

## UTI Resources

Guideline / Standard	Overview / Criteria	Source
Antimicrobial Use in Long-Term-Care Facilities	<p>This position paper outlines the concerns regarding and adverse consequences of inappropriate antimicrobial use in long-term-care facilities and recommends approaches to promote the rational use and to limit potential adverse effects of antimicrobials in this high-risk setting.</p> <ul style="list-style-type: none"> <li>• The most important adverse outcome of inappropriate antimicrobial use in LTCFs is the promotion of antimicrobial resistance in this high-risk population and the increased opportunities for transmission of resistant organisms to other patients.</li> </ul> <p>Urinary Tract Infection</p> <ul style="list-style-type: none"> <li>• Many treatment courses are given, inappropriately, for asymptomatic bacteriuria.</li> <li>• The minimal workup of patients with signs and symptoms suggestive of UTI should include a urinalysis and urine culture; <u>urine cultures should not be collected from asymptomatic patients.</u></li> </ul>	Society for Healthcare Epidemiology of America (SHEA) Position Paper, 1996
Appendix PP - F315 Guidance to Surveyors for Urinary Incontinence	<ul style="list-style-type: none"> <li>• No one lab test alone proves that a UTI is present. For example, a positive urine culture will show bacteriuria but that alone is not enough to diagnose a symptomatic UTI.</li> <li>• A negative leukocyte esterase test alone or the absence of pyuria strongly suggests that a UTI is not present.</li> <li>• A positive leukocyte esterase test alone does not prove that the individual has a UTI.</li> <li>• In the absence of fever, hematuria, pyuria, or local urinary tract symptoms, other potential causes of nonspecific general symptoms, such as fluid and electrolyte imbalance or adverse drug reactions, should be considered instead of, or in addition to, a UTI.</li> <li>• Although sepsis, including urosepsis, can cause dizziness or falling, there is no clear evidence linking bacteriuria or a localized UTI to an increased fall risk.</li> </ul> <p>Because many residents have chronic bacteriuria, the research-based literature suggests treating only symptomatic UTIs. Symptomatic UTIs are based on the following criteria:</p>	CMS

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	<ul style="list-style-type: none"> <li>• Residents without a catheter should have at least <u>three</u> of the following signs and symptoms:               <ul style="list-style-type: none"> <li>○ Fever (increase in temperature of &gt;2 °F or 1.1 °C or rectal temp &gt;99.5 °F or 37.5°C or single measurement of temperature &gt;100°F or 37.8°C</li> <li>○ New or increased burning pain on urination, frequency or urgency;</li> <li>○ New flank or suprapubic pain or tenderness;</li> <li>○ Change in character of urine (new bloody urine, foul smell, or amount of sediment) or as reported by the laboratory (new pyuria or microscopic hematuria); and / or</li> <li>○ Worsening of mental or functional status (e.g., confusion, decreased appetite, unexplained falls, incontinence of recent onset, lethargy, decreased activity.) (p. 166)</li> </ul> </li>   <li>• Residents with a catheter should have at least <u>two</u> of the following signs and symptoms:               <ul style="list-style-type: none"> <li>○ Fever or chills</li> <li>○ New flank pain or suprapubic pain or tenderness</li> <li>○ Change in character of urine (new bloody urine, foul smell, or amount of sediment) or as reported by the laboratory (new pyuria or microscopic hematuria); and / or</li> <li>○ Worsening of mental or functional status (e.g., confusion, decreased appetite, unexplained falls, incontinence of recent onset, lethargy, decreased activity.) (p. 166)</li> </ul> </li>   <li>Follow-Up of UTIs               <ul style="list-style-type: none"> <li>• Continued bacteriuria without residual symptoms does not warrant repeat or continued antibiotic therapy.</li> <li>• Recurrent UTIs (2 or more in 6 months) in a noncatherized individual may warrant additional evaluation (such as determination of an abnormal post void residual (PVR) urine volume or a referral to a urologist) to rule out structural abnormalities such as enlarged prostate, prolapsed bladder, ... (p. 166)</li> </ul> </li> </ul>	

