

Treatment for Young Infants With Fever Has Undergone a Rethink

— More focus on less antibiotic use, shortened observation periods, and fewer hospitalizations

by [Randy Dotinga](#), Contributing Writer, MedPage Today

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ANAHEIM, Calif. -- Recommended treatment for young infants with fever has changed dramatically over the past few years, with a focus on fewer hospitalizations and lumbar punctures, reduced antibiotic use (especially by IV), and shortened observation periods for those with possible bacterial infections, a pediatrician reported here.

However, in some cases, clinical questions "are a little more challenging to answer now than they were a decade ago or a couple of decades ago," acknowledged Samir S. Shah, MD, MSCE, of the Cincinnati Children's Hospital Medical Center, during the American Academy of Pediatrics (AAP) annual meeting.

"You all know that 7%-13% of febrile infants have a serious bacterial infection," he said. "What we've learned over time is that it's very difficult to distinguish bacteria from viral infections in this first couple of months of life simply by observation scales or simple parameters, like how high the fever was, or how the white blood cell count was."

Now, testing does a better job of identifying bacteria such as *Escherichia coli*, which is most common but may face more competition from *Staphylococcus aureus* in the future, he noted. Advanced PCR tests "are increasingly becoming available at the point of care. What's coming on the horizon is a measurement of how your body responds to various pathogens. This may be important to help us determine whether those infants need antibiotics at all."

Furthermore, the AAP infant fever guidelines for ages 8-60 days with a fever at or above 100.4° F offer more nuanced age-based risk stratification. "We know that there's nothing magical of 7 days versus 8 days, but there is a continuum of risk. The older you get, the lower the likelihood that you are to have a serious bacterial infection or invasive bacterial infection in the context of fever," Shah noted.

At ages 8-21 days, "do all the things" -- urinalysis, lumbar puncture, blood culture, maybe inflammatory markers -- in otherwise well-appearing babies with no sign of infection and a temperature above 38° C, he advised. At 22-28 days, inflammatory markers are

helpful, and lumbar punctures aren't recommended at first. "We've changed how we think about whether a lumbar puncture ought to be performed or not," he said.

Additionally, prior research showed that there's no longer a need to observe a child with possible bacterial infection for more than 24 hours in order to wait for cultures to come in, Shah said. "At that point in time, it is reasonable to discharge that infant home, assuming you have no other concerns."

While his institution prefers a cutoff of 24 hours of observation in appropriate cases, he added, some institutions may opt for 36 hours of observation.

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If a urinalysis suggests a urinary tract infection, and inflammatory markers are normal, the guidelines suggest oral antibiotics instead of IV administration.

"That's a major shift in guideline recommendations, and a welcome one," he noted. "We recognize that urinary tract infections can indeed be managed very differently than invasive bacterial infection."

How does confirmation of a virus affect risk stratification? "This is one of the more challenging questions to address," Shah said. Detection of virus is linked to lower risk of invasive bacterial infection, but not enough to stop worrying about other kinds of bacteria in these patients, he added.

Shah also tackled the risk of recombinant bacterial meningitis in infants with urinary tract infections. A 2021 systematic review and meta-analysis suggested that the prevalence of bacterial meningitis in well-appearing febrile infants ages 29 to 60 days with positive urinalysis results was low and was not higher than that in those with negative urinalysis results.

"This is where inflammatory markers can really inform your decision making," he noted.

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