Clinical guideline – Neonatal fever

(Febrile infant, 1–28 days of age) | Pediatric emergency & hospital medicine

The new CHoR Neonatal Fever Guideline is on its way! In the meantime, please reference the AAP guidance and figures below, as they will serve as the basis for the CHoR Guideline.

Figure 1.

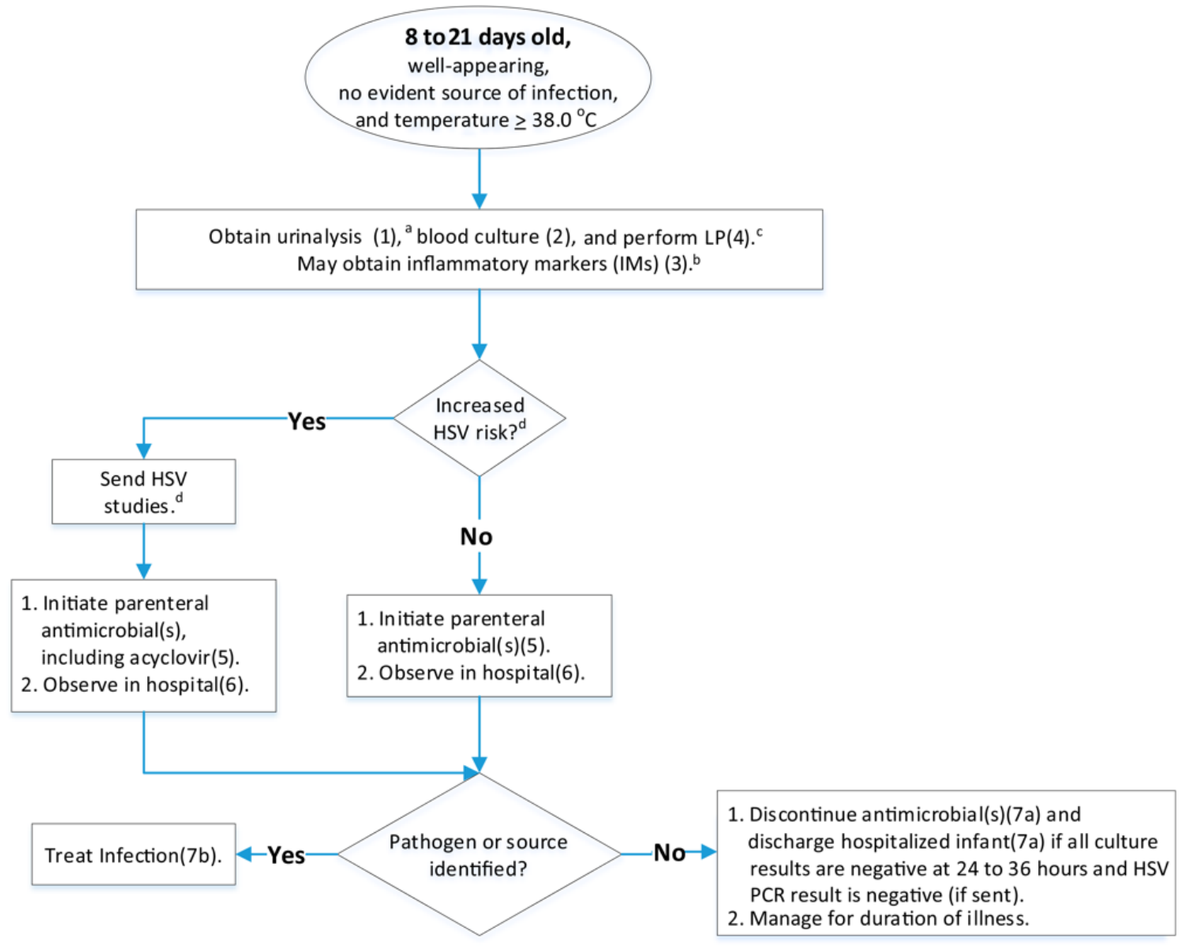

Figure legend:

Algorithm for 8- to 21-day-old infants. [a]KAS references are shown in parentheses. [b]Laboratory values of inflammation are considered elevated at the following levels: (1) procalcitonin >0.5 ng/mL, (2) CRP >20 mg/L, and (3) ANC >4000, >5200 per mm3 (see text). Although we recommend all infants in this age group have a complete sepsis workup, receive parenteral antimicrobial agents, and be monitored in a hospital, knowing IM results can potentially guide ongoing clinical decisions. [c]Send CSF for cell count, Gram stain, glucose, protein, bacterial culture, and enterovirus PCR (if available) if pleocytosis is present and during periods of increased local enterovirus prevalence. [d]HSV should be considered if the mother has genital HSV lesions or fever from 48 hours before to 48 hours after delivery and in infants with vesicles, seizures, hypothermia, mucous membrane ulcers, CSF pleocytosis in the absence of a positive Gram stain result, leukopenia, thrombocytopenia, or elevated alanine aminotransferase levels. For further discussion, see the current Red Book. Recommended HSV studies are CSF PCR; HSV surface swabs of the mouth, nasopharynx, conjunctivae, and anus for an HSV culture (if available) or PCR assay; alanine aminotransferase; and blood PCR.

Citation: Pantell RH, Roberts KB, Adams WG, Dreyer BP, Kuppermann N, O'Leary ST, Okechukwu K, Woods CR Jr; SUBCOMMITTEE ON FEBRILE INFANTS. Evaluation and Management of Well-Appearing Febrile Infants 8 to 60 Days Old. Pediatrics. 2021 Aug;148(2):e2021052228. doi: 10.1542/peds.2021-052228. Epub 2021 Jul 19. Erratum in: Pediatrics. 2021 Nov;148(5): PMID: 34281996.

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This guideline should not replace clinical judgment.

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Figure 2.