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<p>Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term-Care Facilities: Results of A Consensus Conference</p>	<p>This article describes the establishment of minimum criteria for the initiation of antibiotics in residents of LTCFs. Criteria for initiating antibiotics for skin and soft-tissue infections, respiratory infections, urinary infections, and fever where the focus of infection is unknown were developed.</p> <ul style="list-style-type: none"> <li>• The use of antibiotics frequently is empirical, that is, initiated in the absence of microbiology results or even in the absence of a definitive diagnosis of infection.</li> </ul> <p>Urinary Tract Infections</p> <ul style="list-style-type: none"> <li>• Resident without an indwelling catheter, minimum criteria include:               <ul style="list-style-type: none"> <li>○ Acute dysuria alone or</li> <li>○ Fever (&gt;37.9° C (100° F) or 1.5° C (2.4° F) increase above baseline temperature) and <u>at least one</u> of the following                   <ul style="list-style-type: none"> <li>▪ New or worsening urgency</li> <li>▪ Frequency</li> <li>▪ Suprapubic pain</li> <li>▪ Gross Hematuria</li> <li>▪ Costovertebral angle tenderness, or</li> <li>▪ Urinary incontinence</li> </ul> </li> </ul> </li> <li>• For residents who have a chronic indwelling catheter (either a Foley or suprapubic ), minimum criteria for initiating antibiotics include the presence of <u>at least one</u> of the following:               <ul style="list-style-type: none"> <li>○ Fever (&gt;37.9° C (100° F) or 1.5° C (2.4° F) increase above baseline temperature)</li> <li>○ New costovertebral angle tenderness or</li> <li>○ Rigors (Shaking chills) with or without identified cause, or</li> <li>○ New onset of delirium</li> </ul> </li> </ul> <ul style="list-style-type: none"> <li>• A urine culture should always be obtained to rule out urinary tract infection</li> <li>• Urine cultures will assist in antimicrobial selection.</li> <li>• Initiating empirical antibiotic therapy may potentially relieve symptoms of acute dysuria.</li> <li>• For urinary symptoms other than dysuria, such as urgency, frequency, or</li> </ul>	<p>Society for Healthcare Epidemiology of America (SHEA), 2001</p>

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	<p>incontinence, the results of urine culture should be obtained prior to initiating antibiotics.</p> <ul style="list-style-type: none"> <li>• Asymptomatic bacteriuria should not be treated with antibiotics.</li> </ul>	
<p>CDC Campaign to Prevent Antimicrobial Resistance in Healthcare Settings</p>	<p>12 Steps to Prevent Antimicrobial Resistance Among Long-term Care Residents</p> <ul style="list-style-type: none"> <li>• <a href="http://www.cdc.gov/drugresistance/healthcare/ltc/12steps_ltc.htm">http://www.cdc.gov/drugresistance/healthcare/ltc/12steps_ltc.htm</a></li> </ul>	<p>Center for Disease Control and Prevention</p>
<p>Common Infections in the Long-Term Care Setting</p>	<p>This guideline is intended for the members of the interdisciplinary team in long-term care facilities, including the medical director, director of nursing, physicians, nursing staff, consultant pharmacists, and other professionals such as therapists, social workers, dietitians, and nursing assistants who care for residents of long-term care facilities.</p> <ul style="list-style-type: none"> <li>• Treatment of asymptomatic bacteriuria with antibiotics is not clinically beneficial or cost effective and may be associated with the development of antibiotic-resistant strains of uropathogens. (p. 4)</li> <li>• A positive urine culture alone is of limited value in identifying whether a patient's symptoms are caused by a urinary tract infection. (p. 4)</li> <li>• Treatment with antibiotics is appropriate when the practitioner determines on the basis of an evaluation that the most likely cause of the patient's symptoms is a bacterial infection. (p.14)</li> <li>• Ensure that information about the use of antibiotics for symptomatic infections is included in the patient's record as part of the treatment plan. (p. 23)</li> </ul>	<p>AMDA 2004</p>
<p>Guidelines for the Diagnosis and Treatment of Asymptomatic Bacteriuria in Adults</p>	<p>Recommendations</p> <p>The diagnosis of asymptomatic bacteriuria should be based on results of a urine specimen collected in a manner that minimizes contamination.</p> <ul style="list-style-type: none"> <li>• For asymptomatic women, bacteriuria is defined as 2 consecutive voided urine specimens with isolation of the same bacterial strain in quantitative counts <math>\geq 10^5</math> cfu/mL.</li> <li>• A single clean catch voided urine specimen with 1 bacterial species isolated in a quantitative count <math>\geq 10^5</math> cfu/mL identifies bacteriuria in men</li> <li>• A single catheterized urine specimen with 1 bacterial species isolated in a</li> </ul>	<p>Infectious Disease Society of America (IDSA) 2005</p>

