

# Clinical Practice Guideline: Evaluation and Management of Well-Appearing Febrile Infants 8 to 60 Days Old



## Inclusion Criteria:

Febrile infants who are / have:

- well appearing
- Infants who have been home from the newborn nursery or born at home
- documented rectal temperatures of  $\geq 38.0^{\circ}\text{C}$  or  $100.4^{\circ}\text{F}$  in the past 24 hours (at home or in clinical setting)
- gestation between  $\geq 37$  and  $< 42$  weeks
- 8 to 60 days of age

## Exclusion Criteria:

- NICU or PICU patients
- Preterm infants ( $< 37$  weeks' gestation)
- Infants younger than 2 weeks of age whose perinatal courses were complicated by maternal fever, infection, and/or antimicrobial use.
- Febrile infants with high suspicion of herpes simplex virus (HSV) infection (e.g., vesicles).
- Infants with a focal bacterial infection (e.g., cellulitis, omphalitis, septic arthritis, osteomyelitis). These infections should be managed according to accepted standards.
- Infants with **CLINICAL** bronchiolitis, with or without positive test results for respiratory syncytial virus (RSV). \*(see box)
- Infants with documented or suspected immune compromise.
- Infants whose neonatal course was complicated by surgery or infection.
- Infants with congenital or chromosomal abnormalities.
- Medically fragile infants requiring some form of technology or ongoing therapeutic intervention to sustain life.
- Infants who have received immunizations within the last 48 hours. \*(see box)

## Recommendations / Considerations

### Viral URI vs Bronchiolitis:

- URI symptoms not diagnostic of bronchiolitis should not exclude infants from the care guideline.
- Increased availability for rapid respiratory PCR testing has currently outpaced the guidelines of how testing should be used.
- A review by Ralston et al of 11 studies of bronchiolitis found no cases of meningitis, and researchers in 8 studies reported no cases of bacteremia. (Pantell, et al., 2021)

### Diarrhea:

- Infants suspected of having bacterial diarrhea should have stool culture obtained.
- Loose stools do not exclude infants from the care guideline.

### Otitis media:

- Presumed otitis media does not exclude infants from the care guideline.

### Other:

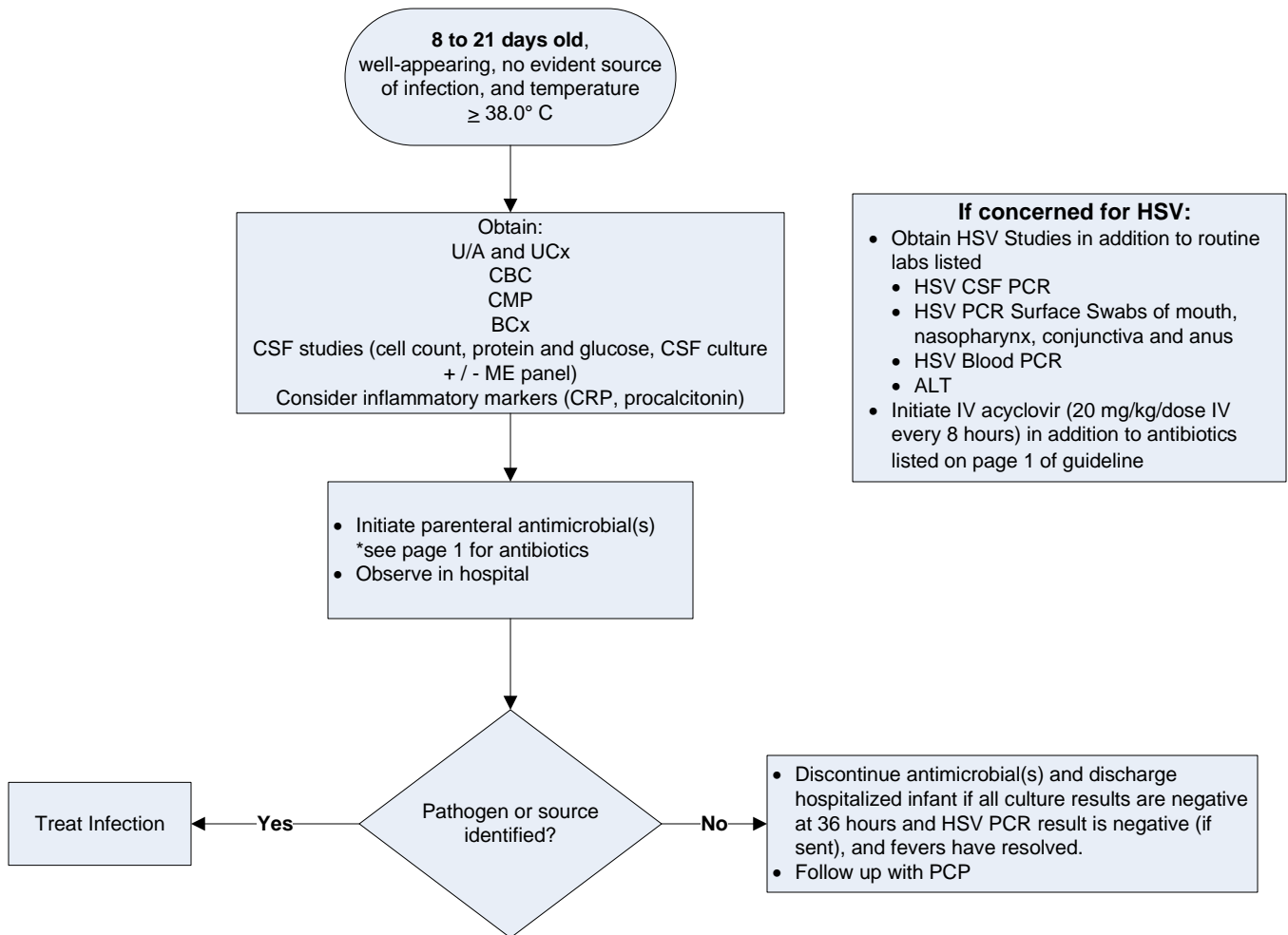
- Current or recent antibiotic use in this age group requires individualized interpretation for febrile infants' inclusion in the care guideline.
- Postimmunization fevers of  $\geq 38.0^{\circ}\text{C}$  is common and estimated to be  $> 40\%$  within the first 48 hours.