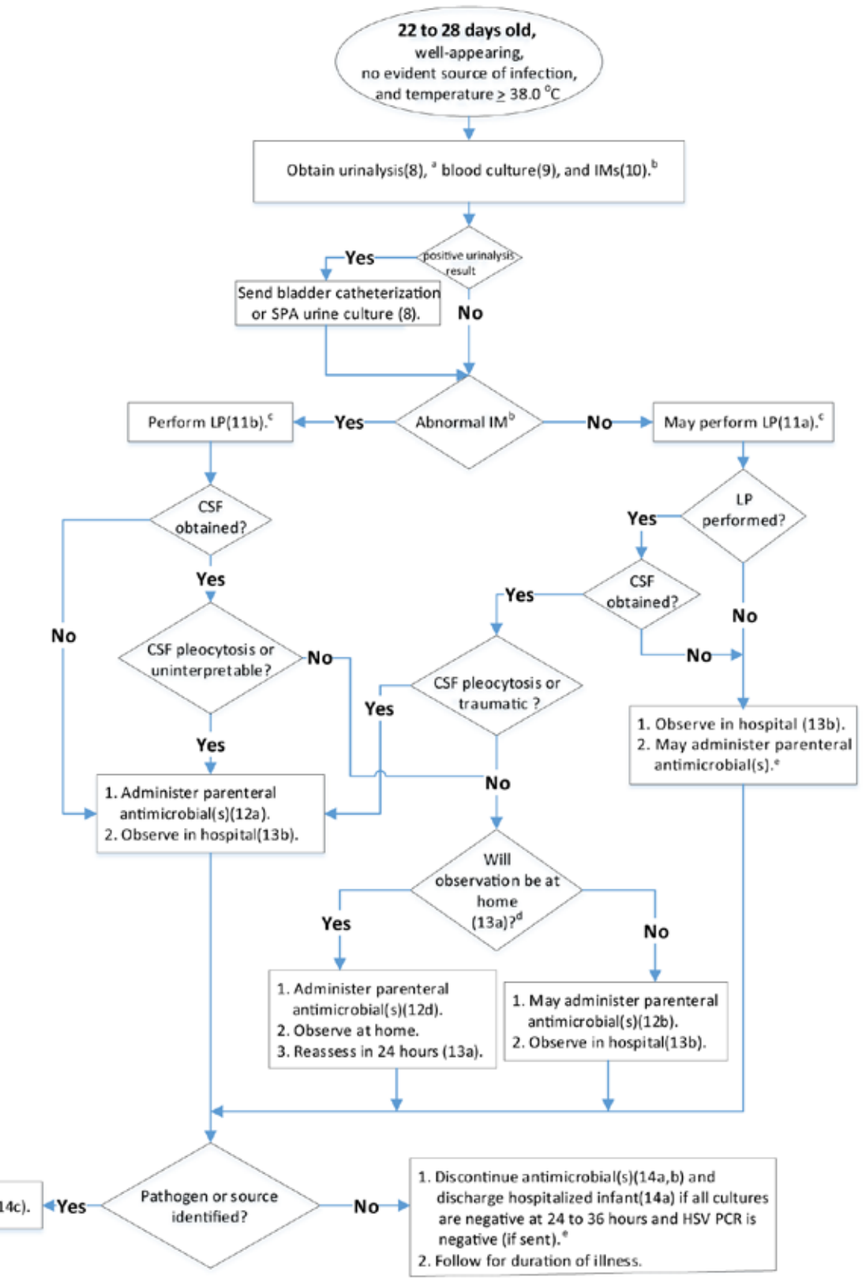

Figure legend:

Algorithm for 22- to 28-day-old infants. [a]KAS references are shown in parentheses. [b]If available, procalcitonin (PCT) should be obtained along with ANC. If PCT is unavailable, ANC and CRP should be obtained, and a temperature >38.5°C is considered abnormal. PCT is considered abnormal at >0.5 ng/mL; CRP is considered abnormal at >20 mg/L; ANC is considered abnormal at >4000 when used in conjunction with PCT or >5200 when PCT is unavailable (see text). [c]LP is recommended before administration of antimicrobial agents because interpreting CSF after the administration of antimicrobial agents is difficult. However, the risk of meningitis in 22- to 28-day-old infants is lower than that in infants <22 days old in several studies. Therefore, in some circumstances, clinicians may elect to defer an LP and initiate antimicrobial agents, recognizing the potential risk of partially treated meningitis. Send CSF for cell count, Gram stain, glucose, protein, bacterial culture, and enterovirus PCR (if available) if pleocytosis is present and during periods of increased enterovirus prevalence. HSV can occur in this age group. HSV should be considered in infants with vesicles, seizures, hypothermia, mucous membrane ulcers, CSF pleocytosis in the absence of a positive Gram stain result, leukopenia, thrombocytopenia, or elevated alanine aminotransferase levels. For further discussion, see the current Red Book. Recommended HSV studies: CSF PCR; HSV surface swabs of mouth, nasopharynx, conjunctivae, and anus for HSV culture (if available) or PCR assay; alanine aminotransferase; and blood PCR. [d]Infant may be managed at home if parent and clinician agree that the following are present: reliable phone and transportation, parent willingness to observe and communicate changes in condition, and agreement to the infant being reevaluated in 24 hours. [e]If CSF is positive for enterovirus, clinicians may withhold or discontinue antimicrobial agents and discharge at 24 hours, provided they meet other criteria for observation at home.

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Figure 3.