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	<p style="text-align: center;">quantitative count <math>\geq 10^2</math> cfu/mL</p> <p>Pyuria accompanying asymptomatic bacteriuria is not an indication for antimicrobial treatment.</p> <p>Screening for and treatment of asymptomatic bacteriuria in elderly institutionalized residents of long term care facilities is not recommended.</p>	
<p>Practice Guidelines for Evaluation of Fever and Infection in Long-Term Care Facilities</p>	<p>This guideline was endorsed by the American Geriatrics Society; Gerontological Society of America, Clinical Medicine Section, Infectious Diseases Society of America; and Society for Healthcare Epidemiology of America.</p> <p>The purpose of this paper is to provide a rational approach to the evaluation of a potentially infected resident of an LTCF, while acknowledging the limitations in resources and staffing in SNFs.</p> <p>Providing there are no prior directives limiting diagnostic or therapeutic medical interventions, all resident in LTCFs with suspected symptomatic infection should have appropriate diagnostic laboratory studies performed promptly.</p> <p>Residents who are suspected of having an infection and have 1 temperature reading of</p> <ul style="list-style-type: none"> <li>• <math>&gt;100^\circ</math> F (<math>37.8^\circ</math> C)</li> <li>• <math>\geq 2</math> readings of <math>&gt; 99^\circ</math> F (<math>37.2^\circ</math> C) or</li> <li>• An increase of <math>2^\circ</math> F (<math>1.1^\circ</math> C) over baseline should be reported immediately to the onsite nurse.</li> </ul> <p>Urinalysis and Urine Culture</p> <ul style="list-style-type: none"> <li>• Diagnostic laboratory evaluation of suspected UTIs in noncatherized patients should be reserved for those with acute onset of UTI associated with signs and symptoms (e.g., fever, dysuria, gross hematuria, new or worsening urinary incontinence, and/or suspected bacteremia.)</li> <li>• In residents with long-term indwelling urethral catheters, evaluation is indicated if there is:</li> </ul>	<p>Bentley DW, Bradley S, High K, et al. Infectious Disease Society of America, 2000</p>

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	<ul style="list-style-type: none"> <li>○ Suspected urosepsis (i.e., fever &gt; 100.3° F or 38° C</li> <li>○ Shaking chills</li> <li>○ Hypotension, and</li> <li>○ Delirium,) especially in a setting of recent catheter obstruction or change.</li> <li>● Urinalysis and urine culture should not be performed on asymptomatic residents.</li> <li>● The minimum laboratory evaluation for suspected UTI should include a urinalysis for leukocyte esterase by use of a dipstick and a microscopic examination for WBCs.               <ul style="list-style-type: none"> <li>○ If no pyuria (&lt;10 WBCs per high power field of spun urine and negative leukocyte esterase by use of a dipstick) is demonstrated, no urine culture should be requested.</li> <li>○ If pyuria or a positive leukocyte esterase test is present, only then should the laboratory set up urine specimens for culture and antimicrobial susceptibility testing.</li> </ul> </li> </ul>	
Urinary Incontinence	<p>This guideline is intended for the members of the interdisciplinary team in long-term care facilities, including the medical director, director of nursing, physicians, nursing staff, consultant pharmacists, and other professionals such as therapists, social workers, dietitians, and nursing assistants who care for residents of long-term care facilities.</p> <p>Management of urinary tract infections and bacteriuria.</p> <ul style="list-style-type: none"> <li>● The presence of bacteriuria without symptoms, whether or not pyuria is present, generally does not merit treatment, especially in patients who have indwelling urinary catheters. (p. 8)</li> <li>● Provide appropriate treatment for patients with symptoms of a UTI or urosepsis (bacteria in the bloodstream, probably from a urinary source, with signs of sepsis). (p. 8)</li> </ul> <p>Published criteria for a symptomatic urinary tract infection typically differentiate between the catheterized and non-catheterized patient.</p>	AMDA

