

Footnotes

1. If any one risk factor is present, the risk is >2%
Risk Factors for UTI:

- Age <12 months
- Temperature ≥39°C
- Fever >24 hours
- Absence of another source of fever
- Previous UTI/urogenital abnormality
- Uncircumcised

2. Urinalysis
 Positive if one or more of the following is present:

- >5 WBC/hpf
- OR • ⊕Nitrites
- OR • ⊕Leukocyte esterase
- OR • Bacteria present

If bag sample is positive, obtain catheter/suprapubic aspiration sample. If not possible, refer to ACH ED.

3. Definition of urine culture report

- Positive: >10⁷ CFU/L for typical single uropathogen
- Negative: no growth or ≤10⁷ CFU/L
- Other/uncertain growth: colony count of uncertain significance, non-pathogens, or suggestive of periurethral contamination

4. Definition of abnormal renal & bladder ultrasound

- Hydronephrosis (>7 mm AP diameter of renal pelvis)
- Renal scarring
- Dilated ureter
- Abnormal bladder
- Renal malformation
- Consider Nephrology or Urology phone consult if unsure

5. Antimicrobial prophylaxis

- Pre-VCUG: no prophylaxis
- Post-VCUG:
 - No VUR or VUR grades I-III: no prophylaxis
 - VUR grade IV or V: prophylaxis with
 - TMP/SMX (2 mg TMP/kg po once daily) or if allergic/resistant
 - Nitrofurantoin (1-2 mg/kg po once daily)

INFANT 2-24 Months
Fever ≥38°C

Likelihood of UTI
(See Footnote #1)

Decreased Risk (≤2%)

Increased Risk (>2%)

OBTAIN URINALYSIS
 • Catheter or
 • Suprapubic aspiration

If unable to obtain catheter or suprapubic aspiration sample, then obtain bag urine for screening purposes only.

Consider alternate sources of fever
Follow up clinically*
*This may delay the diagnosis of UTI in 1/50 of these children

Urinalysis negative
(See Footnote #2)

Urinalysis positive
(See Footnote #2)

Culture urine obtained by catheterization or suprapubic aspiration

TREAT EMPIRICALLY

Well and No vomiting
Discharge Home

- Cefixime 16 mg/kg/d ÷ twice daily po on day 1, then 8 mg/kg/d ÷ once or twice daily po
- Requires follow up adjustment of antibiotic

Unwell but not toxic or Unable to tolerate/allergy to po medication
APTP or Admit

- Do blood culture
- Ceftriaxone 50 mg/kg IV once daily
- Alternate if allergy/admitted: Gentamicin 5-7 mg/kg IV once daily

Toxic/Septic
Admit

- Do blood culture
- Consider CSF culture
- Ceftriaxone IV ± additional antibiotics depending on clinical picture

• Stop antibiotics (if cultures done prior to starting antibiotics)
 • Repeat urinalysis
 • Consider Nephrology consult if repeat urinalysis is abnormal

Negative

Urine Culture Report
(See Footnote #3)

Other/uncertain growth

Clinical correlation required

Positive

Adjust IV or PO antibiotics according to sensitivities & clinical status
 Total IV + PO = 7-14 d

Renal & Bladder Ultrasound
(See Footnote #4)

Normal US

Follow clinically for subsequent UTI

Abnormal US

2nd episode of UTI

VCUG & Consider Nephrology or Urology consult
(See Footnote #5)

Abbreviations

APTP – Ambulatory Parental Therapy Program
 CSF – Cerebrospinal fluid
 CFU/L – Colony forming units/L
 TMP – Trimethoprim
 TMP/SMX – Trimethoprim/sulfamethoxazole
 US – Ultrasound
 UTI – Urinary tract infection
 VCUG – Voiding cystourethrogram
 VUR – Vesicoureteral reflux

Clinical Pathway adapted from: Subcommittee on Urinary Tract Infection, Steering Committee on Quality Improvement and Management. Urinary tract infection: clinical practice guideline for the diagnosis and management of the initial UTI in febrile infants and children 2 to 24 months. *Pediatrics*. 2011;128(3):595-610

Developed by ACH UTI Clinical Pathway Working Group with members representing the departments of Emergency Medicine, Hospitalist Pediatrics, Infectious Diseases, and Nephrology; in consultation with Urology and Diagnostic Imaging