Management of Urinary Tract Infections (UTI) and Asymptomatic Bacteriuria (ASB)

Urine is not a sterile body fluid. Many patients may have bacteria in the urine that is not pathogenic. ASB can occur in patients of all ages but prevalence of ASB increases with age:

Population	Prevalence of ASB
Healthy, premenopausal women	1.0-5.0%
Post-menopausal women 50-70 y/o	1.9-9.5%
Diabetic women	9.0-27%
Women ≥ 70 y/o living in the community	10.8-16%
Men ≥ 70 y/o living in the community	3.6-19%
Women ≥ 70 y/o living in a LTCF	25-50%
Men ≥ 70 y/o living in a LTCF	14-40%
spinal cord injuries	23-89%
long term indwelling catheters	100%
short term indwelling catheters	9-23%

IDSA, Asymptomatic Bacteriuria Guidelines, Clinical Infectious Diseases, 2005

According to the IDSA only patients with symptoms require treatment for asymptomatic bacteriuria.

Symptoms include:

- Dysuria
- Frequency
- Urgency
- Suprapubic pain
- Flank pain

Bacteriuria is a common finding in elderly patients. Although antibiotics may eradicate organisms from the bladder, no evidence has shown that treatment of ASB improves outcomes in these patients and bacteriuria often reoccurs. Altered mental status can be a sign of a urinary tract infection but it is important to assess and treat other possible causes. **Elderly patients are more sensitive to the side effects of antibiotics and they should be avoided whenever possible.**

Guidelines do not recommend screening or treatment for ASB in:

- Premenopausal, non-pregnant women
- Diabetic women
- Elderly persons living in the community or institutionalized
- Spinal cord injury
- Catheterized patients

Patients who may require treatment for ASB:

- Pregnant
- Undergoing a urologic procedure
- Pediatric
- Kidney transplant (< 6 months post transplant)

Common Pathogens	NMH Susceptibilities to E.coli	IDSA Treatment Recommendations	NM
Enterobacteriaceae (E. coli 75-95%)	Nitrofurantoin 95% Ceftriaxone 92% Cefazolin 89% Ciprofloxacin 74% SMX/TMP 71% Ampicillin/sulbactam 58%	**First line:** Nitrofurantoin SMX/TMP Fosfomycin **Second line:** β-lactams Fluoroquinolones	**Nitrofurantoin and 1st and 3rd gen cephalosporins are more active against E.coli based on our antibiogram than fluoroquinolones (ciprofloxacin and levofloxacin)**

Fluoroquinolones:

Not recommended as first line therapy due to serious adverse effects:

- Tendonitis/tendon rupture
- CNS effects
- C.diff infections
- Antimicrobial resistance

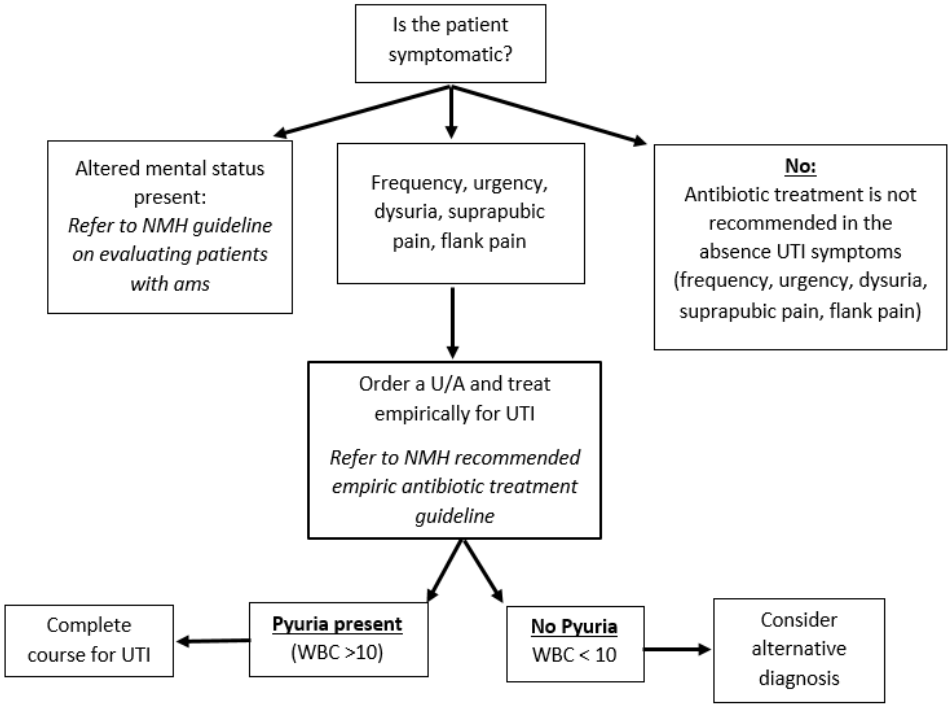
For most infections, the risks associated with fluoroquinolone use do not outweigh the benefits. The FDA recommends limiting fluoroquinolone use in uncomplicated UTI's, bacterial sinusitis, and bacterial bronchitis.

NMH Treatment Guidelines			
First line:	IV	Cefazolin 2 g Q 8 hours	5-7 days
	PO	Nitrofurantoin 100 mg BID	5-7 days Contraindicated in CrCl < 60 mL/min
		Cephalexin 1 g BID	5-7 days
		Cefadroxil 1-2 g BID	5-7 days
Second line:	PO	SMX/TMP 1 DS tab BID	3 days

NM antimicrobial stewardship team regularly monitors patients for inappropriate treatment of ASB.

Fluoroquinolone use for empiric treatment of UTIs require ASP approval. Fluoroquinolones may be used for directed treatment of complicated UTI's and pyelonephritis.

Distinguishing urinary tract infections from asymptomatic bacteriuria



Evaluating altered mental status in elderly patients