## Patient/Family Education

- Cerner Well Baby
- Cerner Fever in Infants

Suspected Source of Infection	8-21d Old	22-28d Old	29-60d Old
<b>UTI</b>	Ampicillin IV or IM (50 mg/kg/dose every 8 hours) <b>and</b> Cefepime IV or IM (50mg/kg/dose every 8 hours)	Ceftriaxone IV or IM (50 mg/kg/dose every 24 hours)	Ceftriaxone IV or IM (50mg/kg/dose every 24 hour). <b>Oral medications for infants older than 28d:</b> Cephalexin 50-100mg/kg per day in 4 doses <b>or</b> Cefixime 8 mg/kg per day in 1 dose
<b>No focus identified</b>	Ampicillin IV or IM (50 mg/kg/dose every 8 hours) <b>and</b> Cefepime IV or IM (50mg/kg/dose every 8 hours)	Ceftriaxone IV or IM (50 mg/kg/dose every 24 hours)	Ceftriaxone IV or IM (50 mg/kg/dose every 24 hours)
<b>Bacterial meningitis</b>	Ampicillin IV or IM (75 mg/kg/dose every 6 hours) <b>and</b> Cefepime IV or IM (50mg/kg/dose every 8 hours)	Ampicillin IV or IM (75mg/kg/dose every 6 hours) <b>and</b> Cefepime IV or IM (50mg/kg/dose every 8 hours)	Ceftriaxone IV (100 mg/kg once daily or divided every 12 hours) <b>and</b> Vancomycin IV (15 mg/kg/dose every 6 hours)

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**Laboratory values of inflammation are considered elevated at the following levels:**

- ANC - > 4000, >5200 per mm<sup>3</sup>
- WBC <5000 per mm<sup>3</sup> or >1500 per mm<sup>3</sup>
- Procalcitonin - > 0.5ng/mL
- CRP - > 20mg/L

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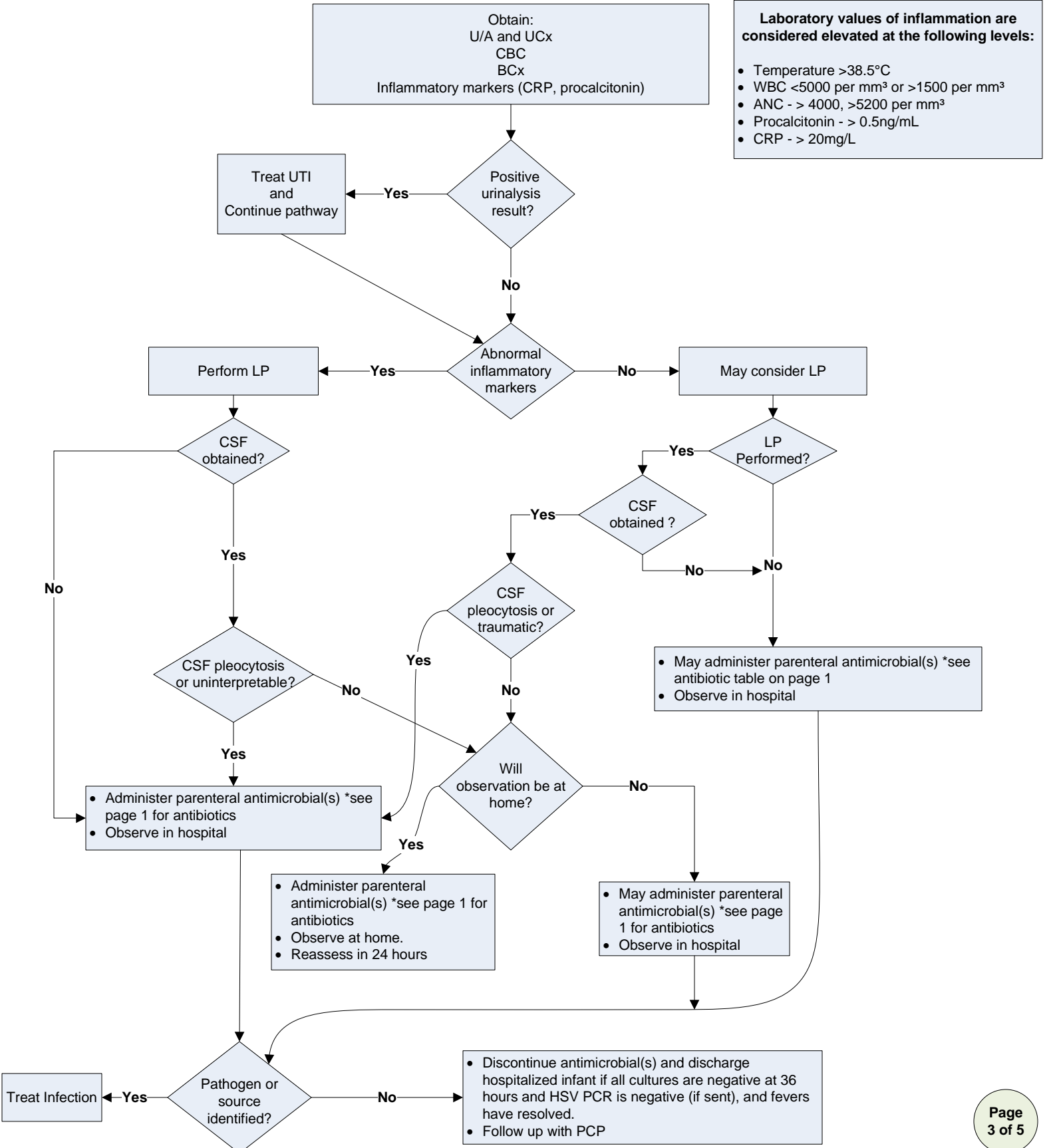


