

CADTH Reference List

# Screening for Asymptomatic Bacteriuria During Pregnancy

July 2022

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**Cite As:** *Screening for Asymptomatic Bacteriuria During Pregnancy*. (CADTH reference list). Ottawa: CADTH; 2022 July.

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**Funding:** CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

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## Key Messages

- Three systematic reviews and 1 randomized controlled trial about the clinical utility of screening for asymptomatic bacteriuria versus no screening in people who are pregnant and are not at risk for bacteriuria were identified.
- No literature about the clinical utility of screening for asymptomatic bacteriuria with different screening approaches or algorithms in people who are pregnant and are not at high risk for bacteriuria was identified.
- Six evidence-based guidelines about the use of screening for asymptomatic bacteriuria in people who are pregnant and are not at high risk for bacteriuria were identified.

## Research Questions

1. What is the clinical utility of screening for asymptomatic bacteriuria versus no screening in people who are pregnant and are not at high risk for bacteriuria?
2. What is the clinical utility of screening for asymptomatic bacteriuria with different screening approaches or algorithms in people who are pregnant and are not at high risk for bacteriuria?
3. What are the evidence-based guidelines regarding the use of screening for asymptomatic bacteriuria in people who are pregnant and are not at high risk for bacteriuria?

## Methods

### Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, the Cochrane Database of Systematic Reviews, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were bacteriuria, screening, and pregnancy. Comments, newspaper articles, editorials, and letters were excluded. Where possible, retrieval was limited to the human population. The search was also limited to English-language documents published between January 1, 2017, and July 5, 2022.

### Selection Criteria

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in [Table 1](#). Full texts of study publications were not reviewed. Open access full-text versions of evidence-based guidelines were reviewed when available.

**Table 1: Selection Criteria**

Criteria	Description
<b>Population</b>	Asymptomatic pregnant people at any stage of pregnancy who are not at high risk for bacteriuria
<b>Intervention</b>	Screening for asymptomatic bacteriuria with urine culture using any screening approach or algorithm
<b>Comparator</b>	Q1: No screening for asymptomatic bacteriuria Q2: Screening for asymptomatic bacteriuria with urine culture using alternative approaches or algorithms Q3: Not applicable
<b>Outcomes</b>	Q1 and Q2: Clinical utility (e.g., maternal mortality, maternal sepsis, pyelonephritis, perinatal mortality, spontaneous loss of pregnancy neonatal sepsis, preterm delivery, birth weight, maternal and neonatal harms [e.g., rates of adverse events]) Q3: Recommendations regarding best practices (e.g., appropriate patient populations, recommended screening techniques or approaches, screening algorithms)
<b>Study designs</b>	Health technology assessments, systematic reviews, randomized controlled trials, evidence-based guidelines

## Results

Three systematic reviews<sup>1-3</sup> and 1 randomized controlled trial<sup>4</sup> about the clinical utility of screening for asymptomatic bacteriuria versus no screening in people who are pregnant and are not at risk for bacteriuria were identified. No relevant literature about the clinical utility of screening for asymptomatic bacteriuria with different screening approaches or algorithms in people who are pregnant and are not at high risk for bacteriuria was identified. Six evidence-based guidelines<sup>5-10</sup> about the use of screening for asymptomatic bacteriuria in people who are pregnant and are not at high risk for bacteriuria were identified. No relevant health technology assessments or systematic reviews were identified.

Additional references of potential interest that did not meet the inclusion criteria are provided in [Appendix 1](#).

## References

### Health Technology Assessments

No literature identified.

### Systematic Reviews

1. Henderson JT, Webber EM, Bean SI. Screening for Asymptomatic Bacteriuria in Adults: An Updated Systematic Review for the U.S. Preventive Services Task Force. (Report No.: 19-05252-EF-1). Rockville (MD): Agency for Healthcare Research and Quality (US); 2019: <https://www.ncbi.nlm.nih.gov/books/NBK547176/>. Accessed 12 June 2022.
2. Henderson JT, Webber EM, Bean SI. Screening for Asymptomatic Bacteriuria in Adults: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*. 2019;322(12):1195-1205. [PubMed](#)
3. Wingert A, Pillay J, Sebastianski M, et al. Asymptomatic bacteriuria in pregnancy: systematic reviews of screening and treatment effectiveness and patient preferences. *BMJ Open*. 2019;9(3):e021347. [PubMed](#)

### Randomized Controlled Trials

4. Gehani M, Kapur S, Madhuri SD, et al. Effectiveness of antenatal screening of asymptomatic bacteriuria in reduction of prematurity and low birth weight: Evaluating a point-of-care rapid test in a pragmatic randomized controlled study. *EClinicalMedicine*. 2021;33:100762. [PubMed](#)

