MEDICAL RESPONSE TO CHEMICAL WARFARE AND TERRORISM 2000
FINAL EVALUATION AND EXAMINATION

The following are 8 course critique questions. Please read each of the statements and select the response that best reflects your feelings about the course. Following the critique, are 32 questions regarding the medical management of chemical agent casualties. Please read each question thoroughly and select the answer that is the MOST appropriate choice.

MEDICAL RESPONSE TO CHEMICAL WARFARE AND TERRORISM 2000
SATELLITE BROADCAST COURSE EVALUATION

1. This course was a valuable educational activity.

a. Agree
b. No Opinion
c. Disagree
d. Not applicable

2. Which of the following topics would you like covered more extensively in the future?

a. Pulmonary Agents
b. Nerve Agents
c. Cyanide
d. Vesicants
e. Field Management (Equipment/Decontamination/Triage/Evacuation/Protection)

3. Which part of the course was the most interesting to you?

a. Pulmonary Agents
b. Cyanide
c. Vesicants
d. Nerve Agents
e. Field Management and Antiterrorism

4. What was your overall impression of the course?

a. Superior
b. Excellent
c. Good
d. Satisfactory
e. Poor

5. I prefer to attend satellite broadcast training as opposed to regular classroom training because:

a. It fits into my work schedule
b. I prefer the format and structure
c. It allows me to avoid extensive travel
d. There is a significant cost savings for me
e. I do not prefer satellite broadcast training

6. What was the most important factor in your decision to participate in this satellite broadcast?

a. Content
b. Continuing Education
c. Required to take the course
d. Supervisor recommended
e. Other

7. The promotional material for the broadcast adequately described the training and its content.

a. Agree
b. No Opinion
c. Disagree
d. Not applicable

8. The pre-registration process for participation in the broadcast was user friendly.

a. Agree
b. No Opinion
c. Disagree
d. Not applicable

9. Protective equipment is assigned an OSHA ranking (A through D) based on the following

a. Level of dermal protection afforded
b. Level of respiratory protection afforded
c. How uncomfortable it is to wear
d. A and B
e. All of the above

10. Of the following, the earliest indicator of pulmonary edema in a casualty exposed to a respiratory agent is:

a. An abnormal arterial-blood-gas (ABG) test
b. Dyspnea (shortness of breath)
c. A pattern of scattered infiltrates with Kerley B lines on PA and lateral chest radiographs
d. Dullness to percussion on physical examination
e. Wheezing

11. In a person severely intoxicated by nerve agent, atropine administration should be titrated to which of the following?

a. Clinical reduction of bronchospasm and secretions
b. Clinical restoration of normal heart rate and blood pressure
c. Clinical reduction of skeletal muscle fasciculations and twitching
d. Clinical reduction of gastrointestinal distress and spasm
e. Clinical resolution of miosis and eye pain

12. All of the following are true regarding the radiomimetic effect of sulfur mustard on bone marrow EXCEPT:

a. Assessment of the cellular components of the blood can be used to identify the severity of sulfur mustard exposure.
b. Early decline in numbers of lymphocytes predict subsequent decline in the platelet count.
c. Very early (1-2 hrs.) simple measurement of the total white blood cell count can be used to predict severity of exposure and need for early evacuation.
d. Following a severe exposure to sulfur mustard, lymphocyte count rapidly decreases, while the number of granulocytes increases.

13. It is important to decide whether a patient is exposed to nerve agent vapor or to nerve agent liquid agent because:

a. The strength of bleach chosen depends upon whether the agent is a vapor or a liquid.
b. Clinical effects from liquid exposure may be delayed.
c. Wearing the mask may not be necessary if the agent is liquid.
d. Diazepam is never given for exposure to nerve-agent vapor.

14. Which of the following is true concerning peripherally acting pulmonary agents?

a. Symptoms never precede signs.
b. They cause clinical effects that mimic adult respiratory distress syndrome (ARDS).
c. Irritation of the nose and mouth with coughing and bronchospasm generally excludes these agents.
d. Their peripheral airway effects are probably caused by hydrochloric acid.
e. In most cases, prophylactic administration of antibiotics is a reasonable medical option.

15. An individual who is vomiting and fasciculating reports nerve agent exposure. He does not have miosis (pinpoint pupils). An appropriate response includes which of the following:

a. Discharge from care
b. Administer nerve agent antidotes
c. Observe for pinpoint pupils before administering antidote
d. A and C above
e. None of the above

16. A cyanide casualty who is not breathing but still has a pulse just entered your Battalion Aid Station. He/she:

a. Should be given the three separate antidotes in the military cyanide antidote kit.
b. Should receive sodium thiosulfate followed by sodium nitrite.
c. Should be considered expectant.
d. Should immediately have blood drawn to determine the level of cyanide in the blood.
e. Should be given sodium nitrite followed by sodium thiosulfate.

