Breaking the Cycle

Asymptomatic Bacteriuria

Urinary tract infection (UTI) is the most common indication for antibiotic use in post-acute care facilities and a significant proportion of this use is inappropriate and unnecessary. Asymptomatic bacteriuria (ASB) is prevalent in residents of post-acute care facilities and is frequently misidentified as a “UTI”.

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Definitions:

ASB refers to bacteria in the urine at levels often regarded as clinically significant (>100,000 colonies/mL) but with no symptoms or localizing signs suggestive of UTI. Pyuria (>10 WBC/ hpf) accompanying ASB is not an indication for antibiotic treatment.

Ordering of UA/C&S:

The 'Choosing Wisely' guideline from the American Medical Directors Association (AMDA) recommends against obtaining urine studies unless there are clear signs and symptoms that localize to the urinary tract. Multiple studies have also shown that confusion or altered mental status is not a reliable indication for urine studies. Such studies often lead to unnecessary antibiotic treatment.

Urine studies are not recommended for:

- Change in urine color, odor or turbidity – these are typically due to resident hydration and not indicators of infection
- Catheterized residents while the catheter remains in situ. This includes both Foley and suprapubic catheters
- After a patient fall
- To document cure after treatment of UTI

Common ways ASB masquerades as an infection requiring antibiotic treatment:

Masquerade Myths	Best Practice Response
A positive UA/C&S result (an organism name and susceptibility report; any colony count) is a "positive test that cannot be ignored	Up-to-date decision criteria require **both** a positive culture **and** specific clinical features
A positive UA/C&S result predicts "risk of later invasive infection" even when there are no symptoms/signs	Multiple studies show antibiotic Rx of ASB confers no benefit and does not prevent invasive disease
"Confused this morning … start Cipro and get a UA/C&S"	Hold antibiotic; Assess for other reasons for confusion, such as medications or dehydration
C&S result = 50,000 colonies *E. coli* ESBL+ "This is a superbug … should be treated"	Multidrug-Resistant Organism (MDRO) is not an indication for antibiotics
100,000 colonies … no symptoms or signs "This is a positive test … can't ignore it"	This is ASB, not a UTI; standardized definition of UTI requires a positive clinical (McGeer criteria) as well

12 Common Post-acute Care Scenarios in Which Systemic Antibiotics are Generally Not Indicated

1. Positive urine culture in an asymptomatic resident

2. Urine culture ordered solely because of change in urine appearance

3. Nonspecific symptoms or signs not referable to the urinary tract, such as falls or mental status change (with or without a positive urine culture)

4. Upper respiratory infection (common cold)

5. Bronchitis or asthma in a resident who does not have COPD

6. "Infiltrate" on a chest x-ray in the absence of clinically significant symptoms

7. Suspected or proven influenza in the absence of a secondary infection (but DO treat influenza with antivirals)

8. Respiratory symptoms in a resident with advanced dementia, on palliative care, or at the end of life

9. Skin wound without cellulitis, sepsis, or osteomyelitis (regardless of culture result)

10. Small (< 5cm) localized abscess without significant surrounding cellulitis (drainage is required of all abscesses)

11. Decubitus ulcer in a resident at the end of life

12. Acute diarrhea in the absence of a positive culture for Shigella or *Salmonella*, or a positive test for *Clostridioides difficile*

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