

Urinary Tract Infection (UTI) Program

Guidance for the Development of a Policy and Procedure for the Management of UTIs in Non-Catheterized Residents

To sustain improvements over time, ensure you have written policies and procedures that are aligned with the UTI Program's five practice changes. This resource can be used to review and make changes to existing policy and procedures.

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

Policy/Procedure Component	Key Content	Additional Recommendations	Rationale/Notes
Purpose	To provide guidance to long-term care home (LTCH) administrators, medical and nursing staff in the development of a policy and procedure to promote best practice for the assessment and management of UTIs in elderly residents without an indwelling catheter.	None	When there is consistent adherence to guidelines for the assessment and management of residents with UTIs, unnecessary antibiotic use can be minimized and outcomes for residents can improve.

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Scope	Applies to all health care workers who are involved in the collection of specimens and the identification, resident assessment, documentation and management of UTIs.	None	None
Policy Statement/ Guiding Principles	All staff will follow best practice guidelines for the assessment and management of UTIs.	<p>There may be a need to review existing policies and procedures to identify practices that are misaligned with current recommendations (e.g., policies related to use of dipsticks or routine urine cultures [on admission and/or annual]).</p> <p>There may be a need to revisit procedures related to the communication of resident symptoms. This should be a collaborative process that focuses on documenting and communicating residents' symptoms before a urine culture is obtained.</p>	<p>There is no clinical benefit to identifying or treating bacteria in the urine in the elderly without the indicated signs and symptoms of a UTI.^{1,2}</p> <p>Overtreatment of asymptomatic bacteriuria (the presence of a significant count of bacteria in the urine without the signs or symptoms of a UTI) in LTCH residents is a serious concern. One-third of prescriptions for presumed UTIs in LTCH residents are for asymptomatic bacteriuria.³</p> <p>Unnecessary use of antimicrobials can lead to adverse consequences, including the development of multi-drug resistance, drug-related adverse effects, harmful drug interactions and excessive cost.⁴ Antibiotic use is also associated with <i>Clostridioides difficile</i>, an opportunistic bacterial infection that is a common cause of health care–associated (nosocomial) diarrhea in acute</p>

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			<p>care and long-term care settings.⁵</p> <p>The “Assessment Algorithm for Urinary Tract Infection in Medically Stable Non-catheterized Residents” can be used as a resource to align organizational policies and procedures with current best practice guidelines.</p>
<p>Symptoms Indicative of a UTI</p>	<p>Health care workers should be familiar with the accepted definition of a UTI in non-catheterized residents.</p> <p>Residents should be assessed for UTI symptoms according to the accepted definition.</p>	<p>Obtain urine culture if the resident has acute dysuria or two or more of the following criteria:</p> <ul style="list-style-type: none"> • Fever (oral temperature greater than 37.9 or 1.5°C above baseline on two occasions within 12 hours) • New flank pain or suprapubic pain or tenderness • New or increased urinary frequency/urgency • Gross hematuria 	<p>Using accepted criteria decreases the inappropriate testing and treatment of UTIs.</p> <p>The “Assessment Algorithm for Urinary Tract Infection in Medically Stable Non-catheterized Residents” can be used as a resource to align organizational policies and procedures with current best practice guidelines.</p> <p>Recommendations listed here are supported by existing guidelines on the assessment and management of UTIs in LTCHs.^{1-3,6-8}</p>
<p>Symptoms not Indicative of a UTI</p>	<p>In the absence of a minimum set of symptoms or signs of a UTI, urine should not be cultured and antimicrobials should not be prescribed^{1,4-7}.</p>	<p>Health care workers should be aware that the following are <i>not</i> criteria for a UTI:</p> <ul style="list-style-type: none"> • Cloudy, milky or turbid urine • Malodorous urine 	<p>Using accepted criteria decreases the inappropriate testing and treatment of UTIs.</p> <p>Refer to “Causes of Delirium and Mental</p>

