



**DEFINITIONS**

**Abnormal UA or POC:**  
 • +LE OR +Nitrites OR >5 WBC  
 • Presence of nitrites indicates gram negative bacteria and may represent asymptomatic bacteriuria if pyuria is not present

**Positive Urine Culture:**  
 • > 50,000 CFU of a single organism via cath OR clean catch specimen  
 • Consider UTI if 10,000-50,000 CFU with abnormal UA/dip OR urinary symptoms

**Cystitis:**  
 Limited to lower urinary tract

**Pyelonephritis:**  
 Involves lower and upper urinary tract. Suspect in:  
 • children <2 yo presenting with fever + urinary symptoms/UA findings.  
 • younger children (>2yo) presenting with emesis, feeding intolerance, fever  
 • older children with fever, flank or back pain or who are ill-appearing  
 • hospitalized patients with persistent fever >38.5 despite appropriate antibiotics for 48 hours.

**Inclusion Criteria:**  
 • >2mo with urinary symptoms

**Exclusion Criteria:**  
 • Admission to PICU  
 • Hospital-acquired UTI (Urine obtained >48 hrs after admission)  
 • Spina bifida  
 • Urinary system anomalies  
 • Urinary tract hardware  
 • Previous operative procedure of the urinary tract  
 If <2mo refer to Febrile Infant CCG

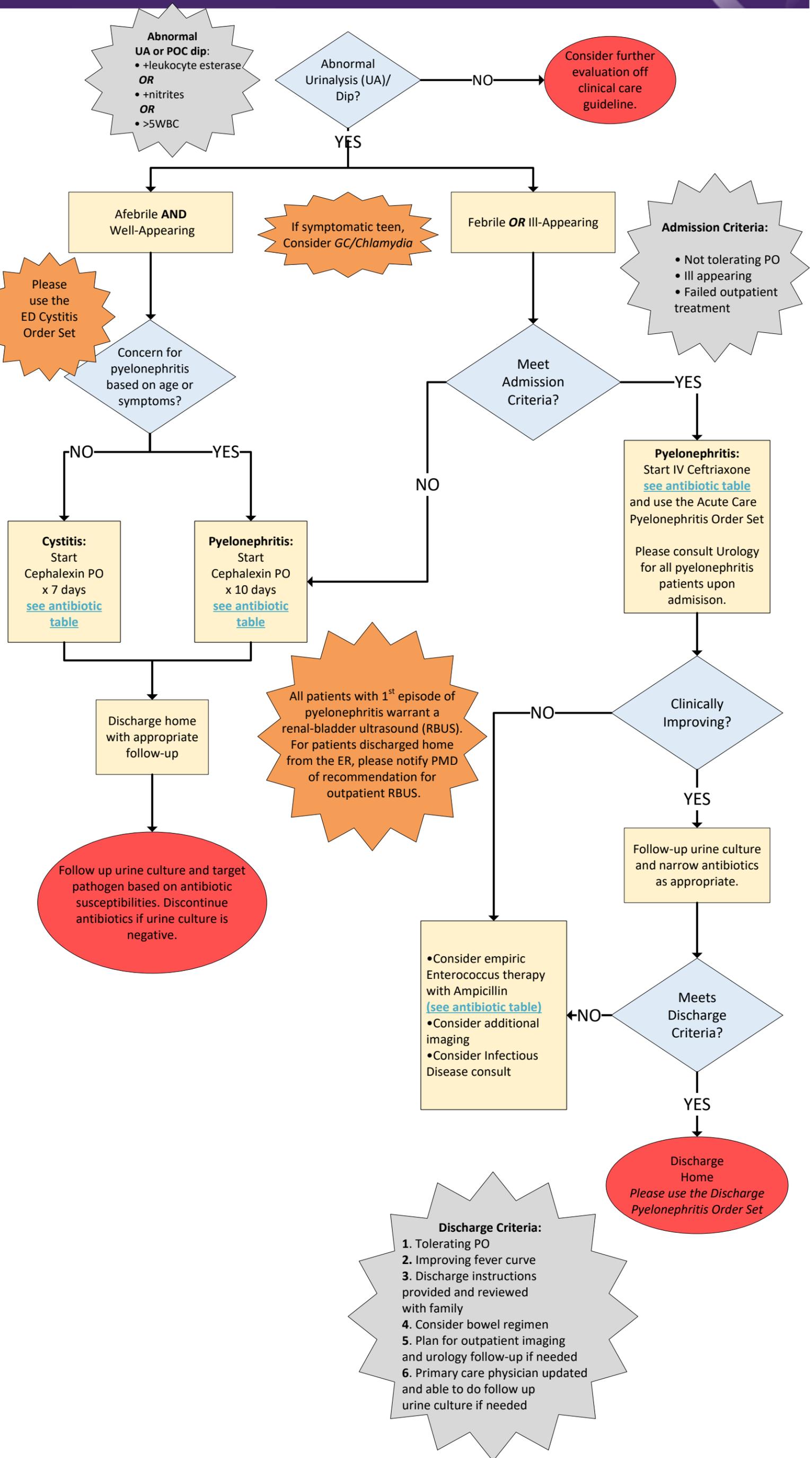
**Recommended Empiric Antibiotic Therapy:**

