

## Pediatric Management of *S. aureus* Bacteremia

Infectious diseases consultation for *Staphylococcus aureus* bacteremia (SAB) has been associated with significant improvement in patient outcomes and mortality. However, as evidenced by several recent [EIN posts](#), there exists substantial variation in provider practice with respect to certain aspects of this condition, particularly in areas where there are limited data to guide management. Moreover, there are key differences in epidemiology, pathogenesis, and treatment between pediatric SAB and adult SAB.

**The main purpose of this survey is to assess provider opinion and practice habits regarding areas in the management of SAB where data are inconclusive and clinical management is most likely to vary between providers.**

Our hope is that the responses can help to identify areas of consensus in practice, guide future directions in SAB research, as well as inform development of future IDSA and PIDS guidelines on the management of SAB.

Name:

EIN ID:

**If you do not manage children with *S. aureus* bacteremia, check here:**  [*Stop here & submit*]

**Case 1:** A previously healthy 4 y/o is diagnosed by MRI with distal femoral osteomyelitis. On admission, blood cultures grow MRSA (MIC: clindamycin 0.125, vancomycin MIC 1). Cultures on hospital day 2 (after 3 doses of vancomycin) are also positive for MRSA. By hospital day 4, the child has clinically improved (improved clinical exam, afebrile, CRP is substantially decreased from admission).

**1. What diagnostic evaluation do you routinely perform when treating a patient like this (osteomyelitis) with *S. aureus* bacteremia?**

	<u>Rarely</u>	<u>Sometimes</u>	<u>Usually</u>	<u>Almost always</u>
Repeat blood cultures q24-48hrs until negative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Echocardiogram	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abdominal imaging (U/S or CT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ophthalmologic exam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doppler U/S for evaluation of DVT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, <i>specify</i> : <input type="text"/>				

**2. Which of the following statements best describes your typical approach to therapy for children with osteomyelitis and concomitant *S. aureus* bacteremia?**

- I treat nearly all children with culture-proven *S. aureus* bacteremia with parenteral therapy for the first 10-14 days.
- The presence of bacteremia does not prevent me from an early transition to oral therapy, but if bacteremia is persistent (e.g., >48-72 hours of bacteremia on effective therapy) I typically treat with parenteral therapy for the first 10-14 days.
- Even in the setting of persistent bacteremia (>48-72 hours while on effective therapy), I almost always treat with oral antimicrobials once they have clinically improved (i.e., no minimum duration of parenteral therapy).

**Case 2:** A 10-month-old child with severe eczema is seen in the emergency department for 103°F fever and gastrointestinal symptoms (diarrhea, vomiting). He is moderately dehydrated but otherwise well appearing, and is admitted for observation. Peripheral WBC is normal. A blood culture obtained in the ED grows *S. aureus* within 24 hours. Vancomycin is begun empirically, and a second blood culture obtained prior to initiation of vancomycin is negative.

**3. Which of the following best describes your approach to this child?**

- Stop antibiotics as initial cultures likely a contaminant
- Transition to oral antibiotics to complete: [select one duration]  7 or  14 days
- Continue IV antibiotics to complete: [select one duration]  7 or  14 days
- I would choose an alternative management strategy:

**4. A patient has persistent MRSA bacteremia (MIC: vancomycin 0.5, daptomycin 0.5, linezolid 0.5, ceftaroline 1, TMP-SMX 1) on day 6 of vancomycin (trough 18). Liver and renal function are normal. In addition to source control, what is your most likely treatment strategy?**

- Continue vancomycin alone
- Continue vancomycin and ADD another MRSA active agent, specify:
- Change to daptomycin
- Change to ceftaroline
- Other, specify:

**5. A 7-year-old develops a PICC-associated deep venous thrombus in the setting of MSSA bacteremia. The PICC is removed and bacteremia resolves promptly. What is your general management strategy regarding treatment duration and anticoagulation?**

**Anticoagulation**

<b><u>Antibiotic/Intervention</u></b>	<b><u>Yes</u></b>	<b><u>No</u></b>	<i>[Select a single choice below]</i>
Two weeks of effective IV antibiotics	<input type="radio"/> Yes	<input type="radio"/> No	
Four weeks of effective IV antibiotics	<input type="radio"/> Yes	<input type="radio"/> No	
Six weeks of effective IV antibiotics	<input type="radio"/> Yes	<input type="radio"/> No	
Other strategy: <input type="text"/>	<input type="radio"/> Yes	<input type="radio"/> No	

**6. You are consulted on a child with MSSA osteomyelitis (tibia) with three positive blood cultures for MSSA. While receiving parenteral therapy, what is your treatment of choice?**

- Cefazolin
- Nafcillin/oxacillin every 4-6 hours
- Nafcillin by continuous infusion
- Other, specify:

**7. The IDSA and PIDS are developing guidelines for *S. aureus* bacteremia. What topics would you like to ensure that the guidelines address?**