

Urinary Tract Infection

Definitions

Urinary Tract Infection (UTI)

- Clinical signs and symptoms (dysuria, frequency, flank pain, suprapubic pain, fever) **and**
- UA with pyuria and/or bacteruria (> 5 WBC/hpf, (+) nitrite or (+) leukocyte esterase(LE)) **and**
- Growth of no more than two urinary pathogens on culture (see below box on page 4)

Definition of Presumed Bacterial Cystitis

- Urinary symptoms with abnormal UA, without fever

Definition of Presumed Pyelonephritis

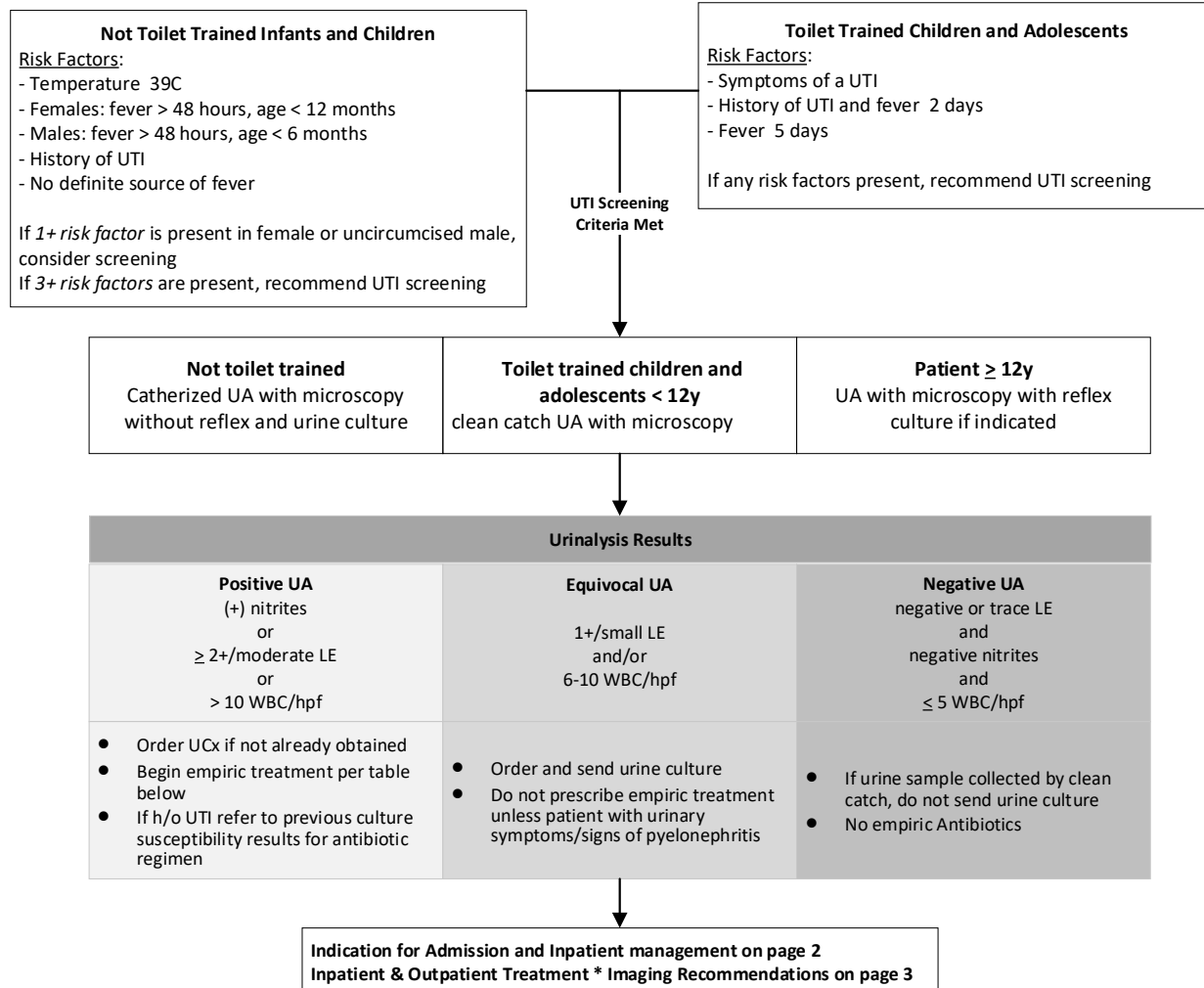
- Urinary symptoms with fever and abnormal UA