22 to 28 days old,  
well-appearing,  
no evident source of infection,  
and temperature  $\geq 38.0^{\circ}\text{C}$

Obtain:  
U/A and UCx  
CBC  
BCx  
Inflammatory markers (CRP, procalcitonin)

**Laboratory values of inflammation are considered elevated at the following levels:**

- Temperature  $>38.5^{\circ}\text{C}$
- WBC  $<5000$  per  $\text{mm}^3$  or  $>1500$  per  $\text{mm}^3$
- ANC -  $> 4000$ ,  $>5200$  per  $\text{mm}^3$
- Procalcitonin -  $> 0.5\text{ng/mL}$
- CRP -  $> 20\text{mg/L}$



# Clinical Practice Guideline: Evaluation and Management of Well-Appearing Febrile Infants 8 to 60 Days Old



29 to 60 days old,  
well-appearing,  
no evident source of infection,  
and temperature  $\geq 38.0^{\circ}\text{C}$

Obtain:  
U/A and UCx  
CBC  
BCx  
Inflammatory markers (CRP, procalcitonin)

**Laboratory values of inflammation are considered elevated at the following levels:**

- Temperature  $>38.5^{\circ}\text{C}$
- WBC  $<5000$  per  $\text{mm}^3$  or  $>1500$  per  $\text{mm}^3$
- ANC -  $> 4000$ ,  $>5200$  per  $\text{mm}^3$
- Procalcitonin -  $> 0.5\text{ng/mL}$
- CRP -  $> 20\text{mg/L}$

Increased inflammatory markers?

• Consider LP  
• If CSF result is positive:  
a. Administer parenteral antimicrobial(s) \*see page 1 for antibiotics  
b. Observe closely in hospital  
• If CSF result is negative and either urinalysis negative or positive.  
a. Administer parenteral antimicrobial(s) \*see page 1 for antibiotics  
b. May observe closely in hospital or at home  
• If CSF not available or uninterpretable:  
a. Administer parenteral antimicrobial(s)  
b. May observe closely in hospital or at home

Positive urinalysis result?

• Do not need to perform LP  
• Administer oral antimicrobial(s) \*see page 1 for antibiotics  
• May observe closely at home  
• Follow-up within 24 hours

• Do not need to perform LP  
• Do not need to administer antimicrobial(s)  
• Observe closely at home  
• Follow-up within 24 to 36 hours

Source limited to urine?

Pathogen or source identified at 36 hours?

• Discontinue antimicrobials if administered  
• Discharge clinically stable infants  
• Follow up with PCP

Complete workup (to include LP with CSF studies) and treat infection

• Complete treatment with oral antimicrobials  
• Discharge hospitalized infants  
• Manage for duration of illness

### **References**

Pantell, R. H., Roberts, K. B., Adams, W. G., Dreyer, B. P., Kuppermann, N., O'Leary, S. T., . . . Woods, J, C. R. (2021). Clinical Practice Guideline: Evaluation and Management of Well-Appearing Febrile Infants 8 to 60 Days Old. *Pediatrics*, *148*(2), e2021052228. <https://doi.org/10.1542/peds.2021-052228> (**Level V**)