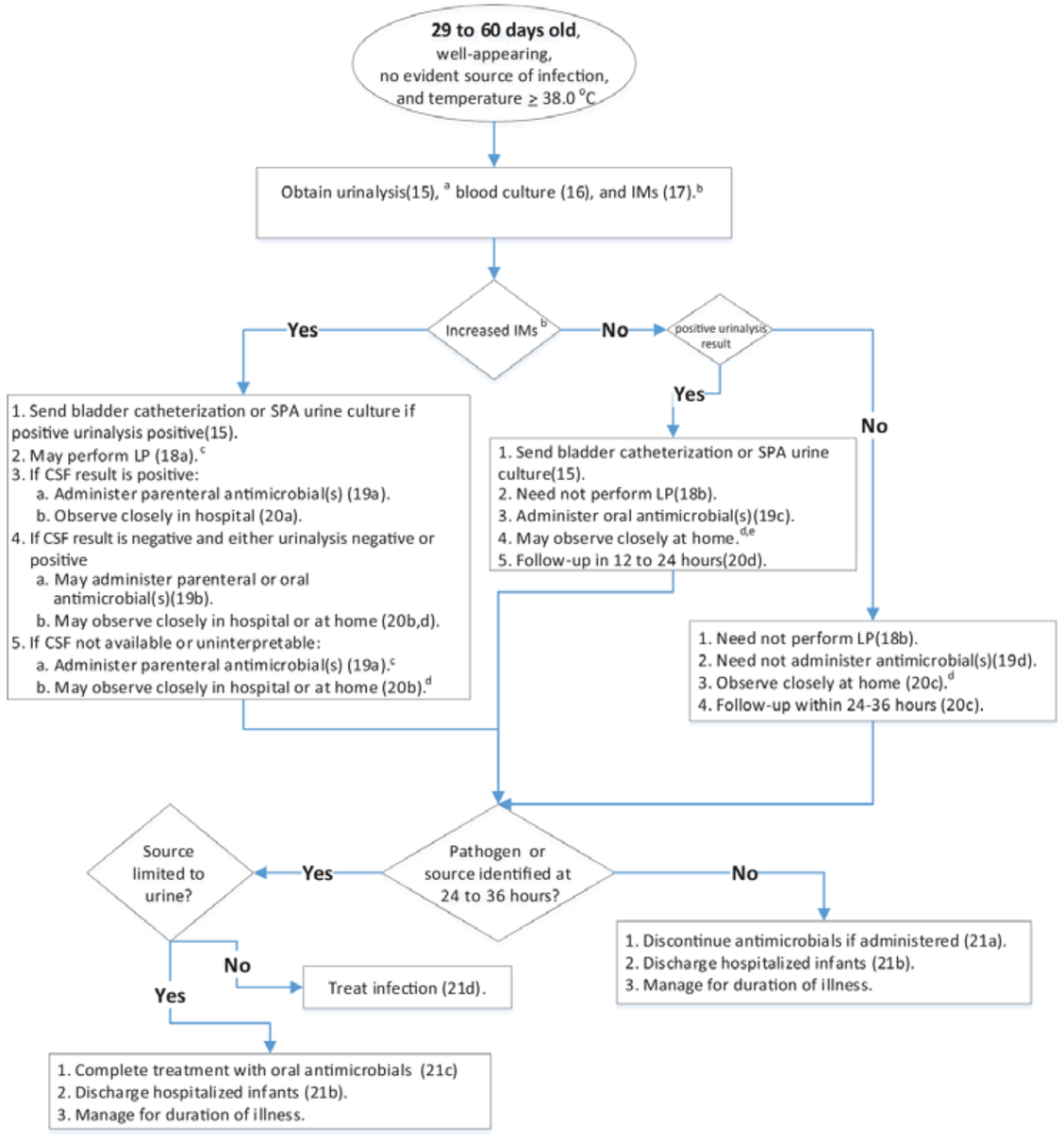

Figure legend:

Algorithm for 29- to 60-day-old infants.

Algorithm for 29- to 60-day-old infants. [a]KAS references are shown in parentheses. [b]If available, procalcitonin (PCT) should be obtained along with ANC. If PCT is unavailable, ANC and CRP should be obtained, and a temperature >38.5°C is considered abnormal. PCT is considered abnormal at >0.5 ng/mL; CRP is considered abnormal at >20 mg/L; ANC is considered abnormal at >4000 when used in conjunction with PCT or >5200 when PCT is unavailable (see text). [c]Send CSF for cell count, Gram stain, glucose, protein, bacterial culture, and enterovirus PCR (if available) if CSF pleocytosis is present and during periods of increased local enterovirus prevalence. Although uncommon in this age group, HSV should be considered when there is a maternal history of genital HSV lesions and in infants with vesicles, seizures, hypothermia, mucous membrane ulcers, CSF pleocytosis in the absence of a positive Gram stain result, leukopenia, thrombocytopenia, or elevated alanine aminotransferase levels. For further discussion, see the current Red Book. Recommended HSV studies are CSF PCR; HSV surface swabs of mouth, nasopharynx, conjunctivae, and anus for HSV culture (if available) or PCR assay; alanine aminotransferase; and blood PCR. If CSF is unobtainable or uninterpretable, there are insufficient data to make a specific recommendation. Options include the following: observe without treatment for a period of time and, depending on infant clinical condition, repeat LP and/or laboratory markers; begin empirical antimicrobial agents and reassess in 24 hours on the basis of infant response and results of blood culture; if CSF is bloody or antimicrobial agents have previously been started, analysis by multiplex PCR can add additional information; consult with local a pediatric infectious disease specialist. [d]Infant may be managed at home if parent and clinician agree that the following are present: reliable phone and transportation, parent willingness to observe and communicate changes in condition, and agreement to the infant being reevaluated in 24 hours. [e]Most 29- to 60-day-old infants with negative IM and urinalysis results may be observed at home. However, hospital observation is an option for infants when there are barriers to follow-up.

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