

## FEBRILE NEONATE CLINICAL PRACTICE GUIDELINE

This clinical guideline has been developed to assist with appropriate diagnosis, evaluation, and treatment of low-risk infants less than 28 days of age and over 37 weeks gestational age with rectal temperatures over 37.9 C (100.2 F) who have been discharged from the hospital. Please direct any questions to Dr. Jennifer Jewell, Hospitalist, 207-662-2541.

Because the physical exam is unreliable and the risk associated with an undetected severe infection is significant, a complete sepsis evaluation, antibiotic treatment, and hospital admission is recommended for febrile neonates. Alternative strategies *may* be considered if infants meet established criteria for low-risk of bacterial infection.

### EVALUATION

A complete sepsis evaluation is recommended for all febrile neonates and includes the following studies:

**Blood Culture** and **CBC** (with differential)  
**Urine Culture** (from a **catheterized** specimen) and **Urinalysis**  
**CSF Culture, Gram Stain, RBC, WBC, Protein, Glucose**

Consider the following studies for febrile neonates with signs or symptoms of localized or specific infections:

**CSF and Blood Herpes PCR** – for febrile infants with seizures or a clinical suspicion of HSV disease.

Consider **LFTs**.

**Herpes Culture** – vesicular skin or mouth lesions AND surface cultures (nasopharynx, mouth, conjunctiva, anus)

**CXR** – respiratory symptoms

**Virus Testing** – RSV, influenza, or a full respiratory virus panel

**Stool WBC/Culture/Rotavirus** – diarrheal illness

**Joint Fluid or Bone Aspiration (Culture, Gram Stain, WBC, Protein, Glucose)** – swollen, red joints or refusal to move extremities

**I & D (Culture, Gram Stain, WBC)** -- skin or soft tissue abscess

### TREATMENT

**Antibiotics** – no antibiotic therapy should be initiated in a stable patient until all cultures are obtained

#### **Ampicillin**

If under or equal to 7 days of age and between 37 and 44 weeks gestational age: 50 mg/kg/dose Q12 IM/IV

If over 7 days of age and between 37 and 44 weeks gestational age: 50 mg/kg/dose Q8 IM/IV

If equal to or over 45 weeks gestational age: 50 mg/kg/dose Q6 IM/IV

If concern for **meningitis** and under or equal to 7 days of age: 100 mg/kg/dose Q8 IM/IV

If concern for **meningitis** and over 7 days of age: 75 mg/kg/dose Q6 IM/IV

**Gentamicin**: 5 mg/kg Q36 IM/IV

**Gentamicin peak and trough** levels are recommended around the third dose.

Consider pharmacy consult if more than one dose of gentamicin is required.

**Ampicillin** (as outlined above) and **Gentamicin** (as outlined above) are recommended to treat most bacterial infections in the neonatal period.

Alternatively, **Ampicillin** (as outlined above) plus **Cefepime** may be used initially, if there is a contraindication to gentamicin.

**Cefepime**: 30 mg/kg/dose Q12 IM/IV

If concern for **meningitis**: 50 mg/kg/dose Q12 IM/IV

**Ceftriaxone** is *not* recommended for neonates and is **contraindicated** in neonates with jaundice or with current or recent calcium-containing fluids. In neonates, ceftriaxone should not be used as mono-therapy; ampicillin should be administered as above, in addition to ceftriaxone.

**Acyclovir** – for suspicion of herpes infection, obtain Herpes CSF and blood PCR and/or culture of suspicious lesions and/or surface cultures

20 mg/kg/dose Q8 IV

Because acyclovir can crystallize in the kidney, proper hydration is important for patients receiving acyclovir.

If CSF studies are suspicious for bacterial meningitis, if the blood culture is positive, if the patient has significant risk factors for infection, or if the patient is ill-appearing, strongly consider **Pediatric Infectious Disease** or **Neonatology consultation** to ensure appropriate antibiotic coverage and to assist with duration of therapy.

Algorithms are not intended to replace providers' clinical judgement or to establish a single protocol. Some clinical problems may not be adequately addressed in this guideline. As always, clinicians are urged to document management strategies.

Last revised June 2019.

The Barbara Bush  
Children's Hospital

At Maine Medical Center

