

# Comer Children's Hospital

AT THE FOREFRONT OF KIDS MEDICINE

# PEDIATRIC EMERGENCY DEPARTMENT CLINICAL GUIDELINE: FEVER IN NEONATE (0-28 days)

# Population and Definitions:

- Includes infants < 29 days
- Includes infants with a history of fever of 100.4°F (38°C) or greater
  - o Includes fever measured at home in any location, whether it is present in the ED or not
  - o Includes fever measured rectally in ED
  - o Does not include tactile temperatures with or without fussiness (see separate section)\*

## Perinatal History:

- Gestational age, type of delivery, location/hospital of delivery
- Prenatal care, maternal cultures/infections/antibiotics
  - o Specifically ask about Group B Strep and Herpes (both history of and new outbreaks as well as current symptoms)
- Infant cultures/infections/antibiotics
- Maternal and infant length of stay/complications

## **Recent History**

- Fever details
- Feeding, activity, fussiness
- Wetting, stools
- Infectious contacts

## **Physical Examination:**

- Rapid cardiopulmonary assessment
- Assessment of hydration and perfusion
- General physical examination for evidence of focal infection
- Examination for presence of jaundice, hepatosplenomegaly, or skin lesions

# **Diagnostic Evaluation:**

- Full sepsis evaluation
- CBC/diff, BCx and IV lock
- Cath U/A and Cx (or suprapubic tap, but <u>not</u> a bagged specimen)
- LP for CSF cell count, glucose, protein, culture/gram stain and possibly HSV PCR
- CXR if any respiratory symptoms
- NP swab for RSV, influenza, paraflu if indicated (season and/or symptoms)

#### Disposition & Management:

- All infants < 29 days receive antibiotics (first dose in ER) and are admitted
- Antibiotics:
  - O Ampicillin 100mg/kg/dose q12 hrs IV/IM if <7 days 50mg/kg/dose q 6hrs IV/IM if > 7 days
    - Recommended to cover Listeria
    - General recommended coverage up until approx 6wks (pending culture results)

## **PLUS**

O Gentamicin (age < 2wks) 3 mg/kg/dose q 24hrs IV if < 7days 2.5mg/kg/dose q 12hrs IV if > 7 days

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# PEDIATRIC EMERGENCY DEPARTMENT CLINICAL GUIDELINE: FEVER IN NEONATE (< 60 days)

- Gram negative coverage
- Combined w/ampicillin provides synergistic coverage for Grp B Strep
- General recommendation 0-2wks of life, and then may switch to ceftriaxone or cefotaxime (easier dosing/does not require monitoring of levels)

OR

- Cefotaxime 50 mg/kg/dose divided q 6hrs IV (or IM) (age > 2wks)
- Consider adding <u>Vancomycin 15mg/kg/dose</u> IV if infant is critically ill or if mother or child were previously treated with antibiotics for Group B Strep (resistant organisms)
- o Consider adding <u>Acyclovir 20mg/kg/dose</u> IV if infant is critically ill, seizing, or mother has a history of herpes
  - Seen early classically within the first 1-3 weeks of life
  - LFT's may be elevated particularly SGPT (systemic herpes infection)
  - Send HSV PCR on CSF

# \* Special Scenario - Tactile Fevers & "Fussy Babies" without documented fevers

- History and Physical examination are essentially the same
- Laboratory evaluations are variable, and there are no standardized recommendations. The most common finding in this group of neonates (without documented fever in the ER, but with reported tactile fever and historical fussiness reported by family is the occasional finding of a UTI).
- CBC, BCx, Cath U/A and Cx is therefore a reasonable consideration, particularly if the baby does seem to be irritable, but not mandatory.

