Screening for Asymptomatic Bacteriuria: Recommendation Statement

U.S. Preventive Services Task Force

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The U.S. Preventive Services Task Force (USPSTF) last addressed screening for asymptomatic bacteriuria in the 1996 *Guide to Clinical Preventive Services,* Second Edition and made the following recommendations: All pregnant women should be screened for asymptomatic bacteriuria using urine culture at 12-16 weeks' gestation (A recommendation). Routine screening of pregnant women using leukocyte esterase or nitrite testing was not recommended because of poor test characteristics compared with urine culture (D recommendation).[1] There was insufficient evidence to recommend for or against routine screening of ambulatory elderly women or women with diabetes using leukocyte esterase or nitrite testing (C recommendation).[1] Routine screening for asymptomatic bacteriuria using leukocyte esterase or nitrite testing was not recommended for other asymptomatic persons, including school-aged girls (E recommendation), the institutionalized elderly (E recommendation), and other children, adolescents, and adults (D recommendation).[1] Screening for asymptomatic bacteriuria with microscopy testing was not recommended (D recommendation).[1]

Since then, the USPSTF criteria to rate the strength of the evidence have changed. Therefore, the recommendation statement that follows has been updated and revised based on the current USPSTF methodology and rating of the strength of the evidence.[2] Explanations of the current USPSTF ratings and of the strength of overall evidence are given in Appendix A and Appendix B, respectively. This recommendation statement and the brief update "Screening for Asymptomatic Bacteriuria,"[3] are available through the USPSTF Web site (http://www.preventiveservices.ahrq.gov), through the National Guideline Clearinghouse™ (http://www.guideline.gov), and in print through the AHRQ Publications Clearinghouse (call 1-800-358-9295 or E-mail ahrqpubs@ahrq.gov).

Recommendations made by the USPSTF are independent of the U.S. Government. They should not be construed as an official position of AHRQ or the U.S. Department of Health and Human Services.

Summary of Recommendations

The U.S. Preventive Services Task Force (USPSTF) strongly recommends screening for asymptomatic bacteriuria with urine culture for pregnant women at 12-16 weeks' gestation. **A recommendation**

The USPSTF found good evidence that screening pregnant women for asymptomatic bacteriuria with urine culture significantly reduces symptomatic urinary tract infections,

low birth weight, and preterm delivery. The benefits of screening and treatment substantially outweigh any potential harms.

The USPSTF recommends against routine screening for asymptomatic bacteriuria in men and non-pregnant women. **D recommendation**

The USPSTF found fair evidence that screening men and non-pregnant women for asymptomatic bacteriuria is ineffective in improving clinical outcomes. In the absence of evidence of benefit, the potential harms associated with overuse of antibiotics are especially significant.

Clinical Considerations

- The screening tests used commonly in the primary care setting (dipstick analysis and direct microscopy) have poor positive and negative predictive value for detecting bacteriuria in asymptomatic persons. Urine culture is the gold standard for detecting asymptomatic bacteriuria but is expensive for routine screening in populations with a low prevalence of this condition. Results from one study done with a new enzymatic urine-screening test (Uriscreen^{TM}) showed that the test has a sensitivity of 100% and a specificity of 81%.

- Good evidence exists that screening pregnant women for asymptomatic bacteriuria with urine culture (rather than urinalysis) significantly reduces symptomatic urinary tract infections, low birth weight, and preterm delivery. A specimen obtained at 12-16 weeks' gestation will detect approximately 80% of patients with asymptomatic bacteriuria. The optimal frequency of subsequent urine testing during pregnancy is uncertain.

- Good evidence exists that screening individuals other than pregnant women for asymptomatic bacteriuria does not significantly improve clinical outcomes. Results from a study of women with diabetes who were treated for asymptomatic bacteriuria demonstrated no reduction in complications.[4] Although there were short-term results in clearing bacteriuria with antimicrobial therapy, there was no decrease in the number of symptomatic episodes or hospitalizations over the long term. Furthermore, the high rate of recurrence of bacteriuria in those who were screened and treated resulted in a marked increase in the use of antimicrobial agents.

References

1. U.S. Preventive Services Task Force; *Guide to Clinical Preventive Services.* 2nd ed. Washington, DC: Office of Disease Prevention and Health Promotion, 1996.

2. Harris RP, Helfand M, Woolf SH, Lohr KN, Mulrow CD, Teutsch SM, Atkins D, for

the Methods Word Group, third U.S. Preventive Services Task Force. Current methods of the U.S. Preventive Services Task Force: a review of the process. *Am J Prev Med.* 2001;20(3S):21-35.

3. Screening for asymptomatic bacteriuria: a brief evidence update for the U.S Preventive Services Task Force. Agency for Healthcare Research and Quality. 2004. Available at http://www.preventiveservices.ahrq.gov.

4.Harding GKM, Zhanel GG, Nicolle LE, Cheang M. Antimicrobial treatment in diabetic women with asymptomatic bacteriuria. *N Engl J Med*. 2002; 347(20):1576-1583.

APPENDIX A

U.S. PREVENTIVE SERVICES TASK FORCE RECOMMENDATIONS AND RATINGS

The Task Force grades its recommendations according to one of 5 classifications (A, B, C, D, I) reflecting the strength of evidence and magnitude of net benefit (benefits minus harms):

A. The USPSTF strongly recommends that clinicians provide [the service] to eligible patients. *The USPSTF found good evidence that [the service] improves important health outcomes and concludes that benefits substantially outweigh harms.*

B. The USPSTF recommends that clinicians provide [the service] to eligible patients. *The USPSTF found at least fair evidence that [the service] improves important health outcomes and concludes that benefits outweigh harms.*

C. The USPSTF makes no recommendation for or against routine provision of [the service]. *The USPSTF found at least fair evidence that [the service] can improve health outcomes but concludes that the balance of benefits and harms is too close to justify a general recommendation.*

D. The USPSTF recommends against routinely providing [the service] to asymptomatic patients. *The USPSTF found at least fair evidence that [the service] is ineffective or that harms outweigh benefits.*

I. The USPSTF concludes that the evidence is insufficient to recommend for or against routinely providing [the service]. *Evidence that [the service] is effective is lacking, of poor quality, or conflicting and the balance of benefits and harms cannot be determined.*

APPENDIX B

U.S. PREVENTIVE SERVICES TASK FORCE
STRENGTH OF OVERALL EVIDENCE

The USPSTF grades the quality of the overall evidence for a service on a 3-point scale (good, fair, poor):

Good: Evidence includes consistent results from well-designed, well-conducted studies in representative populations that directly assess effects on health outcomes.

Fair: Evidence is sufficient to determine effects on health outcomes, but the strength of the evidence is limited by the number, quality, or consistency of the individual studies, generalizability to routine practice, or indirect nature of the evidence on health outcomes.

Poor: Evidence is insufficient to assess the effects on health outcomes because of limited number or power of studies, important flaws in their design or conduct, gaps in the chain of evidence, or lack of information on important health outcomes.