Inclusion Criteria:

- Infants > 60 days to age 18 years
- Suspected or definite first time or recurrent UTI

Exclusion Criteria:

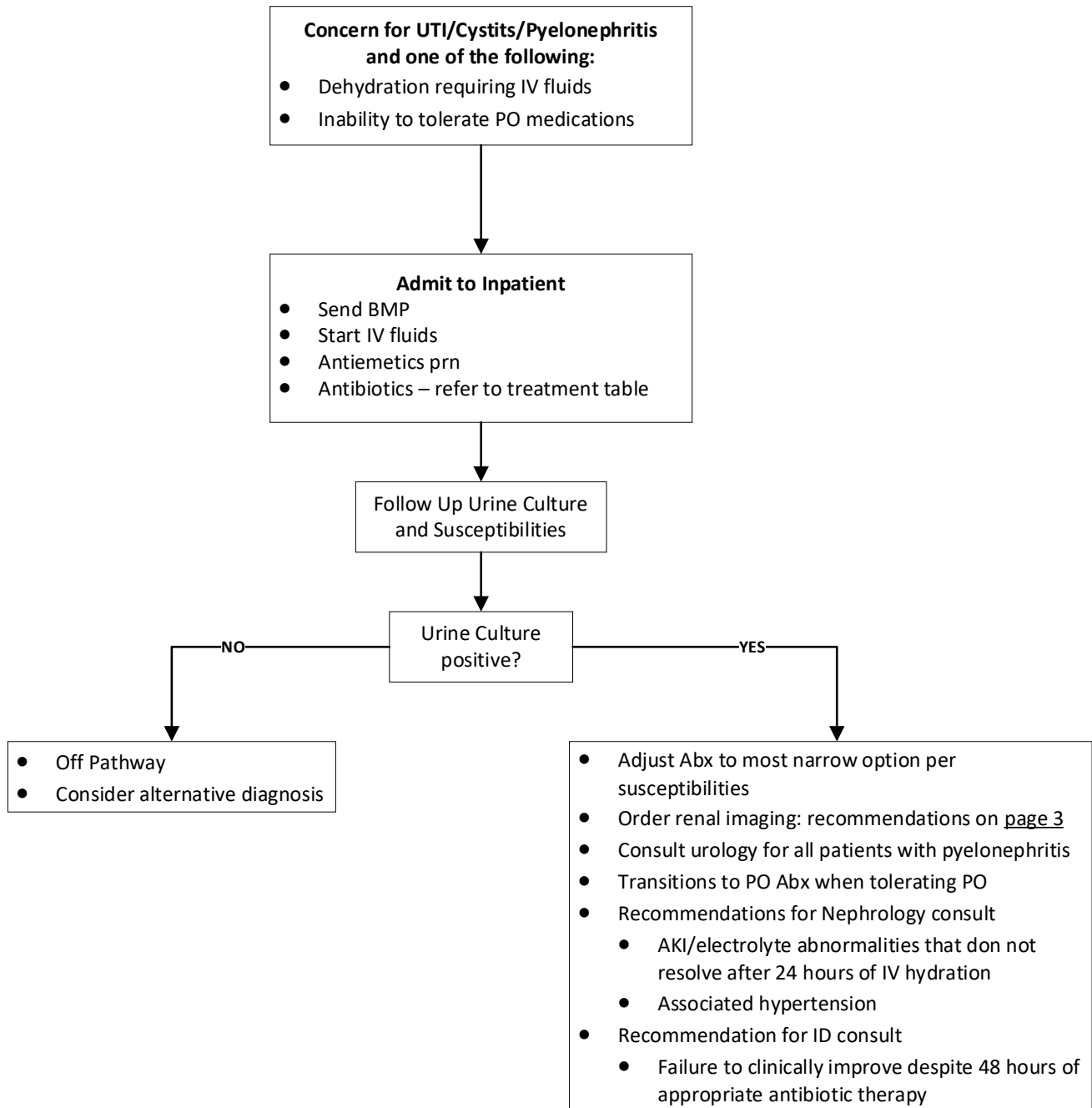
- Infants < 60 days (*refer to febrile neonate inpatient pathway*)
- Sepsis/Need for ICU cares
- Suspected or definite meningitis
- Immunocompromised host
- Known or suspected GU abnormality including recent GU surgery or neurogenic bladder
- Failed outpatient UTI treatment
- Pregnancy
- Chronic Kidney Disease
- Recent history of sexual abuse (in previous 7 days)



