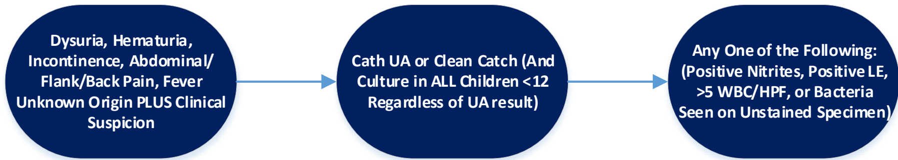
EPPA

EXCELLENCE IN EMERGENCY MEDICINE

UR THE URGENCY ROOM

MANAGEMENT OF Pediatric UTI (Age: 2 months to 12 years)

This EPPA Clinical Guideline is intended to guide most, but not all, encounters involving pediatric UTI and should not replace clinical judgment; deviate from or adapt this guideline to meet the individual patient's needs.



UTI

Uncomplicated Cystitis (Lower UTI)

Age < 3 years:
1) Cephalexin: 25 mg/kg/dose QID for 7 days
2) Nitrofurantoin (only if afebrile, not vomiting, etc.), 1.75 mg/kg/dose four times per day, Maximum 100 mg/dose for 7 days ($$$$)

Age > 3 years:
Either of the following:
1) Cephalexin: 25mg/kg/dose TID x 5-7 days, max 500mg/ dose
OR
2) Nitrofurantoin 1.75mg/kg/dose four times per day, Maximum 100 mg/dose for 7 days ($$$$)

Home
Follow-up Within 48 Hours with Primary

Upper UTI: Systemic Symptoms Like Fever, Vomiting, Back Pain

Well Appearing

1) Cephalosporin
(Cephalexin (age >3): 25 mg/kg/dose QID for 7 days
(Cephalexin (age < 3): 25 mg/kg/dose TID for 7 days
OR
2) Ciprofloxacin
(10 mg/kg/dose BID x 10 days max 500 mg/ dose)
If cephalosporin allergic, guidelines recommend Ciprofloxacin orally given high resistance rates to Bactrim/Augmentin. Consult pediatrician or ID if concerns.

Toxic Appearing or Concern Inability to Keep Down Abx

Admission
1) IV 3rd Gen Cephalosporin (Ceftriaxone 75 mg/kg IV; maximum 2g)
OR
2) If Allergy: IV Gentamycin (Consider Ceftriaxone IV/IM 50 mg/kg once in selected patients with close outpatient follow-up)

Known GU Abnormalities, Indwelling Foley Immunocompromised

Consider Admission
Cover for Enterococcus Plus Other Common Organisms
BOTH
1) Cephalosporin
(Cefdinir 7mg/kg/dose BID x 10 Days Max 600 mg/day)
2) Amoxicillin 15 mg/kg/dose TID for 5 days Max 500 mg

MANAGEMENT OF **Pediatric UTI** (Age: 2 Months to 12 Years)

Indications for Admission

1. Toxic appearance
2. Persistent vomiting
3. Poor follow-up
4. Concern for bacteremia

UTI Risk Factors
> 56 Days, Not Toilet Trained

Risk Factors*

- Non-African American
- T≥ 102.2°F
- Fever ≥ 2 Days
- No Source
- < 6 Months Male or < 12 Months Female

Number of Risk Factors Present

Circumcised or Female

- Consider screening ≥ 2
- Recommend screening ≥ 3

Uncircumcised

- Consider screening ≥ 1
- Recommend screening ≥ 2

*Recommended screening if previous history of UTI and fever ≥ 2 days

Pearls

1. All children < 12 years whom you are considering a UTI should have a urine culture, regardless of urine result as children may have a UTI without the normal dipstick findings (LE/nitrites) or WBC's in the urine.
2. Empiric treatment for febrile children without a source and normal urinalysis on duration of fever (greater than 48 hours) and with risk factors for UTI. A risk calculator **https://uticalc.pitt.edu/** may be of use which is similar to the risk factors above but can give you a percentage probability of UTI.
3. Consider bladder ultrasound before cath.
4. Bag specimen is inadequate for the diagnosis of UTI in children due to contamination issues. Clean catch or cath urine is ideal.
5. Prompt treatment of UTI in children is important to prevent renal scarring, a complication of UTI/pyelonephritis that puts children at higher risk for ESRD, decreased GFR and/or hypertension.
6. Treat gross hematuria without trauma as UTI until culture back, 48 hour follow-up with pediatrician.
7. Empiric coverage for enterococcus is not needed unless culture result known or child has known GU abnormalities, indwelling catheter, immunocompromised, or has a history of enterococcus in the past.
8. Avoid use of Amoxicillin, Augmentin, Bactrim or sulfa drug unless specimen is known to be sensitive by culture. E coli is now commonly resistant to these antibiotics.

References:

- Lavelle J, et al. Two-Step Process for ED UTI Screening in Febrile Young Children: Reducing Catheterization Rates. *Pediatrics.* July 2016; 138 (1).
- American Academy of Pediatrics. Clinical Practice Guideline, Urinary Tract Infection. *Pediatrics*. September 2011; 128 (3). Doi: 10.1542/peds.2011-1330.
- Shaikh N, et al. Urinary tract infections in infants older than one month and young children: Acute management, imaging, and prognosis. *UpToDate*. https://www.uptodate.com/contents/urinary-tract-infections-in-infants-older-than-one-month-and-young-children-acute-management-imaging-and-prognosis
- Jackson M, et al. AAP Report Details Use of Fluoroquinolones in Children. www.aappublications.org
- Chang, et al. Pediatric Urinary Tract Infections. *Pediatr Clin N Am.* 2006; 53. 379 – 400.
- Seattle Childrens UTI Pathway, https://www.seattlechildrens.org/pdf/UTI-pathway.pdf

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