



## MRSA: A CRISIS THAT TOUCHES YOU

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The Cover Story, Clinical Issues, and Lab Management published in MLO are peer-reviewed.

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### CE QUESTIONS

1. For MRSA testing to meet the goal of testing all patients entering the hospital in a timely and cost-effective manner,
  - a. current culture techniques are best.
  - b. current real-time PCR techniques are best.
  - c. direct Gram stains on nose and throat are best.
  - d. sensitive, simple, inexpensive and automated nucleic-acid tests must be developed.
2. Organisms that are commonly associated with hospital-acquired infections include
  - a. *Clostridium difficile*.
  - b. *Staphylococcus aureus*.
  - c. *Enterococcus* spp.
  - d. All of the above.
3. Reduction of time-to-results has the following effect(s):
  - a. Relieves the labor squeeze in most labs.
  - b. Reduces hospital costs.
  - c. Improves patient outcomes.
  - d. All of the above.
4. Currently, work-up for a fever of unknown origin suspicious of MRSA involves
  - a. blood culture, Gram stain showing Gram-positive cocci in clusters (GPCC), identification testing, and antibiotic-susceptibility tests.
  - b. real-time PCR of GPCC and susceptibility tests.
  - c. on-demand 24/7 nucleic-acid testing for MRSA and antibiotic susceptibility.
  - d. None of the above.
5. The time to confirm a MRSA infection in most hospitals is currently
  - a. 24 hours.
  - b. 48 hours.
  - c. four days.
  - d. 60 minutes.
6. In 2006, the average increased cost of hospitalization of an infected patient compared to uninfected patients was approximately
  - a. \$54,000.
  - b. \$46,000.
  - c. \$40,000.
  - d. \$8,000.
7. A leading cause of newborn sepsis and meningitis is
  - a. MRSA.
  - b. *Clostridium difficile*.
  - c. *Streptococcus agalactiae*.
  - d. VRE.
8. The current testing protocol of a pregnant woman to detect the leading cause of neonatal sepsis by culture takes
  - a. two to four hours.
  - b. 24 to 36 hours.
  - c. 48 to 72 hours.
  - d. four days.
9. Recommendations to improve patient outcomes include developing nucleic-acid tests for infectious-disease organisms that are
  - a. low cost.
  - b. started whenever a specimen arrives (on demand).
  - c. low complexity.
  - d. All of the above.
10. Overuse of antibiotics is associated with increased healthcare costs and multi-drug resistant pathogens.
  - a. TRUE
  - b. FALSE
11. When a blood infection is confirmed, what type of antibiotic therapy is initially begun?
  - a. Methicillin to treat MRSA.
  - b. One aimed at Gram negatives.
  - c. Broad spectrum to cover most possible pathogens.
  - d. None. Wait until the organism has been identified and susceptibility tests are done.
12. The majority of positive blood cultures are growing
  - a. Staphylococci.
  - b. Streptococci.
  - c. *Clostridium* spp.
  - d. Enterococci.
13. When coagulase negative staphylococci are identified in a blood culture, it is nearly always a significant infection.
  - a. TRUE
  - b. FALSE

**14. The majority of nosocomial bloodstream infections with GPC are caused by**

- a. coagulase negative staph.
- b. MRSA.
- c. Enterococcus spp.
- d. Antibiotic-susceptible strains of *S aureus*.

**15. Consequences of inappropriate therapy for *S aureus* sepsis include**

- a. bone and joint infection.
- b. CNS infections.
- c. death.
- d. All of the above.

**16. Issues with vancomycin treatment of all patients with GPC in a blood culture include**

- a. many of these are skin-flora contaminants.
- b. increased resistance to vancomycin by pathogens.
- c. coagulase negative staph is resistant.
- d. Both a and b.

**17. The traditional time to identify GPC as CoNS vs. *S aureus* is**

- a. 24 hours
- b. 48 hours.
- c. 72 hours.
- d. four days.

**18. Annually in the United States, more patients die from MRSA than AIDS.**

- a. TRUE
- b. FALSE

**19. Using the chromogenic agar specific for MRSA, the turnaround time is at least**

- a. eight hours.
- b. 10 hours.
- c. 18 hours.
- d. 24 hours.

**20. New real-time PCR for MRSA detection is**

- a. moderate complexity.
- b. used by over 400 hospitals in the United States.
- c. does not require batching tests.
- d. All of the above.

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**February 2009**

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