Public Health Ontario | Santé publique Ontario

1st Revision: November 2019

Urinary Tract Infection (UTI) Program

Coaching for Beliefs and Consequences

Change is not possible without first getting buy-in. Long-term care home (LTCH) will be more successful if they offer ongoing support to staff following education. This resource can be used to support conversations with LTCH staff about beliefs and consequences related to not collecting a urine for culture or prescribing antibiotics in the absence of indicated symptoms.

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

Diagnosis/Assessment

Concern	Fact/Data	Supportive Notes
• Fear of missing an infection. • It is difficult to accurately diagnose UTIs in the LTCH population. • Residents with severe dementia cannot verbalize symptoms.	• Residents with dementia or communication difficulties may be unable to indicate that they have symptoms, making diagnosis difficult. Positive dipstick and urine culture results are not helpful, as these can also be found in asymptomatic residents. • Many residents are able to verbalize symptoms and/or elicit a pain response. A thorough assessment for additional features of UTIs, such as fever, suprapubic pain, flank pain or hematuria, is required prior to culturing urine and/or starting antibiotics. • UTIs account for only 10%–20% of fevers in LTCH residents.	• Reinforce the criteria for the diagnosis of a UTI, the many other reasons for nonspecific symptoms and the importance of watchful waiting in clinically stable residents. • The use of dipsticks is inappropriate for a diagnosis of UTI and is not recommended. • Goals of care for residents with advanced dementia should also be considered, given that UTIs are over diagnosed, antibiotics may be difficult to administer and antibiotics may have side effects (e.g., diarrhea).

Concern	Fact/Data	Supportive Notes
	• Overprescribing of antibiotics for UTIs occurs in this population and is a particular concern because residents have a higher rate of acquiring drug-resistant bacteria and/or *Clostridioides* (previously *Clostridium*) *difficile* infection.	
• Concern about UTI in a resident with a change in mental status. • *"The resident has nonspecific symptoms, and I am concerned it is because they have a UTI."*	• Diagnosing infections and differentiating the cause of nonspecific symptoms in cognitively impaired residents is challenging. • The literature shows no clear association between mental status changes and UTIs. • There are numerous causes of changes in behaviour or functional status in LTCH residents; on their own, these are not considered indicators of a UTI. Attribution of symptoms to a UTI may lead to missing an alternate diagnosis. A review of other potential causes of mental status changes is always necessary (see "Causes of Delirium and Mental Status Changes"). • Urine cultures should be sent to the laboratory only if the accepted criteria for diagnosis of a UTI are met.	• As health care providers, we often rely on subtle changes in functional status to signal problems in residents who are unable to articulate their symptoms. We need to remember that a positive urine culture will be found without symptoms of an infection in as many as half of residents and that other causes of symptoms should be investigated. • The main focus of UTI practice change should be directed at eliminating unnecessary urine cultures and treatment in residents who do not fit the criteria for UTI diagnosis.
• Lack of adequate information. • *"I am not available to assess the resident or there is no*	• In medically stable residents with an uncertain clinical diagnosis of a UTI, "watchful waiting" is an appropriate action. It is reasonable to request and ensure regular	• The evidence shows that in medically stable residents with an uncertain clinical diagnosis of UTI, "watchful waiting" is an appropriate action (request and ensure regular (every 8 hours)

Concern	Fact/Data	Supportive Notes
documentation as to why a urine culture was sent, so I had better prescribe an antibiotic just in case."	(every 8 hours) monitoring of the resident, including hydration (if appropriate), for 24 hours. • Significant symptoms, such as dysuria or fever, should be documented if present.	monitoring of the resident, including hydration (if appropriate), for 24 hours). • Ensure that significant symptoms, such as dysuria or fever are documented when present.

Morbidity and Mortality

Concern	Fact/Data	Supportive Notes
• Concern about adverse outcomes if (asymptomatic) bacteriuria is not treated. • "*If a positive urine culture is not treated, the resident could become septic and require hospitalization."* • *"Treating a positive urine culture (in the absence of symptoms) has benefits for the resident."*	• A finding of bacteria in the urine without symptoms (asymptomatic bacteriuria) is common in the elderly. Treating with antibiotics in the absence of an acceptable clinical diagnosis of UTI puts the resident at risk of adverse effects from the antibiotic and provides no benefits. • Treating asymptomatic bacteriuria does not minimize the risk of future symptomatic UTIs and it does not improve or prevent incontinence. • Treating asymptomatic bacteriuria has no positive impact on infection-related morbidity and mortality, including in patients with advanced dementia.	• Antibiotics are not required for asymptomatic bacteriuria because it is not an infection. Harms have been seen in residents who are given antibiotics for asymptomatic bacteriuria. • Treating asymptomatic bacteriuria does more harm than good. It unnecessarily puts residents at risk of 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. • A comparison of therapy and no therapy for asymptomatic bacteriuria in institutionalized elderly women showed no differences in genitourinary morbidity or mortality.
• Concern about adverse outcomes in the frail elderly or those with nonspecific	• UTIs are a common cause of bacteremia and this is a legitimate concern. Note, however, that bacteremia due	• Reinforce the value of good clinical judgement in the decision to treat and reassure clinicians that this cannot be replaced by

Concern	Fact/Data	Supportive Notes
symptoms. • "*I am concerned that if I miss a UTI diagnosis the resident may develop bacteremia/sepsis.*"	to UTI is 40 times more common in *catheterized* than in *non-catheterized* individuals and fever is the most common symptom in *catheterized* residents with a UTI. Even in this population, fever is due to UTI only a third of the time. • In *non-catheterized* individuals, diagnosis should be made based on local symptoms (dysuria). In those who cannot verbalize, diagnosis should be based on the presence of fever *and* additional symptoms in the genitourinary tract. • Fever alone in a non-catheterized resident should prompt investigation of other possible causes before testing or treating for a UTI. • As always, clinical judgement and assessment cannot be replaced by rules or algorithms	protocols and guidelines.

Risks of Antimicrobials

Concern	Fact/Data	Supportive Notes
• Unrecognized risks of treatment. • *"There is little down side to prescribing an antibiotic when a UTI diagnosis is uncertain."*	• There is no benefit to treating bacteria in the urine or prescribing antibiotics in the absence of an accepted clinical diagnosis of UTI. • On the other hand, there are significant risks associated with antimicrobials, such as allergic reactions, adverse effects, drug interactions and super-infections, such as *C. difficile* and yeast. In addition,	• Health care workers should emphasize the potential risks of antibiotics to residents' families, as well as the concern that antibiotics often do more harm than good.

Concern	Fact/Data	Supportive Notes
	residents treated for bacteriuria have an increased risk of developing resistant bacteria, making potential future infections more difficult to treat. • Residency in a LTCH and individuals on multiple medications (polypharmacy) are among the risk factors for severe adverse drug reactions that require emergency department visits.	

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Citation

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

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This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence at the time of publication.

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Publication History

Published: August 2016

1st Revision: November 2019

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