UNC Children’s Hospital Clinical Algorithm for Children with First Urinary Tract Infection (UTI)

Begin

Start

History and physical indicative of UTI and meets inclusion criteria

Yes

OFF Algorithm
Manage as appropriate to clinical findings

No

Obtain specimen for analysis (dipstick or urinalysis), urine gram stain, and urine culture by urethral catheterization

Yes

Initiate empiric antimicrobial therapy

(IV/PO routes equally effective if tolerating PO and not a failure of outpatient PO antibiotics)

UA+ for LE or nitrites

OR ≥ 5 WBCs on microscopy

No

Yes

Well-appearing and tolerating oral fluids

If seen in the ED or clinic, consider discharge on oral antibiotics if appropriate.

Follow-up

Urine Culture +

(≥ 50,000 CFUs of single pathogen)

No

Yes

RUS

(may be done as outpatient if not admitted; PCP to follow up results)

RUS abnormal

Schedule VCUG

(may be done as outpatient)

PCP to follow-up VCUG results

Consider admission

- Continue antimicrobial therapy
- Follow culture and adjust therapy based on antimicrobial susceptibility results to choose the most appropriate, narrow spectrum agent

Note: Discontinue antibiotics if urine culture negative and child has NOT been treated with antibiotics prior to culture.

OFF Algorithm
Search for alternate source of infection

Note: Discontinue antibiotics if urine culture negative and child has NOT been treated with antibiotics prior to culture.

*Admission Criteria

- Unable to tolerate oral fluids (requires IV fluids for hydration)
- Failed outpatient therapy (requires IV antibiotics)

**Discharge Criteria

- Tolerating oral intake
- If admitted, decreasing trend in daily maximal temperatures combined with physician discretion

Abbreviations

- UA – urinalysis
- LE – leukocyte esterase
- IV – intravenous
- RUS – renal ultrasound
- VCUG – voiding cystourethrogram

Prepare for search

Hospital Admission

Inclusion Criteria

- 2 months – 2 years
- First episode of UTI

Exclusion Criteria

- Conditions in which immunity may be compromised (transplant recipient or chronic renal insufficiency/kidney disease)
- Known major genitourinary anomalies
- PICU admission

**Disclaimer:** The following information is intended as a guideline for the acute management of children with a first UTI. Management of your patient may require a more individualized approach.