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**Case:**
23 day-old female born term vaginally after a healthy pregnancy without complications, presents to the emergency department for fever onset this morning. Tmax 101, taken axillary. No sick contacts. Immunizations are UTD. No recent travel. Good intake and output. No change in activity. Denies cough, congestion, runny nose, vomiting, diarrhea, abdominal distention, rash, lymphadenopathy. Physical exam does not reveal any signs of bacterial infection and is within normal limits including: a well-developed, well-nourished neonate who is resting comfortably in mother's arms, TMs are wnl, oropharynx is moist and clear, nose is wnl without discharge, lungs are CTAB, RRR, abdomen is soft and nontender.

**Clinical Question:**
What is the approach to a pediatric patient with a fever who has no obvious source of infection?

**Summary:**
**Neonate 0-1 month:**
Neonates are at particular risk for serious bacterial infection including **group B Streptococcus, Escherichia coli, and Listeria monocytogenes**. However, most are ultimately diagnosed with viral illness. The work-up includes **blood culture, urine culture, cerebrospinal fluid culture, peripheral WBC with differential, rapid urine test, IV antibiotics, hospital admission, and treatment with third generation cephalosporin or gentamicin**. Optional interventions include chest x-ray, stool culture, herpes simplex virus studies, and addition of ampicillin depending on clinical suspicion.

**Infant 1-3 months old:**
Infants are also at particular risk for bacterial infection. The work-up includes **blood culture, urine culture, urinalysis, peripheral WBC with differential, and cerebrospinal fluid culture** (some hold off on CSF especially in 2-3 month age group as exam is more reliable). Optional interventions include chest x-ray and stool culture if clinical suspicion warrants it. The prevalence of bacterial meningitis in this age group is 4.1 cases per 1,000 patients. However, peripheral WBC count is not reliable and therefore one should strongly consider a lumbar puncture. If lumbar puncture is performed, parenteral antibiotics should be considered with ceftriaxone being the drug of choice with admission. Rochester criteria and Boston criteria can also be used to risk stratify.

**Infant or Toddler 3-36 months old:**
Infants and toddlers in this age group **can be more selectively worked up**. **Urine culture and urinalysis should be performed in girls less than two years old, uncircumcised boys less than 12 months, and all boys less than 6 months**. Optional interventions include peripheral WBC with differential, cerebrospinal fluid culture, chest x-ray, stool culture, and rapid viral testing. If WBC is acquired and is >15,000/$mm^3$ then a blood culture should be ordered and ceftriaxone should be administered.

**References / Further Reading:**

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