

Asymptomatic Bacteriuria: 2019 IDSA Guidelines Update

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To screen or not to screen? To treat or not to treat? These are the questions...

Asymptomatic bacteriuria (**ASB**) is defined as “the presence of 1 or more species of bacteria growing in the urine at specified quantitative counts ($\geq 10^5$ colony-forming units [CFU]/mL or $\geq 10^8$ CFU/L), irrespective of the presence of pyuria, in the absence of signs or symptoms attributable to a UTI.”² The established 2005 Infectious Diseases Society of America (IDSA) treatment guidelines for ASB only recommend screening and treating for ASB in patients who are either pregnant or undergoing an invasive urologic procedure. Essentially, for all other patients, screening for and treating ASB is not recommended.¹

These guidelines remained unchanged since 2005, until recently when the IDSA published an update for them. The new update remains consistent with the established aforementioned recommendations. In addition, it refines the clinical presentation of symptomatic urinary tract infections (UTIs), particularly in those patients at a high risk of ASB. The guidelines have also further limited which patient populations should be screened or treated for ASB to include infants, children, patients with solid organ transplants, or neutropenia. Based on published new clinical evidence, IDSA has additionally established that obtaining urine cultures to screen for bacteriuria and treatment for ASB should be discouraged unless there is clinical evidence present indicating possible infection.²

These updates stand to improve antibiotic stewardship and prevent antibiotic associated complications, such as *Clostridium difficile* colitis, adverse drug effects, and antimicrobial resistance. In some cases, unnecessarily prescribed antibiotics even increased the patient’s risk for a UTI shortly after their completion of therapy.²

How do these guidelines impact Children’s of Alabama?

Young children cannot reliably provide a clean-catch urine sample and perineal bag collections are at high risk for contamination. Therefore, screening children using these standard culture techniques results in a high incidence of false positives and the administration of unnecessary antibiotics. There is a large correlation between symptomatic UTI and bacteriuric children. However, there is no evidence that treatment of ASB will prevent symptomatic UTI, pyelonephritis, renal scarring or renal insufficiency. However, inappropriately treating ASB can result in adverse effects, increased costs, and can contribute to antimicrobial resistance. Bottom line, treating ASB offers more risk than benefit for our patients at Children’s of Alabama.²

Prevalence of ASB Reported for Different Populations²

Population	Prevalence, %
Children	
Boys	<1
Girls	1–2
Healthy women	
Premenopausal	1.0–5.0
Pregnant	1.9–9.5
Postmenopausal (age 50–70 y)	2.8–8.6
Persons with diabetes	
Women	10.8–16
Men	0.7–11
Elderly persons in the community (age ≥ 70 y)	
Women	10.8–16
Men	3.6–19
Elderly persons in a long-term care facility	
Women	25–50
Men	15–50
Persons with spinal cord injury	
Intermittent catheter use	23–69
Sphincterotomy/condom catheter	57
Persons with kidney transplant	
First month posttransplant	23–24
1 mo–1 y post-transplant	10–17
>1 y post-transplant	2–9
Persons with indwelling catheter use	
Short-term	3%–5%/day catheter
Long-term	100

So, who gets screened and treated?

- ? Should patients undergoing invasive urological procedures still be screened and treated for ASB?
 - ✔ Yes, treatment should be targeted based on urine culture data and only 1-2 doses should be administered 30-60 minutes prior to the procedure.
 - ✔ This recommendation seeks to avoid serious postoperative complications, such as sepsis.
- ? Should the pediatric patients at Children’s of Alabama be screened and treated for ASB?



No, the *only* exceptions to this is if the patient is planned to undergo an endoscopic urologic procedure associated with mucosal trauma, or the patient is pregnant.

Recommended to screen/treat ABS
<ul style="list-style-type: none"> • Pregnant women • Patients who will undergo endoscopic urologic procedures associated with mucosal trauma
Recommended NOT to screen/treat ASB
<ul style="list-style-type: none"> • Infants and children • Patients with diabetes • Patients who have had renal transplant surgery >1 month prior • Patients who have received a nonrenal solid organ transplant (SOT) • Patients with impaired voiding following a spinal cord injury • Patients with short or long term indwelling urethral catheter <ul style="list-style-type: none"> ○ Equally applicable for patients with suprapubic catheters • Patients with long term indwelling catheters • Patients undergoing elective non-neurologic surgery • Patients undergoing implantation of urologic devices, including surgery for an artificial urine sphincter or penile prosthesis implantation • Patients living with implanted urologic devices • Healthy, nonpregnant women (pre- or postmenopausal) • Older patients living in the community and are functionally impaired • Older patients living in long-term care facilities • Older patients with functional and/or cognitive impairment... <ul style="list-style-type: none"> ○ with bacteremia and without local genitourinary (GU) symptoms or other systemic signs of infection <i>who experience a fall</i> (assess for other causes and observe these patients carefully) ○ with bacteriuria <i>and delirium</i> and without local GU symptoms or other systemic signs of infection (assess for other causes and observe these patients carefully)
No recommendation to screen/treat or not to screen/treat ASB
<ul style="list-style-type: none"> • Patients with high risk neutropenia (≥7 days post chemo, ANC <100 cells/m³) • Patients with indwelling catheters at the time of catheter removal • Patients who are within the first month post renal transplant surgery

References

1. Nicolle LE, Bradley S, Colgan R, Rice JC, Schaeffer A, Hooton TM. Infectious Diseases Society of America guidelines for the diagnosis and treatment of asymptomatic bacteriuria in adults. Clin Infect Dis. 2005 Mar 1;40(5):643-54. DOI: 10.1086/427507
2. Nicolle LE, Gupta K, Bradley SF, Colgan R, DeMuri GP, Drekonja D, Eckert LO, Geerlings SE, Köves B, Hooton TM, Juthani-Mehta M, Knight SL, Saint S, Schaeffer AJ, Trautner B, Wullt B, Siemieniuk R. Clinical Practice Guideline for the Management of Asymptomatic Bacteriuria: 2019 Update by the

Infectious Diseases Society of America. Clin Infect Dis. 2019 Mar 21. pii: ciy1121. DOI: 10.1093/cid/ciy1121. [Epub ahead of print]