CONTINUING EDUCATION TEST
PROCALCITONIN TESTING AS AN AID TO ANTIBIOTIC STEWARDSHIP

September 2019 (This form may be photocopied. It is no longer valid for CEUs after March 31, 2021.)

TEST QUESTIONS
Circles must be filled in, or test will not be graded. Shade circles like this: ☑ Not like this: ☧

1. Which campaign has strong recommendations in the management of patients with bacterial infections and/or sepsis?
   a. Sepsis Action Coalition Campaign
   b. Antibiotic Stewardship Governmental Campaign
   c. Antibiotic Management Campaign
   d. Surviving Sepsis Campaign

2. A goal of the campaign recommends for antibiotic administration to begin within _______ of either sepsis or septic shock.
   a. 10 minutes
   b. 45 minutes
   c. one hour
   d. two hours

3. Bacterial symptoms are easy to identify by physicians and typically present with a unique set of symptoms that do not mimic other conditions.
   a. True
   b. False

4. Cultures of patients with sepsis have shown a
   a. low rate of diagnostic success.
   b. high rate of diagnostic success.
   c. moderate rate of diagnostic success.
   d. none of the above

5. The following adverse effects have resulted in many patients receiving antibiotic administration:
   a. Heart disease, allergic reactions, immune deficiency.
   b. Allergic reactions, autoimmune disease, candidiasis, organ toxicity.
   c. Allergic reactions, organ/neurological toxicity, candidiasis, significant disruption of the microbiota.
   d. none of the above

6. After antibiotic administration, it can take up to _______ for the microbiome to recover and the patient has an increased risk of developing _______.
   a. six months; C. diff
   b. five years; E. coli
   c. one year; C. diff
   d. one year; E. coli

7. The introduction of procalcitonin (PCT) as an early marker of sepsis was originally recommended by
   a. JCAHO.
   b. CDC.
   c. WHO.
   d. American Red Cross.

8. During infection PCT is released into the blood stream by
   a. monocytes.
   b. thyrocytes.
   c. lymphocytes.
   d. neutrophils.

9. What time interval does PCT start to rise after the onset of a bacterial infection?
   a. one to two hours
   b. three to six hours
   c. four to eight hours
   d. 10 to 12 hours

10. With effective antibiotic treatment, the PCT should decline about
    a. five percent.
    b. 15 percent.
    c. 25 percent.
    d. 50 percent.

11. Most of the studies that have been conducted have focused on guidance therapy in patients with sepsis and in patients with lower respiratory tract infections.
    a. True
    b. False

12. Which long-term study concluded that the use of a standard algorithm resulted in significant reductions of antibiotic exposure, the rate of adverse events, and no increase in adverse outcomes within 30 days?
    a. ProANTI
    b. ProACT
    c. ProHOSP
    d. none of the above

13. Which recent study using the same protocols and algorithms as other studies concluded no reduction in antibiotic usage?
    a. ProANTI
    b. ProACT
    c. ProHOSP
    d. none of the above

14. The following observations have been noted in why differing study conclusions have been made except
    a. hospitals with the most timely and efficient availability of PCT results lead to the best antibiotic decision making.
    b. studies with the highest participation in training noted the greatest reduction in days of therapy.
    c. studies with the state-of-the-art PCT and PCR testing analyzers yielded the most accurate results.
    d. hospitals with higher adherence to algorithms saw the greatest reductions in days of therapy.

15. In some instances the pharmacy has been noted to override physician decisions to not order PCT testing and to contravene on algorithm guidance in order to keep antibiotic therapy to standard practices.
    a. True
    b. False

16. What types of medications affect PCT levels?
    a. Cytokine-stimulating medications
    b. Statin drugs
    c. Hormone regulating medications
    d. none of the above

17. What types of infections can elevate PCT levels?
    a. Malarial and viral
    b. Viral and fungal
    c. Malarial and viral
    d. Fungal and malarial

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   P E

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