

# Bacteria in the Urine ≠ UTI

Asymptomatic bacteriuria (ASB) is common in nursing home residents<sup>1,2</sup>. The majority of nursing home residents with ASB or asymptomatic pyuria **should not be treated**. In fact, studies have shown that treating ASB does not prevent UTIs and can actually have negative effects on the resident and overall antibiotic effectiveness<sup>6</sup>.

## Key terms defined

**A urinary tract infection (UTI)** is the combination of clinical signs and symptoms (Table 1) of urinary infection and bacteria in the urine. **ASB** is a positive urine culture in a resident with no signs or symptoms of a UTI.

**Asymptomatic candiduria (*Candida* species in the urine)** is a positive urine culture with *Candida* in a resident with no signs of UTI<sup>3</sup>.

## ASB is common in residents

ASB can be present in up to 50% of nursing home residents (Table 2). ASB can also be associated with pyuria, or an increased number of white blood cells in the urine.

**Table 1. Signs and symptoms of urinary tract infection<sup>4</sup>**

|   |  |
|---|--|
| Resident <b>without</b> indwelling catheter | <ul style="list-style-type: none"><li>• Painful urination alone <b>or</b></li><li>• Fever and at least one of the symptoms below (new or increased):<ul style="list-style-type: none"><li>○ Urgency to go</li><li>○ Urinating more often</li><li>○ Pain above the pubic bone</li><li>○ Middle to lower back pain</li><li>○ Loss of bladder control</li></ul></li></ul> |
| Resident <b>with</b> indwelling catheter    | <p>At least one of the symptoms below (new or increased):</p> <ul style="list-style-type: none"><li>• Fever</li><li>• Chills</li><li>• Confusion, altered mental state</li><li>• Pelvic discomfort</li><li>• Blood in the urine</li><li>• Lethargy with no other cause</li></ul>   |

For these reasons, symptoms of UTI should be present if sending a urine test and culture given the high rate of false positives<sup>5,6</sup>.

**Table 2. Prevalence of bacteriuria and pyuria in asymptomatic patients**

| Population                              | Prevalence of ASB | Prevalence of pyuria in people with ASB |
|---|-------------------|---|
| Healthy premenopausal women             | 1–5%              | 32%                                     |
| Female nursing home residents           | 35–50%            | 90%                                     |
| Male nursing home residents             | 10–50%            | 90%                                     |
| Presence of indwelling urinary catheter | >90%              | 50–100%                                 |

## Unneeded ASB treatment is associated with adverse events and development of antibiotic resistance

Studies have demonstrated the treatment of ASB does not prevent UTIs but is associated with **adverse events** related to antibiotic use and the development of future **antibiotic resistance**<sup>7</sup>. An exception may be considered for nursing home residents about to undergo procedures of the urinary system in which mucosal bleeding is expected (not including urinary catheter placement)<sup>6</sup>.

## References

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