

Urinary Tract Infection (UTI) Program

Asymptomatic Bacteriuria

Change is not possible without delivering education to staff. This resource can be used to discuss asymptomatic bacteriuria.

This resource is part of Public Health Ontario's [UTI Program](#). For more information, please visit publichealthontario.ca/UTI or email UTI@oahpp.ca.

What is asymptomatic bacteriuria?

Asymptomatic bacteriuria is the presence of bacteria in the urine (a positive urine culture) without the signs and symptoms of a urinary tract infection (UTI). It is common for the elderly to have bacteria in their urine. In fact, 15%–30% of men and 25%–50% of women in long-term care may have bacteria in their urine without symptoms.

Why do some residents have asymptomatic bacteriuria?

A number of age-related factors and medical conditions are associated with asymptomatic bacteriuria. Diabetes, pelvic prolapse or cystocele, enlarged prostate, vaginal atrophy, immobility, incontinence and dehydration may all contribute to asymptomatic bacteriuria.

Should asymptomatic bacteriuria be treated with antibiotics?

No. Antibiotics are not required for asymptomatic bacteriuria because it is not an infection. Treatment of asymptomatic bacteriuria does not improve or prevent incontinence, prevent symptomatic UTIs from developing or have any other benefits. Harms have been seen in residents who are given antibiotics for asymptomatic bacteriuria.

Does asymptomatic bacteriuria lead to overprescribing of antibiotics?

Yes. One-third of UTI prescriptions in long-term care homes are given for asymptomatic bacteriuria. This means that a large number of residents are receiving antibiotics unnecessarily. This is a concern for both residents and long-term care homes.

Urine tests (such as dipsticks and urinalysis) are often positive for white blood cells, leukocyte esterase and nitrites in residents with asymptomatic bacteriuria, but this is also common and is not a reason to prescribe antibiotics. These tests are not recommended or useful for diagnosing UTIs in long-term care home residents.

What are the risks associated with treating asymptomatic bacteriuria with antibiotics?

Treating asymptomatic bacteriuria does more harm than good. It puts residents at unnecessary risk for antibiotic side effects (e.g., gastrointestinal, neurologic, renal), allergic reactions, *Clostridioides* (previously *Clostridium*) *difficile* infection and drug interactions. Unnecessary use of antibiotics also promotes antimicrobial resistance, so that fewer antibiotics are available to treat true infections (sometimes only intravenous antibiotics or no antibiotics at all). Infections with resistant bacteria can lead to more frequent trips to the emergency department, hospitalizations and decreased quality of life (e.g., from additional infection control precautions).

What can I do to stop unnecessary treatment of asymptomatic bacteriuria?

Understand that bacteria may be present in the urine of elderly residents, but that this does not necessarily indicate an infection and antibiotic treatment may not be required.

Send a urine culture only when the criteria for diagnosis of a UTI are met and residents are symptomatic—not for routine screening, changes in urine appearance or changes in behaviour alone.

Sources:

- Nicolle LE, Bradley S, Colgan R, Rice JC, Schaeffer A, Hooton TM; Infectious Diseases Society of America; American Society of Nephrology; American Geriatric Society. Infectious Diseases Society of America guidelines for the diagnosis and treatment of asymptomatic bacteriuria in adults. *Clin Infect Dis*. 2005;40:643–54. Available from: <https://academic.oup.com/cid/article/40/5/643/363229>
- Loeb M, Brazil K, Lohfeld L, McGeer A, Simor A, Stevenson K, et al. Effect of a multifaceted intervention on number of antimicrobial prescriptions for suspected urinary tract infections in residents of nursing homes: cluster randomised controlled trial. *BMJ*. 2005;331:669. Available from: <https://www.bmj.com/content/331/7518/669.short>
- Benton TJ, Young RB, Leeper SC. Asymptomatic bacteriuria in the nursing home. *Ann Long Term Care*. 2006;14(7):17–22.
- van Buul LW, van der Steen JT, Veenhuizen RB, Achterberg WP, Schellevis FG, Essink RT, et al. Antibiotic use and resistance in long term care facilities. *J Am Med Dir Assoc*. 2012;13(6):568.e1–13

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Urinary tract infection (UTI) program: asymptomatic bacteriuria. Toronto, ON: Queen's Printer for Ontario; 2019.

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Publication History

Published: August 2016

1st Revision: November 2019

Public Health Ontario acknowledges the financial support of the Ontario Government.

