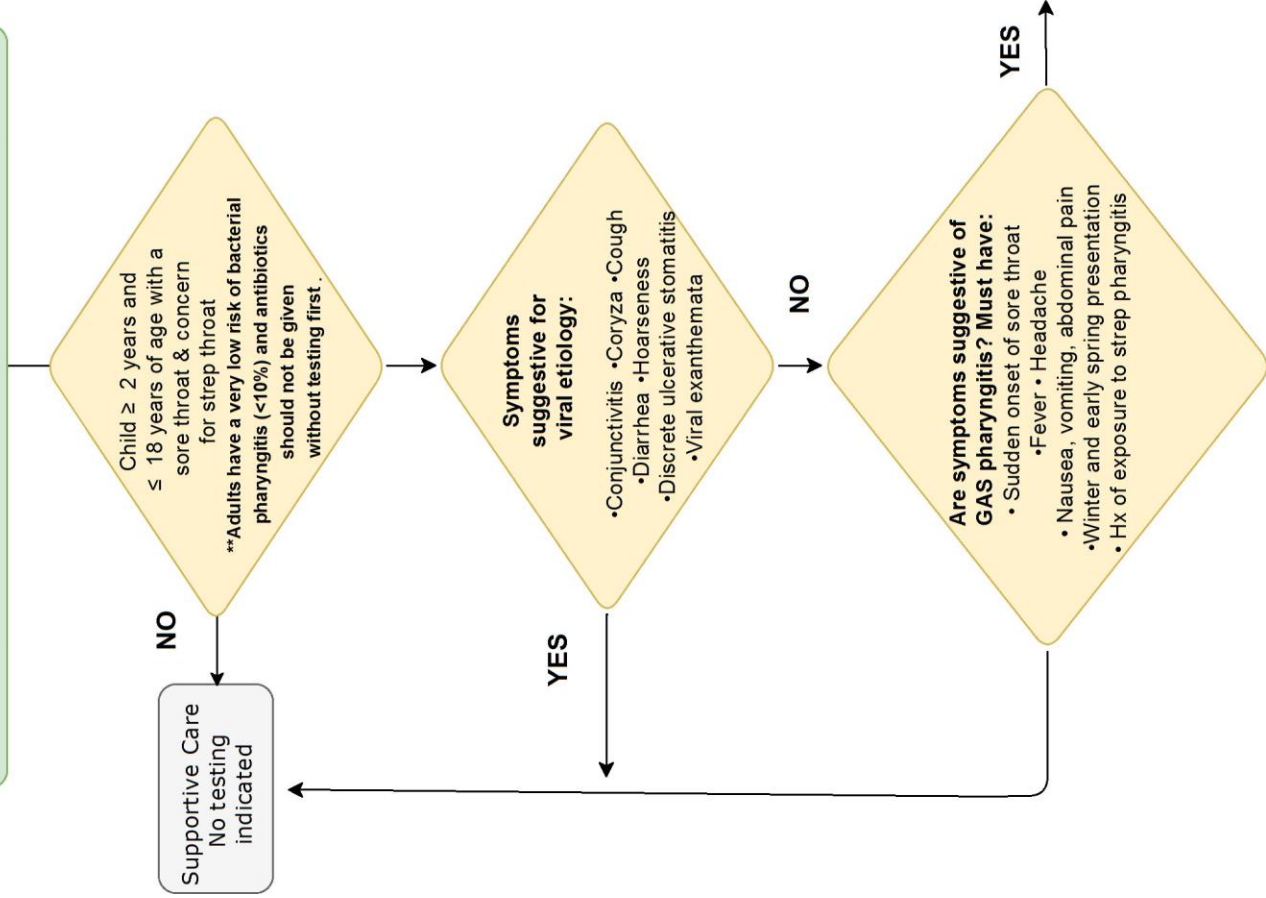
Dr. Scott Crabtree is our newest ASP attending physician. He comes to us from the Air Force and David Grant Medical Center where he practiced in ID and served as the ASP co-director for 5 years after completing his fellowship at Dartmouth Hitchcock Medical Center in New Hampshire. His research interests include using technology to influence clinical decision making in ways that foster appropriate antimicrobial choices. In his spare time, Dr. Crabtree enjoys traveling, being outside, and board games. He is the proud owner of a retired research beagle, Butternut.

If you see Dr. Crabtree, say hi to the newest member of the team!





**Indications for Group A Streptococcal (GAS) Testing**



**YES**

Rapid Strep PCR  
or  
Throat culture  
(if PCR *unavailable*)

**Negative**

No Treatment indicated

**Positive**

Treat with antibiotics

**Supportive Exam:**

- Tonsillopharyngeal inflammation
- Patchy tonsillopharyngeal exudates
- Palatalpetechiae(not pathognomic but only supportive in the right setting)
- Anteriorcervical adenitis (tender nodes)
- Scarlatiniform rash

## 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 [ucdavisASP@gmail.com](mailto:ucdavisASP@gmail.com) 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 nausea and vomiting after visiting with her grandchildren who had recent GI symptoms as well. She becomes slightly altered and her glucose is noted to be 523. She is hemodynamically stable and afebrile. Apart from a mild AKI the rest of her labs are otherwise unremarkable.

1. What type of urinalysis should you order to assess for glucosuria or ketonuria?
  - a. Urinalysis with Reflex
  - b. Urinalysis – Complete
2. True or False: Mental status changes alone are indicative of a UTI and should be treated if the urine culture grows bacteria.
3. What is the best way to prevent unnecessary treatment of asymptomatic bacteriuria?
  - a. Do not order urine cultures unless your patient has signs and symptoms of a UTI
  - b. Only order urine cultures in patients undergoing preoperative evaluation
  - c. Only order urine cultures in women greater than 90 years old since they are most likely to have a UTI
4. When should the new “Rapid Strep A” PCR test for *Streptococcus pyogenes* be ordered?
  - a. Whenever anyone complains of pharyngitis
  - b. In children ages 2-18 with pharyngitis, coryza, cough, and an otherwise normal exam
  - c. In children ages 2-18 with pharyngitis, vomiting, abdominal pain, and antero-cervical lymphadenitis

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## ASP Gold Star Winners for November 2018



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:

- Kevin Burnham
- Katie Newell
- Payam Vali
- Maha Sami
- Priyanka Teckchandani

### Fun Microbe Fact:

The human body contains trillions of microorganisms — outnumbering human cells by 10 to 1. However, because of their small size microorganisms make up only about 1 to 3 percent of the body's mass (in a 200-pound adult, that's 2 to 6 pounds of bacteria)

## Contact Us

The Antimicrobial Stewardship Program team members

Adult ASP Physicians:

Stuart Cohen, MD  
Jay Solnick, MD  
Archana Maniar, MD  
Sarah Waldman, MD  
Jill Ahrens, MD  
Scott Crabtree, MD  
Christian Sandrock, MD  
Larissa May, MD

Pediatric ASP Physicians:

Natasha Nakra, MD  
Jean Wiedeman, MD  
Ritu Cheema, MD  
Elizabeth Partridge, MD

ASP Pharmacists:

Monica Donnelley, PharmD  
Nicola Clayton, PharmD  
Wes Hoffmann, PharmD  
Matthew Davis, PharmD

**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 Vocera "Infectious Disease Pharmacist"**