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		<ul style="list-style-type: none"> • Change in urine colour • Falls • Behavioural changes without additional clinical symptoms of a UTI: worsening functional status or worsening mental status (e.g., new behavioural changes, increased confusion, acute delirium or agitation). <p>If the resident has nonspecific symptoms alone (i.e., change in mental status) monitor and encourage increased fluid intake for the next 24 hours, unless resident has clinical contraindications. Assess for other causes of mental status changes.</p>	<p>Status Changes.”</p> <p>With adequate hydration and in some cases increased mobility, symptoms thought to be due to a UTI often resolve.⁸</p> <p>Recommendations listed here are supported by existing guidelines on the assessment and management of UTIs.^{1-3, 6-8}</p>
Laboratory Testing and Interpretation	<p>Criteria for UTI should be met before sending a urine culture.</p> <p>When criteria are met, urine specimen should be sent for culture and susceptibility.</p> <p>Urine specimen should be collected only as a midstream specimen or via in/out catheter.</p> <p>Urine specimen should be collected</p>	<p>Dipsticks should not be used to diagnose a UTI.</p> <p>Do not repeat a urine culture after antibiotic therapy unless typical UTI signs and symptoms persist.</p> <p>Written procedures should consider the logistics and timing of specimens sent for analysis.</p> <p>Specimens should not be left at room</p>	<p>A positive urine culture in the absence of symptoms does not indicate a UTI in the elderly. In LTCH residents, 15%–30% of men and 25%–50% of women normally have bacteria in their urine without symptoms and do not require antibiotic treatment.¹</p> <p>Sending specimens only for symptomatic residents prevents unnecessary specimen collection and antibiotic prescribing.</p>

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	<p>before antibiotic treatment is started.</p> <p>A bacterial count greater than 10⁸ CFU/L with typical signs and symptoms is compatible with UTI.</p>	<p>temperature; this can lead to false positive results.</p> <p>Urine culture and susceptibility results should be checked and acted upon in a timely fashion. This includes selecting an antibiotic based on susceptibility results, changing antibiotics if necessary or stopping if the culture is negative.</p>	<p>Refer to “Collecting a Mid-stream Urine Specimen.”</p> <p>Specimens need to be sent for culture and susceptibility to identify causative pathogen and select appropriate antibiotic therapy.</p> <p>A positive urine dipstick for leukocyte esterase, blood or nitrite is not indicative of a UTI and is not helpful in UTI diagnosis.¹</p>
Surveillance	<p>LTCHs are encouraged to monitor the number of urine specimens sent for culture and number of residents treated with antibiotics for a UTI.</p>	<p>There are currently no standardized guidelines for monitoring UTIs. The following are recommended:</p> <ul style="list-style-type: none"> • The number of urine specimens sent for culture each month (may be obtained from the laboratory used by the LTCH) • The number of urine specimens sent for culture in residents not meeting UTI criteria • The number of residents treated each month for a UTI • The number of residents treated each month for a UTI not meeting UTI criteria • Surveillance data should be 	<p>Surveillance is the systematic, ongoing collection, collation and analysis of data with timely dissemination of information to those who require this information in order to take action.⁹</p> <p>Refer to “Urinary Tract Infection Program: Process Surveillance Form.”</p>

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		disseminated to the LTCH staff	
Documentation	<p>The rationale for sending a urine culture should be documented in the resident’s record, including the resident’s symptoms that prompted the collection of a urine culture. Communication with prescribers (physicians and nurse practitioners) should be documented.</p> <p>Staff must document the date, time and method of specimen collection in the resident’s record.</p> <p>Urine culture and susceptibility results must be placed in the resident record and the actions taken in response to the test results documented (i.e., no antibiotic required, antibiotic started or continued, changed or stopped).</p> <p>Antibiotics given to residents should be recorded in the medication administration record.</p>	<p>Include resident signs and symptoms (reason) for specimen collection on all laboratory requisitions.</p> <p>LTCHs are encouraged to develop a specific UTI documentation form or identify a specific area to document this information in the patient’s chart.</p>	Documentation (paper or electronic) is also to be used to record the resident’s progress, communicate with other care providers and reflect the nursing care provided. ¹⁰
Treatment	<p>The physician or nurse practitioner should address antibiotic therapy based on the following:</p> <ul style="list-style-type: none"> • Need for treatment • Antimicrobial susceptibility 	<p>Renal function in the elderly is often decreased; this needs to be considered when selecting the appropriate antibiotic and dose.</p> <p>A recent calculated creatinine clearance</p>	The “Assessment Algorithm for Urinary Tract Infection in Medically Stable Non-catheterized Residents” can be used as a resource to align organizational policies and procedures with current best practice

