

Urinary Tract: Catheter-Associated Urinary Tract Infection

CLASSIFICATION	CLINICAL FINDINGS	RECOMMENDED EMPIRIC REGIMENS	CLINICAL CONSIDERATIONS
Asymptomatic Bacteriuria	<ul style="list-style-type: none"> Positive urine culture ($\geq 100,000$ cfu/mL of ≥ 1 bacterial species in a single catheter urine specimen) <p>AND</p> <ul style="list-style-type: none"> No sign or symptoms 	<p>Remove catheter</p> <p>No antibiotics unless the patient is:</p> <ul style="list-style-type: none"> Scheduled for urologic procedure Pregnant <p><u>Scheduled Urologic Procedure:</u> SMX/TMP 1 DS tablet PO Q12H OR Ciprofloxacin 500 mg PO OR Ciprofloxacin 400 mg IV Q12H</p> <p>Initiate within 24 hours prior to procedure and until foley removed</p> <p><u>Pregnant:</u> Amoxicillin 500 mg PO Q8H for 3 to 7 days OR Cephalexin 500 mg PO Q6H for 3 to 7 days OR Nitrofurantoin (MacroBID)* 100 mg PO Q12H for 5 days</p>	<ul style="list-style-type: none"> Obtaining routine cultures in asymptomatic patients is <u>NOT</u> recommended In the presence of a catheter, pyuria ($>5-10$ WBC) in an asymptomatic patient is <u>NOT</u> an indication for antibiotic treatment Presence or absence of odorous or cloudy urine alone is <u>NOT</u> an indication for antibiotic treatment Antibiotics do <u>NOT</u> decrease asymptomatic bacteriuria or prevent subsequent UTI
Symptomatic	<ul style="list-style-type: none"> Positive urine culture ($\geq 1,000$ cfu/mL of ≥ 1 bacterial species in a single catheter urine specimen) <p>AND</p> <ul style="list-style-type: none"> Presence of signs/symptoms <p>Catheter still in place:</p> <ul style="list-style-type: none"> Malaise/lethargy Fever ($\geq 100.4^{\circ}\text{F}$)/rigors Altered mental status Flank pain Pelvic discomfort Acute hematuria <p>Catheter removed within past 48 h:</p> <ul style="list-style-type: none"> Dysuria Urgency Frequency Suprapubic pain/tenderness 	<p><u>Outpatient:</u> SMX/TMP DS tablet PO Q12H OR Nitrofurantoin (MacroBID)* 100 mg PO Q12H OR Ciprofloxacin 250 - 500 mg PO Q12H</p> <p><u>Inpatient:</u> Cefazolin 2 gm IV Q8H OR Cefepime 1 gm IV Q12H OR Ampicillin/sulbactam 1.5 gm IV Q6H</p> <p><u>Known or suspected ESBL bacteria:</u> Meropenem 1 gm IV Q8H OR Ertapenem 1 gm IV Q24H</p> <p>Duration of Treatment: Prompt resolution: 7 days Delay response: 10-14 days</p>	<ul style="list-style-type: none"> Remove catheter whenever possible Narrow antibiotic therapy when organism and susceptibilities are known Follow-up urine cultures or urinalysis are only warranted for on-going symptoms. They should <u>NOT</u> be obtained routinely to monitor response to therapy

cfu= colony forming units; DS= double strength; ESBL= extended spectrum beta-lactamase; H= hour(s); IV= intravenous; MDRO= multi-drug resistant organism; PO= by mouth; Q= every; SMX/TMP= sulfamethoxazole/trimethoprim; UTI= Urinary Tract Infection; WBC= white blood cell

*Nitrofurantoin: Contraindicated if CrCl< 60 mL/min AND only indicated in acute cystitis