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	<ul style="list-style-type: none"> <li>• In patients who do not have an indwelling catheter, at least three of the following criteria must be met for a symptomatic UTI to be suspected:               <ul style="list-style-type: none"> <li>○ Fever (&gt;38°C) or chills</li> <li>○ New or increased burning pain on urination</li> <li>○ New flank or suprapubic pain or tenderness</li> <li>○ Changes in character of urine</li> <li>○ Worsening mental function</li> </ul> </li>   <li>• In patients who have an indwelling catheter, at least two of the following criteria must be met:               <ul style="list-style-type: none"> <li>○ Fever (&gt;38°C) or chills</li> <li>○ New flank or suprapubic pain or tenderness</li> <li>○ Changes in character of urine</li> <li>○ Worsening mental function</li> </ul> </li> </ul> <p>Continued bacteriuria without residual symptoms does not warrant repeat or continued antibiotic therapy. (p.9)</p> <p>Recurrent UTIs (two or more within 6 months) in a noncatherized patient may warrant additional evaluation (e.g., check for abnormal PVR urine volume, referral to a urologist, periurethral abscess, strictures, bladder calculi, polyps or tumors) (p.9)</p>	
Urinary Tract Infections in Long-Term-Care Facilities	Scope of Position Paper <ul style="list-style-type: none"> <li>• Relevant to elderly populations residing in nursing homes.</li> </ul> Clinical Impact of UTI <ul style="list-style-type: none"> <li>• UTI is the most common reason for antimicrobial prescriptions in LTCFs, being responsible for initiation of 20-60% of systemic antimicrobial courses.</li> </ul> Diagnosis of UTI <ul style="list-style-type: none"> <li>• Diagnostic accuracy compromised by difficulties in communication, multiple comorbid illnesses with associated chronic symptoms and clinical presentations that are possibly infectious but without clear localizing findings.</li> <li>• Diagnosis should be made cautiously based on nonspecific systems, especially if the patient is afebrile.</li> </ul>	Society for Healthcare Epidemiology of America (SHEA) Position Paper, 2001

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	<ul style="list-style-type: none"> <li>• An unpleasant urinary odor should not be interpreted as symptomatic UTI, and alternate interventions such as improved incontinence management, should be instituted rather than antimicrobial therapy.</li> </ul> <p>Urine Culture</p> <ul style="list-style-type: none"> <li>• For asymptomatic individuals, at least two sequential specimens with the same organism(s) growing at <math>\geq 10^5</math> CFU/mL are diagnostic of bacteriuria.</li> <li>• For symptomatic infections, a quantitative count of <math>\geq 10^5</math> CFU/ml is diagnostic.</li> <li>• For a catheterized specimen, <math>\geq 10^3</math> CFU/mL of a single predominant pathogen is sufficient for the microbiological diagnosis of UTI.</li> </ul> <p>Pyuria</p> <ul style="list-style-type: none"> <li>• Pyuria is the presence of increased leukocytes in the urine. <u>It is virtually a universal accompaniment of <b>symptomatic UTI</b></u></li> <li>• In the elderly LTC resident, 90% of individuals with asymptomatic infection will also have pyuria presumably due to other causes of genital, bladder, prostatic or renal inflammation.</li> <li>• Thus, pyuria is an expected accompaniment of bacteriuria, whether symptomatic or asymptomatic.</li> <li>• The absence of pyuria is useful in excluding UTI, but the presence of pyuria is not sufficient for a diagnosis of UTI.</li> </ul> <p>Treatment of UTI</p> <ul style="list-style-type: none"> <li>• Prospective randomized clinical trials of treatment of UTI in both male and female long-term care residents repeatedly have documented no benefits of antimicrobial treatment.</li> <li>• Subjects who receive antimicrobial therapy for asymptomatic bacteriuria have:             <ul style="list-style-type: none"> <li>○ an increased frequency of adverse effects from antimicrobial therapy</li> <li>○ increased reinfection with resistant organisms, and</li> <li>○ increased cost of therapy</li> </ul> </li> <li>• Thus, antibiotics are not indicated for the treatment of asymptomatic UTI in residents of LTCFs.</li> </ul>	

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Wisconsin Antibiotic Resistance Network	<p><b>The Wisconsin Antibiotic Resistance Network (WARN)</b> is a coalition of Wisconsin health care providers, professional organizations, and public health agencies who are concerned about antibiotic resistance and inappropriate antibiotic use.</p> <ul style="list-style-type: none"><li>• <a href="http://www.warnwisconsin.org/">http://www.warnwisconsin.org/</a></li></ul>	Wisconsin Antibiotic Resistance Network