


A 7-year-old boy is brought to the physician because of fever, malaise, and pain in his right lower leg for the last three days. His pain is 7/10 in severity, non-radiating, and unrelieved by ibuprofen, heat, or rest. He has no history of trauma or fracture. There is no family history of sickle cell anemia. His temperature is 39.3°C (103°F). Examination of his right leg shows bony point tenderness, erythema, and warmth over a portion of the proximal tibia. Blood is drawn for culture and sensitivity studies. Which of the following organisms is most likely to be isolated from his blood?

- ☐ A. *Staphylococcus epidermidis*
- ☐ B. *Staphylococcus aureus*
- ☐ C. *Salmonella* species
- ☐ D. *Klebsiella* species
- ☐ E. *Pseudomonas aeruginosa*
- ☐ F. Group B streptococcus
- ☐ G. *Escherichia coli*
- ☐ H. *Streptococcus pyogenes*



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- ☐ A. *Staphylococcus epidermidis* [2%]
- ☒ B. *Staphylococcus aureus* [89%]
- ☐ C. *Salmonella* species [3%]
- ☐ D. *Klebsiella* species [0%]
- ☐ E. *Pseudomonas aeruginosa* [1%]
- ☐ F. Group B streptococcus [1%]
- ☐ G. *Escherichia coli* [1%]
- ☐ H. *Streptococcus pyogenes* [3%]

[Proceed to Next Item](#)**Explanation:**User Id: 

In both infants and children, *Staphylococcus aureus* is the most common organism responsible for osteomyelitis. Other common organisms include group B streptococcus and *Escherichia coli* in infants, and *Streptococcus pyogenes* in children.

**(Choice A)** *Staphylococcus epidermidis* is a frequent cause of osteomyelitis associated with prosthetic devices.

**(Choice C)** *Salmonella* is a frequent cause of osteomyelitis in patients with sickle cell anemia.

**(Choices D and E)** Gram-negative rods such as *Klebsiella* and *Pseudomonas* are possible causes of osteomyelitis when patients have a history of urinary tract infection (UTI) or urinary tract instrumentation.

**Educational Objective:**

*Staphylococcus aureus* is the most common cause of osteomyelitis in both infants and children.



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Time Spent: 11 seconds

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