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	<ul style="list-style-type: none"> Route of administration Duration of therapy 	<p>based on a serum creatinine measurement within the previous three months is required for the appropriate dosing of antibiotics, especially given that renal function is commonly decreased in the elderly.</p>	<p>guidelines.</p> <p>Attention to the appropriate use of antibiotics (antimicrobial stewardship) improves resident outcomes while decreasing the risk of adverse effects and incidence of antimicrobial resistant organisms.</p>

References

1. 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>
2. Zalmanovici TA, Lador A, Sauerbrun-Cutler MT, Leibovici L. Antibiotics for asymptomatic bacteriuria. Cochrane Database Syst Rev 2015;4:CD009534.
3. 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;24;331(7518):669. Available from: <http://www.bmj.com/content/331/7518/669.long>
4. Centers for Disease Control and Prevention. The core elements of antibiotic stewardship for nursing homes [Internet]. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2015 [cited 2016 Mar 21]. Available from: <http://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship.pdf>
5. Chopra T, Goldstein EJC. *Clostridium difficile* infection in long-term care facilities: a call to action for antimicrobial stewardship. Clin Infect Dis. 2015;60 Suppl 2: S72–6.
6. Nicolle LE; SHEA Long-Term-Care-Committee. Urinary tract infections in long-term-care facilities. Infect Control Hosp Epidemiol. 2001;22(3):167–75.
7. D’Agata E, Loeb MB, Mitchell SL. Challenges assessing nursing home residents with advanced dementia for suspected urinary tract infections. J Am Geriatr Soc. 2013;61(1):62–6.
8. Nace DA, Drinka PJ, Crnich CJ. Clinical uncertainties in the approach to long term care residents with possible urinary tract infection. J Am Med Dir Assoc. 2014;15(2):e133–9.
9. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for surveillance of health care-associated infections in patient and resident populations [Internet]. 3rd ed. Toronto, ON: Queen’s Printer for Ontario; 2014 [cited 2016 Mar 21]. Available from: http://www.publichealthontario.ca/en/eRepository/Surveillance_3-3_ENGLISH_2011-10-28%20FINAL.pdf
10. College of Nurses of Ontario. Practice standard: documentation, revised 2008 [Internet]. Toronto, ON: College of Nurses of Ontario; 2009 [cited 2016 Mar 21]. Available from: http://www.cno.org/globalassets/docs/prac/41001_documentation.pdf

Additional Sources

- Kingston, Frontenac and Lennox & Addington Public Health. Antimicrobial stewardship treatment guidelines for long-term care facilities [Internet]. Kingston, ON: Kingston, Frontenac and Lennox & Addington Public Health; 2012 [cited 2016 Mar 21]. Available from: http://www.kflapublichealth.ca/Files/Resources/Antibiotic_StewardshipTreatment_Guidelines_for_LTC_Facilities.pdf
- Partners for Appropriate Anti-infective Community Therapy. Anti-infective guidelines for community-acquired infections Toronto, ON: Partners for Appropriate Anti-infective Community Therapy; 2013. Genitourinary infections; p. 68–71.
- Registered Nurses' Association of Ontario. Promoting continence using prompted voiding. Nursing best practice guideline [Internet]. Toronto, ON: Registered Nurses' Association of Ontario; 2011 [cited 2016 Mar 21]. Available from: http://rnao.ca/sites/rnao-ca/files/Promoting_Continence_Using_Prompted_Voiding.pdf
- Toward Optimized Practice. Guidelines for the diagnosis and management of urinary tract infections in long term care [Internet]. Edmonton, AB: Toward Optimized Practice; 2010 [cited 2016 Mar 21]. Available from: http://www.topalbertadoctors.org/download/401/urinary_tract_infection_guideline.pdf?_20160328140657

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