## REFERENCES:

- 1. Anbar RD, Richardson-de Corral V, O'Malley PJ. Difficulties in universal application of criteria identifying infants at low risk for serious bacterial infection. J Pediatr 1986;109:483-5. [Rochester]
- 2. Avner JR, Baker MD. Management of fever in infants and children. Emerg Med Clin North Am. 2002 Feb;20(1):49-67. [Review]
- 3. Baker MD, Bell LM, Avner JR. The efficacy of routine outpatient management without antibiotics of fever in selected infants. Pediatrics 1999;103;627-31. [Philadelphia]
- 4. Baker MD, Bell LM. Unpredictability of serious bacterial illness in febrile infants from birth to 1 month of age. Arch Pediatr Adolesc Med 1999;153:508-11. [Philadelphia]
- 5. Baker MD, Bell LM, Avner JR. Outpatient management without antibiotics of fever in selected infants. N Engl J Med 1993;329:1437-41. [Philadelphia]
- 6. Baker MD, Avner JR, Bell LM. Failure of infant observation scales in detecting serious illness in febrile, 4- to 8-week-old infants. Pediatrics 1990;85:1040-3.
- 7. Baraff LJ, Bass JW, Fleisher GR, et al. Practice guidelines for the management of infants and children 0 to 36 months of age with fever without source. Pediatrics. 1993;92:1-12.
- 8. Baraff LJ, Oslund SA, Schriger DL, Stephen ML. Probability of bacterial infections in febrile infants less than three months of age: a meta-analysis. Pediatr Infect Dis J 1992;11:257-65.
- 9. Baskin MN, O'Rourke EJ, Fleisher GR. Outpatient treatment of febrile infants 28 to 89 days of age with intramuscular administration of ceftriaxone. J Pediatr 1992;120:22-7. [Boston]
- 10. Bonadio WA, Hagen E, Rucka J, et al. Efficacy of a protocol to distinguish risk of serious bacterial infection in the outpatient evaluation of febrile young infants. Clin Pediatr 1993;32:401-4. [Milwaukee]
- Dagan R, Powell KR, Hall CB, Menegus MA. Identification of infants unlikely to have serious bacterial infection although hospitalized for suspected sepsis. J Pediatr 1985;107:855-60. [Rochester]
- 12. Dagan R, Sofer S, Phillip M, Shachak E. Ambulatory care of febrile infants younger than 2 months of age classified as being at low risk for having serious bacterial infections. J Pediatr 1988;112:355-60. [Rochester]
- 13. DeAngelis C, Joffe A, Wilson M, Willis E. Iatrogenic risks and financial costs of hospitalizing febrile infants. Am J Dis Child 1983;1983;137:1146-9.
- 14. DeAngelis C, Joffe A, Willis E, Wilson M. Hospitalization v outpatient treatment of young, febrile infants. Am J Dis Child 1983;137:1150-2.

# PEDIATRIC EMERGENCY DEPARTMENT CLINICAL GUIDELINE: FEVER IN NEONATE (< 60 days)

- 15. Hoffman JA, Mason EO, Schutze GE, et al. Streptococcus pneumoniae infections in the neonate. Pediatrics 2003;112:1095-1102.
- 16. Jaskiewicz JA, McCarthy CA, Richardson AC, et al. Febrile infants at low risk for serious bacterial infection an appraisal of the Rochester Criteria and implications for management. Pediatrics 1995;1994;94:390-6. [Rochester]
- 17. King C. Evaluation and management of febrile infants in the emergency department. Emerg Med Clin North Am 2003;21:89-99. [Review]
- 18. McCarthy CA, Powell KR, Jaskiewicz JA, Carbrey CL, eta al. Outpatient management of selected infants younger than two months of age evaluated for possible sepsis. Pediatr Infect Dis J 1990;9:385-9. [Rochester]
- 19. Oray-Schrom P, Phoenix C, St Martin D, Amoateng-Adjepong Y. Sepsis workup in febrile infants 0-90 days of age with respiratory syncytial virus infection. Pediatr Emerg Care 2003;19:314-9.
- 20. Titus MO, Wright SW. Prevalence of serious bacterial infections in febrile infants with respiratory syncytial virus infection. Pediatrics 2003;112:282-4.

## **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.