

For newborns with fever, new guideline offers clarity to pediatricians, parents

August 26 2021, by Suzanne Leigh



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Suppose your newborn develops a fever: Should your doctor just order a urine test to check for a bladder infection, one of the most common causes of infant fever, and send you both home? Or should they assume

a worst-case scenario, admit the child to the hospital, and order a lumbar puncture to rule out meningitis, a rare but potentially dangerous infection of which babies are at higher risk?

While either response may be correct, a new guideline by the American Academy of Pediatrics (AAP) offers some clarity for the decision, with a diagnostic and treatment pathway tailored to an infant's age and ensuing test results—a milestone welcomed by doctors and frazzled new parents. The guideline study, which was more than a decade in the making, is led by Robert Pantell, MD, professor emeritus in the Department of Pediatrics at UCSF Benioff Children's Hospitals, and Kenneth B. Roberts, MD, professor emeritus in the Department of Pediatrics at University of North Carolina at Chapel Hill. Both authors are members of the AAP Subcommittee on Febrile Infants.

The guideline refers to infants from 8 days to 2 months of age, born full-term, who are "well-appearing" but have a [fever](#) of 100.4 degrees Fahrenheit or higher, something that affects approximately 14 out of every 1,000 such newborns. Babies in the first week of life were excluded, since they are "sufficiently different in rates and types of illness," the authors note in the study guideline, which publishes in the journal *Pediatrics* in August 2021.

One major consideration that has prompted the guideline is that superfluous care does not come without risks. "Beyond unnecessary hospitalizations and financial and social costs, there are also potential harms from hospital-acquired infections and other complications in prolonged hospitalizations," said Pantell, who has led numerous studies on the management and outcomes of infants with fever.

Blood tests, rapid lab testing, big data mold new guideline

The authors acknowledge the role of recent innovations in driving the new guideline. These include new blood tests that measure inflammation markers that are early indicators of serious illnesses such as [sepsis](#), a systemic infection that untreated can lead to organ failure and death. Other factors are rapid lab testing that can identify most bacterial pathogens in less than 24 hours, as well as "more generalizable evidence" resulting from advanced research strategies. These include data from practice-based research networks, integrated regional health care systems and expanded data storage and analytic techniques that enables the development of refined clinical predictions models.

The new guideline divides newborns by age into three groups: 8 to 21 days, 22 to 28 days, and 29 to 60 days. They recommend urine cultures for all ages, but distinguish among the three groups for procedures such as lumbar punctures and antimicrobial drugs. The authors also propose strategies that could help reduce the number of infants being hospitalized, to "safely do less."

"The recommendations in this guideline do not indicate an exclusive course of treatment or serve as a standard of medical care," said Pantell. "Variations, taking into account individual circumstances, may be appropriate."

These variations may be contingent on parental input, he notes. While a clinician may recommend a lumbar puncture after estimating that an infant's risk of meningitis is 1 percent, "a parent may have a higher threshold for consenting to the procedure. These differences, along with other parent beliefs and values, provide further challenges in an effort to share decision-making in an acute setting."

Provided by University of California, San Francisco

Citation: For newborns with fever, new guideline offers clarity to pediatricians, parents (2021, August 26) retrieved 24 April 2024 from <https://medicalxpress.com/news/2021-08-newborns-fever-guideline-clarity-pediatricians.html>

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