Approach to Evaluation and Monitoring of Urinary Tract Infections in Skilled Nursing Facility Residents: A Resource for Infection Preventionists and Nurses

More than half of all antibiotics prescribed in skilled nursing facilities (SNFs) are either unnecessary or inappropriate. Overuse of antibiotics is a major contributor to the emergence of multi-drug-resistant organisms (MDROs [i.e. ESBLs, CROs, resistant *Pseudomonas* sp.]), resulting in worse outcomes and eventual inability to treat some infections. This includes broad spectrum antibiotics used for suspected urinary tract infections (UTIs). A large portion of inappropriate antibiotics in SNFs are prescribed for the treatment of asymptomatic bacteriuria**.**

An effective approach to preventing unnecessary treatment of asymptomatic bacteriuria is through "Diagnostic Stewardship". Bacteria live on human skin surfaces or other sites without producing any signs of illness or infection. In the urinary tract, 50% of long-term care residents and up to 100% of residents with chronic indwelling catheters are colonized with bacteria in the urine. Urinary colonization can be brief or chronic, persisting for years. Because colonization is so common, the presence of bacteria in a urine culture does not confirm that the resident has a UTI, even when there is presence of acute delirium or mental status changes. A urinalysis (UA) and urine culture (UC) should not be obtained routinely in residents who are clinically stable without symptoms of UTI and do not meet Loeb criteria for UTI. Other contributing factors to mental status changes should be considered and modified where possible. This approach can avoid unnecessary treatment for asymptomatic bacteriuria. *The goal of Diagnostic Stewardship is to carefully select residents who meet clinical criteria for a UTI before ordering a UA and UC.*

Antimicrobial stewardship is the practice of assuring appropriate antibiotic prescribing and use, which is critical to effectively treat infections, protect residents from the harm of unnecessary antimicrobial use, and combat antimicrobial resistance.

Antimicrobial stewardship and diagnostic stewardship work together to prevent antibiotic resistance.

Useful References

- Diagnosis, Treatment and Prevention of Urinary Tract Infections in Post-Acute Care and Long-Term Care Settings: AMDA Consensus Statement
- IDSA Clinical Practice Guideline for the Management of Asymptomatic Bacteriuria
- Development of Minimum Criteria for the Initiation of Antibiotics in Residents of Long-Term Care Facilities: Results of a Consensus Conference (Loeb et. al.)
- SHEA Principles of Diagnostic Stewardship
- Multisociety Guidance for IPC in Nursing Homes 2025
- Diagnostic Stewardship vs Antibiotic Stewardship
- Top 10 Myths Regarding the Diagnosis and Treatment of Urinary Tract Infections
- Why are Urine Tests Ordered in the Emergency Department?

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Applying Diagnostic Stewardship and Antimicrobial Stewardship Steps and useful resources for RN or IP evaluation of residents with suspected UTI		
Diagnostic Stewardship	***Step 1:*** *Perform an assessment*	• Long Term Care Fever/Suspected Infection Assessment • AHRQ Suspected UTI Assessment Tool • AHRQ Suspected UTI Assessment and SBAR Document
	Step 2: *Create and track new cases and record the symptoms of suspected UTI.* *NOTE: For transfer patients, include antibiotic history from other facilities. MDRO history may be available through the LA County Patient Safety Information Exchange (PSIE)*	• Sample tracking form • Patient Safety Information Exchange (PSIE)
	Step 3: *Use Loeb criteria to assess need for urine testing and treatment with antibiotics.* *Ideal for the evaluating nurse to initiate this!*	• Loeb Criteria Checklist • Loeb Criteria for the Initiation of Antibiotics for UTIs • AHRQ Minimum Criteria Decision Support for Treatment with Antibiotics
	Step 4: *Assess and treat other causes of delirium when Loeb criteria are NOT met*	• AHRQ Identifying, Treating and Preventing Delirium • SD County DPH: ABCs of Identifying Delirium • SD County DPH: Causes of Delirium in the Elderly • SD County DPH: Treating and Preventing Delirium
	Step 5: *Use SBAR Reporting to physician, nurse practitioner or physician assistant*	• AHRQ Suspected UTI SBAR Training • AHRQ Suspected UTI Assessment and SBAR Document
	Step 6: *Decision to obtain labs (UA and UC) and begin empiric treatment for UTI* ***NOTE: Lab testing is not done until there is a decision to treat with antibiotics***	• Algorithm for obtaining labs and starting antibiotics • SD County DPH: Suspected Urinary Tract Infection Algorithm • Asymptomatic Bacteriuria vs Urinary Tract Infection in Patients with Altered Mental Status
Antimicrobial Stewardship	***Step 7:*** *Selection of appropriate empiric treatment based on facility-specific treatment guidelines.*	***NOTE: Recommended empiric treatment should be based on facility-specific annual antibiogram*** • AHRQ UTI Treatment Guideline Template for SNFs
	Step 8: *Reassess the resident on day 3 of therapy for continued need for antibiotics*	• MN Time out template
	Step 9: *Provide resident education about UTIs*	• What to Know about UTIs for Residents and Family • When does a resident have a UTI
	Step 10: *Track, monitor and report UTI cases and outcomes to QAPI committee. Include intervention acceptance (or decline) rate by provider.*	• AHRQ Antibiotic Monitoring Sheet • AHRQ Track and Monitor Antibiotic Use Report Template