### Guidelines and Recommendations

5. UK National Screening Committee. Antenatal screening programme: Asymptomatic bacteriuria. 2020; <https://view-health-screening-recommendations.service.gov.uk/asymptomatic-bacteriuria/>. Accessed 2022 July 7.
6. Australian Government Department of Health and Aged Care. Pregnancy Care Guidelines 38: Asymptomatic bacteriuria. 2019; <https://www.health.gov.au/resources/pregnancy-care-guidelines/part-f-routine-maternal-health-tests/asymptomatic-bacteriuria#382-testing-for-asymptomatic-bacteriuria>. Accessed 2022 July 7. See Section 38.2: Testing for Asymptomatic Bacteriuria
7. Nicolle LE, Gupta K, Bradley SF, et al. Clinical Practice Guideline for the Management of Asymptomatic Bacteriuria: 2019 Update by the Infectious Diseases Society of America. *Clin Infect Dis*. 2019;68(10):1611-1615. [PubMed](#)
8. US Preventive Services Task Force. Screening for Asymptomatic Bacteriuria in Adults: US Preventive Services Task Force Recommendation Statement. *JAMA*. 2019;322(12):1188-1194. [PubMed](#)
9. Moore A, Doull M, Grad R, et al. Recommendations on screening for asymptomatic bacteriuria in pregnancy. *CMAJ*. 2018;190(27):E823-E830. [PubMed](#)  
See Section: Recommendation and Screening (page E824-825)
10. World Health Organisation. WHO Recommendations on Maternal Health. 2017; <http://apps.who.int/iris/bitstream/10665/259268/1/WHO-MCA-17.10-eng.pdf?ua=1>  
Accessed 2022 July 7.  
See: Asymptomatic bacteriuria (page 4)

## Appendix 1: References of Potential Interest

### Previous CADTH Reports

11. Routine Urinalysis for Low Risk Pregnancies: Clinical Utility and Guidelines. (*CADTH Rapid response report: summary of abstracts*). Ottawa (ON): CADTH; 2017: <https://www.cadth.ca/sites/default/files/pdf/htis/2017/RB1090%20-%20Urinalysis%20in%20pregnancy%20Final.pdf>. Accessed 2022 July 7.

### Non-Randomized Studies

#### *Alternative Comparator – First Versus Second Trimester Screening*

12. Langermans LM, Cools W, Van Limbergen I, Gucciardo L, Faron G. Optimal timing to screen for asymptomatic bacteriuria during pregnancy: first vs. second trimester. *J Perinat Med*. 2021;49(5):539-545. [PubMed](#)

### Guidelines and Recommendations

#### *Unclear Methodology*

13. de Rossi P, Cimerman S, Truzzi JC, et al. Joint report of SBI (Brazilian Society of Infectious Diseases), FEBRASGO (Brazilian Federation of Gynecology and Obstetrics Associations), SBU (Brazilian Society of Urology) and SBPC/ML (Brazilian Society of Clinical Pathology/Laboratory Medicine): recommendations for the clinical management of lower urinary tract infections in pregnant and non-pregnant women. *Braz J Infect Dis*. 2020;24(2):110-119. [PubMed](#)
14. NHS Lanarkshire. University Hospital Wishaw, Women's Services Directorate, Guideline for the Management of Bacteriuria in Pregnancy. 2020; <https://nhsguidelines.scot.nhs.uk/media/1951/bacteriuria-in-pregnancy-june-2020.pdf> Accessed 2022 July 7.

### Review Articles

15. Luu T, Albarillo FS. Asymptomatic Bacteriuria: Prevalence, Diagnosis, Management, and Current Antimicrobial Stewardship Implementations. *Am J Med*. 2022;31:31. [PubMed](#)
16. Colgan R, Jaffe GA, Nicolle LE. Asymptomatic Bacteriuria. *Am Fam Physician*. 2020;102(2):99-104. [PubMed](#)
17. Rosenberger KD, Seibert A, Hormig S. Asymptomatic GBS bacteriuria during antenatal visits: To treat or not to treat? *Nurse Pract*. 2020;45(7):18-25. [PubMed](#)

### Additional References

18. Health Service Executive. Asymptomatic Bacteriuria in Pregnancy: Comments from Expert Advisory Committee. 2021; <https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/conditions-and-treatments/pregnancy-infections/asymptomatic-bacteriuria-in-pregnancy/>. Accessed 2022 July 7.
19. Jin J. Screening for Asymptomatic Bacteriuria. *JAMA*. 2019;322(12):1222. [PubMed](#)
20. Köves B. Asymptomatic Bacteriuria: To Treat or Not To Treat. *Pro Treatment. Eur Urol Focus*. 2019;5(1):13-14. [PubMed](#)