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Inpatient Management



Discharge Criteria:

- Clinical response to appropriate antibiotic therapy (improving fever curve)
- Able to tolerate feeding and oral medications
- Selection of outpatient antibiotics to complete 5-day minimum total course*
- If indicated, renal ultrasound and/or VCUg completed or scheduled
- Appropriate follow-up scheduled with PCP (and consultants if indicated)

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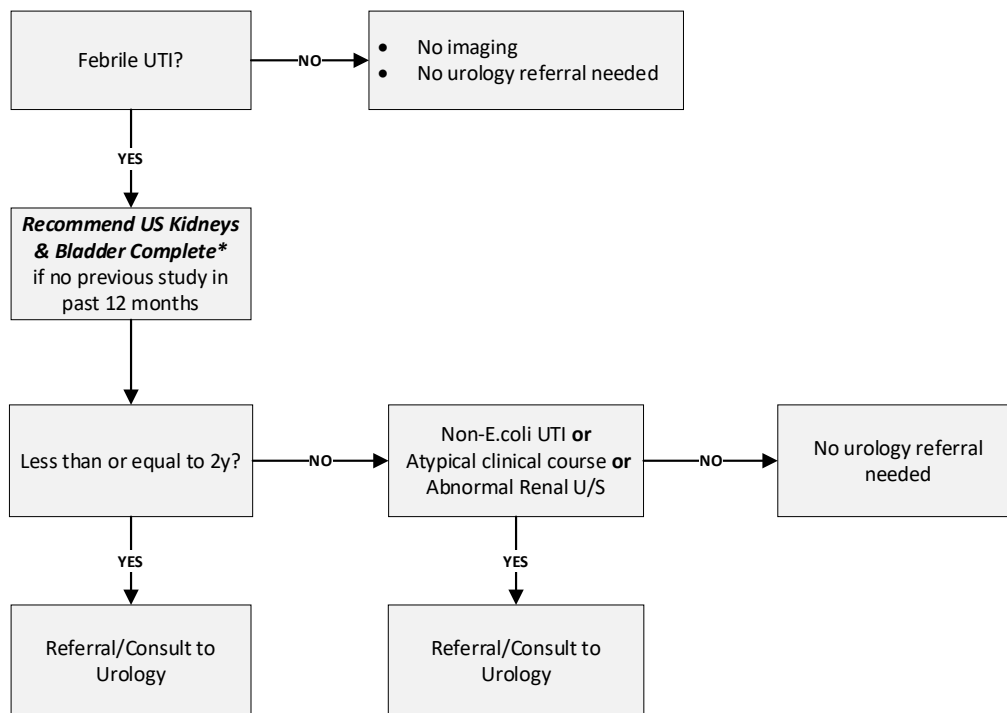
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Antibiotic Treatment and Imaging Recommendations

| Treatment: Antibiotic Regimens | | | | |
|--------------------------------|---|---|--|---|
| Diagnosis | Preferred Outpatient Regimen | Alternative Outpatient Regimen | Inpatient Regimen | Duration |
| Bacterial Cystitis | Cephalexin: 25mg/kg/dose PO Q8h (max 500 mg/dose) | Sulfamethoxazole-trimethoprim: 5mg/kg/dose of TMP PO q12h (max 160mg/dose of TMP) or Nitrofurantoin (<i>for adolescents</i>) monohydrate/microcrystal 100mg PO q12h | Cefazolin: 30mg/kg/dose IV q8h (max 2000mg/dose) | Cephalexin: 5 days Sulfamethoxazole-trimethoprim: 3 days Nitrofurantoin: 5 days |
| Pyelonephritis | Cephalexin: 25mg/kg/dose PO Q8h (max 1000 mg/dose) | Sulfamethoxazole-trimethoprim: 5mg/kg/dose of TMP PO q12h (max 160mg/dose of TMP) or Ciprofloxacin (<i>for adolescents</i>) 10 mg/kg/dose PO q12h (max 500mg/dose) | Ceftriaxone: 50mg/kg/dose IV q24h (max 2000mg/dose) | 7 days |

*Please contact pharmacy for inpatient alternative regimen in patients with PCN or cephalosporin allergies

