

## CME QUESTIONS

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### INSTRUCTIONS

- The answer grid and evaluation form may be submitted as the page from the printed journal or as a printout from the ITACCS website.
- On the answer form at the bottom of page 41, circle only one response next to each number.
- Complete the evaluation form.
- Cut out or copy your completed answer form and evaluation form.
- Write a check for \$200 (or \$100 accompanied by verification of current ITACCS membership), payable to the International Trauma Anesthesia and Critical Care Society.
- Mail the forms and your check (and membership verification, if applicable) to ITACCS, Department of CME Credit, PO Box 4826, Baltimore, MD 21211.
- The completed test will be accepted for grading if received by September 30, 2005.
- Please allow 4 to 6 weeks for processing.

### CME QUESTIONS

1. In the ancient world, the use of poison arrows can be traced to:
  - a. Zeus
  - b. Hera
  - c. Hercules
  - d. Apollo
  - e. Morphous
2. The Black Death in Europe may have been caused by:
  - a. travel by Europeans to distant lands in search of trading opportunities
  - b. contaminated horse fodder
  - c. ships arriving with contaminated rats from the New World
  - d. infected soldiers returning from the siege of Kaffa
  - e. contaminated wheat stocks
3. Smallpox was proven to be an effective biological weapon
  - a. by the English against the native Americans
  - b. by the Portuguese against the Spanish
  - c. by the Germans against the Russians in World War II
  - d. by the Germans against the Russians in World War I
  - e. by the Americans against the Japanese in World War II
4. The biological weapons research station at Porton Down was run by:
  - a. the Americans
  - b. the British
  - c. the Dutch
  - d. the Germans
  - e. the French
5. The treaty ending the United States' involvement in offensive biological weapons research was signed by what United States President?
  - a. John F. Kennedy
  - b. Richard M. Nixon
  - c. Gerald Ford
  - d. Jimmy Carter
  - e. Ronald Reagan
6. The Centers for Disease Control (CDC) categorize biological agents as Category A, B, or C. This rating system takes into account the following:
  - a. the ease of dissemination of the agents
  - b. the highest priority rating is Category A
  - c. the potential for social disruption
  - d. all of the above statements regarding the rating system are true
7. Properties of an ideal biological weapon include all of the following except
  - a. odorless and tasteless
  - b. has natural immunity
  - c. survives aerosolization
  - d. highly infectious and contagious
8. Biological agents include all of the following except
  - a. bacterial agents such as anthrax
  - b. viral agents such as Ebola
  - c. blood agents such as hydrogen cyanide
  - d. toxins such as botulism
9. Chemical agents include all of the following except
  - a. Sarin
  - b. VX
  - c. Nitrogen Mustard
  - d. *S. aureus* enterotoxin
10. Chemical agents in a hot zone are:
  - a. most likely to spread upwind
  - b. most likely to spread downwind in a linear fashion
  - c. most likely to form a dense cloud and settle due to their density
  - d. most likely to spread downwind as an expanding plume
11. The nerve agents
  - a. are direct-acting cholinergic agonists
  - b. inhibit acetylcholinesterase
  - c. can be effectively antagonized with glycopyrrolate
  - d. have an effective antidote in pyridostigmine
12. Cyanide
  - a. is poorly absorbed after cutaneous exposure
  - b. causes blood to appear a rusty brown color
  - c. is effectively neutralized with sodium nitrite
  - d. has an accentuated effect in the presence of methemoglobinemia
13. Pulmonary agents
  - a. produce interstitial edema
  - b. are more volatile than the nerve agents
  - c. are characterized by the mustards and lewisite
  - d. cause a characteristic mucosal sloughing of the airways

14. Regarding the decontamination process, all of the following are true except:
  - a. Decontamination should begin as soon as possible after exposure.
  - b. Mild alkaline solutions such as 0.5% hypochlorite will neutralize nerve agents more quickly than plain soap and water.
  - c. Pure vapor exposure does not require decontamination.
  - d. If liquid nerve agent remains in contact with skin for more than 30 minutes, then decontamination is no longer required because full absorption has occurred.
  - e. Hot water, stiff brushes, and harsh chemicals should not be used to decontaminate skin.
15. In the management of a severely intoxicated nerve agent victim, atropine administration should be continued until which of the following occurs:
  - a. A maximum of 15 mg of atropine is given.
  - b. All seizure activity stops.
  - c. Heart rate and blood pressure are normal.
  - d. Eye pain and pinpoint pupils improve.
  - e. Bronchoconstriction and bronchorrhea improve.
16. The cornerstones of the pharmacological management of nerve agent intoxication consist of which of the following medication combination.
  - a. Atropine, oximes, benzodiazepines
  - b. Atropine, 2-PAMCl, barbiturates, succinylcholine
  - c. Pralidoxime, benzodiazepines, alkylphenols
  - d. 2-PAMCl, quinolone antibiotics, midazolam
  - e. Benzodiazepines, barbiturates, sodium stibogluconate
17. Which of the following best describes the mechanism of toxicity of most common organophosphate nerve agents?
  - a. They form covalent bonds with various nucleophilic constituents so that an alkyl group becomes attached, causing demyelination to occur.
  - b. Apurinic endonucleases alkylate purines, causing DNA backbone breaks.
  - c. They bind presynaptic receptor sites and prevent the release of acetylcholine.
  - d. They bind to acetylcholinesterase, inactivating it, and thereby allowing acetylcholine to act unopposed in the neuromuscular junction.
  - e. The main toxic action is the inhibition of cytochrome oxidase, interfering with aerobic respiration at the cellular level.
18. All of the following are true except:
  - a. In treating green-tag patients from a mass casualty incident, Step I medications from the WHO analgesic ladder are appropriate.
  - b. In treating yellow-tag patients, WHO Step III medications such as strong opiates may be appropriate.
  - c. A PCA machine is of little use in treating yellow-tag patients.
  - d. In black-tag patients, palliation is the goal and strong opiates are appropriate.
19. All of the following can be used in an off-label approach to provide acute analgesia except:
  - a. Dextromethorphan
  - b. Nalmefene
  - c. Clonidine
  - d. Oxycotin
20. Equal analgesic tables should be employed when calculating equivalent doses of infrequently used analgesics such levorphanol or hydromorphone.
  - a. True
  - b. False

**Evaluation Form: Please rate this self-study activity by marking one response for each statement.**

Did the articles meet their stated objectives?  Yes  No

How do you rank the quality of this educational activity?  5 (high)  4  3  2  1 (low)

Comments: \_\_\_\_\_

Did you perceive any evidence of bias for or against any commercial products?  Yes  No If yes, please explain.

Comments: \_\_\_\_\_

How do you rank the effectiveness of this activity as it pertains to your practice?  5 (high)  4  3  2  1 (low)

Did this material stimulate your intellectual curiosity?  5 (high)  4  3  2  1 (low)

Additional comments about this activity: \_\_\_\_\_

**Answer Form: Please circle the one best answer for each question.**

TraumaCare Winter 2004 issue

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I certify that I have completed the "TraumaCare/Winter 2004" activity as designed and claim 10 credit hours in Category 1 of the Physicians Recognition Award of the American Medical Association.

Signature \_\_\_\_\_ Date \_\_\_\_\_

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#### References:

- 1) BMJ Volume 320, 18 March 2000
- 2) To Err is Human: Building a Safer Health System, Linda T. Kahn, Janet M. Corrigan, and Mole S. Donaldson, Editors, © 2000 by the National Academy of Sciences.

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