

Urinary Tract Infection

Do not send urine for UTI workup in asymptomatic patients
Do not send urine for test of cure
Changes in urine color, smell or turbidity do not qualify as symptoms of UTI

Syndrome	Symptoms and signs
Asymptomatic bacteriuria	Positive UA or urine culture with no acute localizing signs/symptoms of UTI
Cystitis or UTI	New or worsening dysuria, urgency, hesitancy, frequency, suprapubic pain and/or gross hematuria
Pyelonephritis	See UTI as above, plus fevers, chills, flank pain, CVA tenderness, nausea, vomiting

Diagnosis	<ul style="list-style-type: none"> - If dysuria is present, inspect genitalia for discharge, vesicles or ulcerations AND consider STI testing - For acutely symptomatic patients, obtain urine dipstick OR laboratory urinalysis • for dipstick specimens, send urine culture if leukocyte esterase (LE) positive • for laboratory UA, WBC count $\leq 10/hpf$ indicates low likelihood of true infection even if bacteria present - In patients with longstanding irritative symptoms (often postmenopausal women with ongoing dysuria, urinary frequency/hesitancy/urgency), test only if acute and/or worsening change in symptoms
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Treatment Recommendations by Type of UTI and by Age

ALWAYS review available urine cultures from prior 6 months to determine appropriateness of empiric choice
Contact patient to discontinue prescribed antibiotics if culture is negative, has >3 bacterial types or <1,000 CFU/mL

Type of UTI	Empiric Adult Treatment	Empiric Pediatric Treatment
Cystitis without additional features	<ul style="list-style-type: none"> • Nitrofurantoin* 100 mg BID for 5 days • Cephalexin 1000 mg BID for 5 days • TMP-SMX DS* 160 mg-800 mg BID for 3 days 	<ul style="list-style-type: none"> • Cephalexin 25-50 mg/kg/day <u>divided BID to QID</u> for 3 to 5 days (maximum dose: 3000 mg/day) • TMP-SMX* 6-12 mg/kg/day <u>divided BID</u> for 3 days (dose based on TMP component; maximum dose: 320 mg/day)
Cystitis with: obstruction OR urinary retention OR instrumentation	<p>Base empiric selection on available data</p> <ul style="list-style-type: none"> • Cephalexin 1000 mg BID for 7 days • TMP-SMX DS* 160 mg-800 mg BID for 7 days • Ciprofloxacin* 250 mg to 500 mg BID for 7 days 	<ul style="list-style-type: none"> • Cephalexin 50-100 mg/kg/day <u>divided BID to QID</u> for 7 days (maximum dose: 3000 mg/day) • TMP-SMX* 6-12 mg/kg/day <u>divided BID</u> for 5 days (dose based on TMP component; maximum dose: 320 mg/day)
Men with fever and UTI symptoms (prostatitis or pyelonephritis)	<ul style="list-style-type: none"> • TMP-SMX DS* 160 mg-800 mg BID for 14 days • Ciprofloxacin* 500 mg BID for 14 days <p>Do not use nitrofurantoin</p> <p>For males with pyelonephritis and no suspicion of prostatitis</p> <ul style="list-style-type: none"> • Cephalexin 1000 mg TID for 14 days 	
Women and children with pyelonephritis	<ul style="list-style-type: none"> • TMP-SMX DS* 160 mg-800 mg BID for 10 to 14 days • Cephalexin 1000 mg TID for 14 days • Ciprofloxacin* 500 mg BID for 7 days <p>Do not use nitrofurantoin</p>	<ul style="list-style-type: none"> • Cephalexin* 50-100 mg/kg/day <u>divided TID to QID</u> for 14 days (maximum dose: 3000 mg/day) • TMP-SMX* 8-12 mg/kg/day <u>divided BID</u> for 7 to 10 days (dose based on TMP component; maximum dose: 320 mg/day) <p>Do not use nitrofurantoin</p>

*For pregnant patients, review ciprofloxacin, nitrofurantoin, & trimethoprim/sulfamethoxazole (TMP-SMX) appropriateness before prescribing

Adjunctive Measures	<p>Increased oral hydration</p> <p>Heat packs, acetaminophen or NSAIDs for pain relief</p> <p>Pyridium for pain relief if age >6 years AND CrCl >50 ml/min (decrease for mild renal impairment)</p>
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Key Points for Counseling Patients

1. Just cloudy and/or smelly urine is not a symptom of UTI and does not require antibiotic therapy
2. You will be contacted in 1 to 3 days if antibiotics aren't necessary or if a different antibiotic is required
3. Repeat urine culture is not necessary if symptoms resolve after antibiotic treatment
4. Contact your provider if symptoms worsen or do not resolve after treatment