THE UNIVERSITY OF CHICAGO MEDICINE
Comer Children's Hospital
AT THE FOREFRONT OF KIDS MEDICINE

PEDIATRIC EMERGENCY DEPARTMENT CLINICAL GUIDELINE: FEVER IN CHILDREN 3-36 MONTHS OLD

Population:

- Intended for well-appearing infants between the ages 3 to 36 months with a history of fever to 102°F (39°C) or greater and no identifiable source (after a thorough history and physical examination)
- Excludes
  - Children with a source of fever found on physical examination
  - Children who are not well-appearing
  - Children with petechiae
  - Children with significant co-morbidities e.g., sickle cell disease, immunodeficiency
  - Children on antibiotics

History

- Age, immunizations, general state of health
- Fever characteristics and treatment
- Associated Symptoms – URI, cough, vomiting, diarrhea, rash
- Feeding, activity, urine output
- Exposures to daycare, ill contacts, recent travel
- History of UTI, recent/current antibiotic use

Physical Examination:

- General appearance
- Rapid cardiopulmonary assessment
- Assessment of Vital signs including pulse Oximetry
- Assessment of hydration
- General examination for focal evidence of infection

Infants 3-6 months OR Under-immunized for Age

Evaluation& Management:

- CBC, BCx, IV lock
- Catheterized UA, and Cx
- Consider CXR if any abnormal respiratory findings (unexplained tachycardia, tachypnea, abdominal pain, cough or even mild hypoxemia)
- Consider stool culture if $\geq$ 10 stools per 24 hours or history of bloody stools
- If dip UA positive for leukocyte esterase or nitrites treat expectantly for UTI
- If WBC greater than 18,000/ mm^3 consider expectant antibiotics
- Arrange follow-up within 24 hours with PMD and/or return to ER for follow-up

Infants 6-36 months AND Fully-Immunized for Age

Evaluation& Management:

- Cath U/A and Cx in circumcised boys under 6 months and uncircumcised boys under 12 months.
- Cath UA and Cx in all girls under 2yrs (May get clean catch midstream urine in toilet trained)
- Consider CXR if any abnormal respiratory findings (unexplained tachycardia, tachypnea, abdominal pain, cough or even mild hypoxemia)

- Consider stool culture if ≥ 10 stools per 24 hours or history of bloody stools
- Treat expectantly for UTI if urine dip has nitrites or leukocyte esterase

Consider admission of any child if follow up cannot be assured or there are social concerns

Key Teaching Points:

- Immunizations for *Haemophilus influenza* (Hib) and *Streptococcus pneumoniae* (Prevnar®) have greatly reduced the occurrence of occult bacteremia.
- The most common causes of occult (hidden) bacterial infections in this age group are urinary tract infections and pneumonias, both of which can be detected in the emergency department.
- The younger the patient (i.e., < 6mo) the higher the risk of bacteremia.
- The risk of bacteremia is higher if the patient is not immunized, and not all patients are immunized, so clinicians must ask regarding specifics.

REFERENCES:

1. Avner JR, Baker. Management of fever in infants and children. Emerg Med Clin North Am 2002;20:49-67.
2. Black SB, Shinefield HR, Hansen J, et al. Postlicensure evaluation of the effectiveness of seven valent Pneumococcal conjugate vaccine. *Pediatr Infect Dis J*. 2001;20:1105-1107.
3. Kramer MS. The young febrile child:evidence-based diagnostic and therapeutic strategies. *Emer Med Prac* 2000;2(7)1-22.
4. Lee GM, Harper, MB. Risk of bacteremia in febrile young children in the post –*Haemophilus influenzae* type B era. *Arch Pediatr Adolesc Med* 1998;152:624-628.
5. Shaw KN, McGowan, KL, Gorelick MH, Schwartz JS. Screening for urinary tract infections in infants in the emergency department: which test is best? *Pediatrics* 1998;101(6):e1-e5

DISCLAIMER:
This clinical guideline has been developed for the purpose of unifying the general emergency care of infants with fever. It is intended to aid, rather than substitute for, professional judgment. It is not intended to serve as a rigid protocol or a written proxy for the standard of care. Failure to comply with this guideline does not represent a breach of the standard of care.