

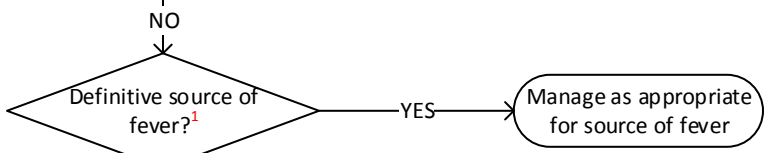
AAP Section on Emergency Medicine Committee on Quality Transformation

Clinical Algorithm for Emergency Department Evaluation and Management of UTI in Febrile Infants and Young Children

Overview
 Urinary tract infection (UTI) is the most common serious bacterial infection in infants and young children. This algorithm applies to infants or children 2 to 24 months of age presenting to an emergency department with fever, in whom UTI can be a possible source. This algorithm was developed by the American Academy of Pediatrics Section on Emergency Medicine in the interest of advancing pediatric healthcare. Guidelines are based on current literature and expert consensus. They are subject to change as new evidence emerges. Guidelines are not applicable for all patients and do not replace clinical judgement. Ultimately, the patient's physician must determine the most appropriate care.

Scope Emergency Department (ED) Setting
Includes Patients 2 to 24 months of age with fever $\geq 38^{\circ}\text{C}$
Excludes Immunocompromised; known major genitourinary anomalies; genitourinary procedures; neurogenic bladder; history of GU reflux; septic appearance

Infant or child 2 to 24 months of age presents with fever

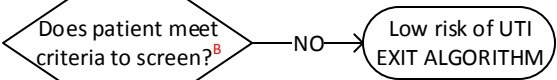


A-Individual Risk Factors	
Male	Female
- Nonblack race	- Nonblack race
- Temperature $\geq 39^{\circ}\text{C}$	- Temperature $\geq 39^{\circ}\text{C}$
- Fever ≥ 24 hours	- Fever ≥ 48 hours
- Absence of an alternate source of infection ²	- Absence of an alternate source of infection ²
- Age < 6 months	- Age < 12 months

NO

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Determine individual risk factors^A



B- Screening Recommendations Based on Number of Individual Risk Factors ³			
	Males Uncircumcised	Males Circumcised	Females
May screen for UTI	1	2	2
Should screen for UTI	2	3	3
Must screen for UTI	≥ 3	≥ 4	≥ 4

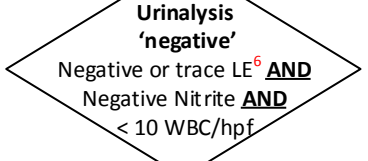
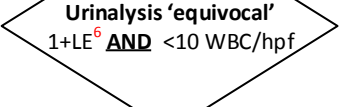
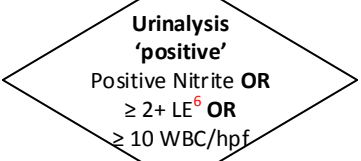
YES

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Screen for UTI

Age < 6 months
 Catheterization/SPA recommended for collection of urine for urinalysis and culture⁴

Age 6 to 24 months
 Catheterization or 2 step method for collection of urine for urinalysis and culture^{4,5}



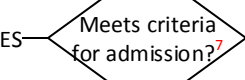
Ensure urine culture has been obtained by cath/SPA⁴

Treat empirically for presumptive UTI while awaiting culture

- Send urine culture
- Alternatively, observe closely without urine culture
- If planning to treat with antibiotics, urine culture should be obtained by Cath/SPA⁴

Urine culture generally not indicated

Initiate IV antibiotic therapy⁸
Admit for inpatient care



Empiric antibiotics NOT recommended while awaiting culture

Unlikely to be UTI

Discharge on oral antibiotics such as 1st or 2nd generation cephalosporins (alternatively sulfamethoxazole/ trimethoprim) based on local antimicrobial patterns and sensitivities pending urine culture. Duration of treatment 7-10 days.^{8,9}

Discharge home
Antibiotics not recommended

Footnotes:

- 1- **Definitive sources of fever:** Bacterial meningitis; radiographic pneumonia; strep pharyngitis; purulent otitis media; other recognizable viral syndromes (Coxsackie, varicella, HSV stomatitis); Kawasaki disease; croup
- 2- Alternate sources of infection that might explain fever (e.g. bronchiolitis, gastroenteritis, upper respiratory infection, etc)
- 3- If history of previous UTI, lower threshold for UTI screening
- 4- SPA- suprapubic aspiration; suprapubic bladder aspiration recommended for urine specimen collection if anatomy precludes catheterization
- 5- 2 step method involves using a bag specimen or clean catch specimen (including bladder simulation technique) as initial screen; if positive, need to obtain urine for culture using catheterization/SPA
- 6- Leukocyte esterase (LE)- 1+(small), 2+ (moderate), 3+ (large)
- 7- Admission criteria: unable to tolerate oral fluids/medications, suspicion of complicated UTI (abscess, obstruction), compromised renal function, or unable to ensure follow-up/compliance; consider admission for younger infants
- 8- Antibiotic choice should be based on local patterns of resistance and MIC sensitivities.
- 9- If urine culture results do not suggest a UTI, contact family to discontinue antibiotics

Pediatric Urinary Tract Infection Content Expert Team

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