UTI Imaging and Referral Recommendations



***Inpatient**

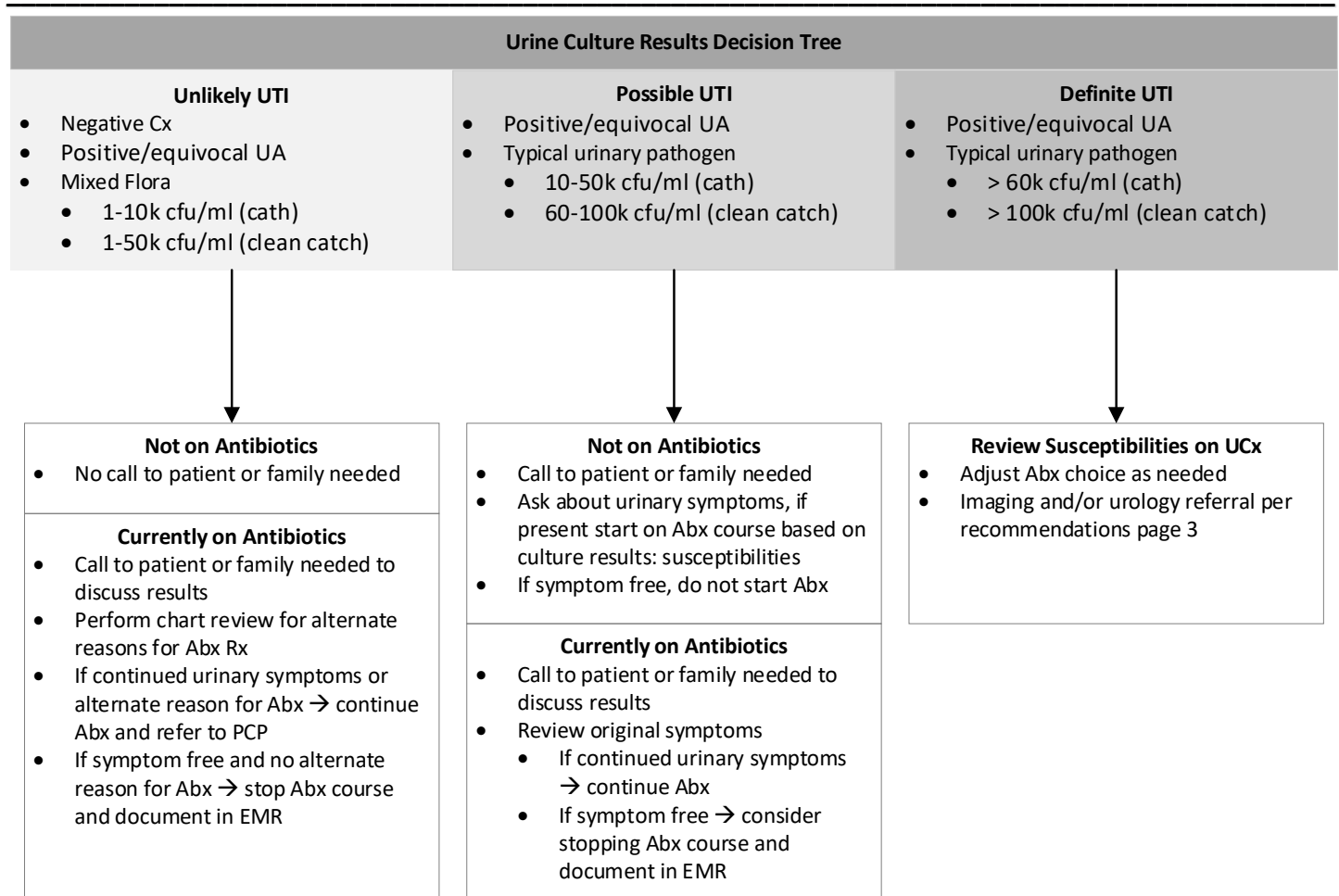
- Complete U/S during admission

***ED Discharges**

- Discharge instructions to complete U/S within 1 month for patients with appropriate PMD follow up. Consider sooner than 1 month if severe infection or not improving by 48h
- Consider completing U/S in ER if patient does not have established PMD follow up

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Typical Urinary Pathogens

- E. Coli
- Other enteric gram negative bacilli such as: klebsiella, proteus, citrobacter
- Enterococcus
- Staphylococcus saprophyticus
- Pseudomonas

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