**Outpatient:**  
 • Cystitis: Cephalexin PO x 7 days  
 • Pyelo: Cephalexin PO x 10 days  
 See antibiotic table

**Inpatient:**  
 • Ceftriaxone IV 75mg/kg

**Penicillin Allergy:**  
 • Cystitis: Bactrim PO x 7 days  
 • Pyelo: Bactrim PO x 10 days

**\*Signs/Symptoms of a Severe Penicillin Allergy:**  
 • Urticaria  
 • Angiodema  
 • Anaphylaxis  
 • Delayed rash (SJS/TEN, DRESS, serum sickness)



<b>Simple Cystitis</b>	Empiric Therapy	Cephalexin PO 15 mg/kg/dose every 8 hours (Max: 500mg/dose)	x7 days
	Severe Penicillin or Cephalexin Allergy	Trimethoprim-Sulfamethoxazole PO 5 mg/kg/dose every 12 hours (Max dose of 160mg of Trimethoprim)	x7 days (transition to narrow spectrum if possible)
<b>Pyelonephritis</b>	Empiric PO Therapy	Cephalexin PO 30 mg/kg/dose every 8 hours (Max: 1000mg/dose)	x10 days
	Empiric IV Therapy	Ceftriaxone IV 75 mg/kg/dose every 24 hours	x10 days (transition to narrow spectrum if possible)
	Severe Penicillin or Cephalexin Allergy	Trimethoprim-Sulfamethoxazole PO 5 mg/kg/dose every 12 hours (Max dose of 160mg of Trimethoprim)	x10 days (transition to narrow spectrum if possible)

\*Recommend PO Bactrim if tolerated due to large IV volume and risk of infiltration/thrombophlebitis

#### IV Culture-directed Treatment

Ceftriaxone 75mg/kg/dose every 24 Hours  
 Cefazolin 25 mg/kg/dose every 8 Hours  
 Ampicillin 50 mg/kg/dose every 6 Hours  
 (for *Enterococcus*)  
 Cefepime 50 mg/kg/dose every 8 Hours  
 (for *Pseudomonas*)

#### *Enterococcus* PO Therapy

Amoxicillin PO 20 mg/kg/dose twice daily (max dose 500 mg)

#### Prophylactic Treatment (if recommended by Urology)

Trimethoprim-sulfamethoxazole PO  
 2 mg/kg/dose daily (max dose 160 mg of Trimethoprim)  
 Nitrofurantoin PO  
 2 mg/kg/dose daily (max dose 100 mg)

[Back to Algorithm](#)



## Evidence

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\* This is not a comprehensive list of all literature but rather a starting point for those wishing to better understand the guidelines, evidence and reviews that have informed this guideline and/or share these resources with colleagues in their institution.

[Back to Algorithm](#)

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