17. Someone with severe systemic effects from a nerve agent should initially receive:

a. Three MARK I kits
b. One Diazepam
c. Three MARK I kits and diazepam
d. One MARK I kit
e. Three Mark I kits and an additional 2 mg of atropine

18. Which of the following is a necessary part of management for a casualty who has inhaled sulfur mustard?

a. Enforced rest and observation for signs and symptoms of pulmonary edema
b. Immediate intubation
c. Close monitoring of arterial blood gases
d. Close observation for the development of partial or complete airway obstruction
e. Prophylactic administration of antibiotics

19. Decontamination should be performed

a. Inside the receiving medical facility (e.g., ER)
b. Downwind from the receiving medical facility
c. Before any medical care is rendered
d. By fully qualified medical personnel

20. Of the following, what is the first indication of inhalation of very high concentrations of phosgene?

a. Abnormal arterial blood gases
b. Chest tightness
c. Coughing, hoarseness, and eye irritation
d. Cyanosis
e. Convulsions

21. The two categories of agents that pose the greatest threat on a modern battlefield are:

a. Nerve agents and cyanide
b. Vesicants and riot agents
c. Riot agents and nerve agents
d. Vesicants and nerve agents
e. Pulmonary agents and vesicants

22. Effects after severe cyanide inhalation typically include which of the following?

a. Miosis, bronchial hypersecretion, and nausea.
b. Brief hyperventilation, loss of consciousness, convulsions, followed by respiratory and subsequent cardiac failure.
c. Convulsions, vomiting, and flaccid paralysis.
d. Muscle weakness, cyanosis, and secretions.
e. Sudden loss of consciousness after a latent period of up to 60 minutes.

23. Cyanide is considered an important terrorist threat, but not an effective battlefield agent because:

a. Cyanide is more effective in enclosed spaces.
b. Cyanide is slightly less dense than air.
c. Cyanide is widely used in the chemical industry.
d. Cyanide is very volatile.
e. All of the above

24. In a mass casualty scenario, a casualty exposed 2 hours ago to sulfur mustard vapor now has facial erythema, red eyes, marked difficulty breathing, and a productive cough. This casualty should most appropriately be triaged as:

a. Urgent
b. Immediate
c. Delayed
d. Minimal
e. Expectant

25. The most important purpose of the emergency medical treatment station on the dirty side of the hotline (U.S. Army decontamination model) is:

a. To provide full definitive medical treatment for immediate casualties.
b. To stabilize patients well enough to survive the decontamination process.
c. To remove gross chemical agent contamination from small areas prior to full decontamination.
d. To provide a definitive diagnosis of serious poisoning and other conditions in order to expedite later medical care on the clean side of the hot line.
e. To allow observation of delayed casualties while they are waiting to proceed through litter decontamination.

26. A casualty who collapsed 2 minutes ago and is convulsing:

a. Should be restrained until convulsions cease.
b. Could be a nerve-agent casualty or a cyanide casualty.
c. Should be ventilated before antidotes are given if the diagnosis is nerve agent poisoning.
d. Should be triaged as expectant.
e. Is not a nerve agent casualty if miosis is not present (i.e., if the pupils are not pinpoint).

27. Which of the following is true about centrally and peripherally acting pulmonary acting agents?

a. They may be reliably distinguished by their various odors.
b. Their site(s) of action in the respiratory tract are determined primarily by their water solubility and their chemical reactivity.
c. Even in high concentrations, a centrally acting agent such as mustard is unlikely to produce pulmonary edema.
d. Their clinical effects are usually seen within 2 hours of exposure.

28. A casualty was exposed to both nerve agent vapor and liquid 2 hours ago. The casualty immediately developed pinpoint pupils, shortness of breath, tearing, and nasal secretions. The casualty quickly donned a mask, was removed from the area of exposure, and underwent ambulatory decontamination. The casualty now has miosis. How would you manage this patient?

a. Tell him/her that the miosis will resolve within 2 to 4 days.
b. Triage as minimal.
c. Would not expect him/her to get worse, since he/she is no longer being exposed to agent.
d. Observe him/her for 12 to 24 hours.
e. Administer one or two Mark Is to counter the miosis.

29. The most important reason(s) for setting up a casualty decontamination site is to:

a. Remove the sources of chemical vapor and liquid hazard
b. Protect the receiving medical facility and staff from chemical contamination
c. Medically stabilize casualties
d. A. and B.
e. All of the above

30. Which of the following is TRUE concerning cyanide?

a. A dependable warning of the presence of AC is its characteristic odor of bitter almonds.
b. As a blood agent, cyanide binds avidly to the oxyhemoglobin in blood.
c. Cyanosis is diagnostic of the presence of cyanide.
d. Cyanide prevents cellular utilization of oxygen.
e. Once breathing has stopped, a cyanide casualty should be triaged as expectant.

31. Why should all levels of care be prepared to conduct casualty decontamination?

a. Potentially contaminated patients may present themselves directly to the nearest facility.
b. Casualties may skip echelons of care.
c. Lower echelons may not have the resources necessary to decontaminate the casualties requiring evacuation.
d. A. and B.
e. All of the above

32 What is/are the essential component(s) of initial chemical casualty decontamination?

a. Decontamination with bleach
b. Remove the patient from the contaminated environment
c. Remove the contaminant from the patient
d. A and B
e. B and C

33. Personnel operating in protective gear, OSHA level C and higher, are at significant increased risk for

a. Heart attack
b. Contamination
c. Heat stress
d. Dehydration
e. C and D above

34. What are important questions to ask when deciding what type of protective gear to use?

a. What is the nature of the threat (respiratory or dermal, hi or lo concentration)?
b. Is supplemental air or oxygen required?
c. How long will it be worn?
d. Is there a legal requirement to be met?
e. All of the above

35. The Army's M256 detector ticket samples for chemical agent vapors. It detects all of the following EXCEPT:

a. Nerve agents
b. Pulmonary agents
c. Vesicants
d. Cyanides

36. The medical response to chemical terrorism against a US city or military installation differs from the medical response to chemical agents on the battlefield in which of the following ways?

a. Different antidotes are used
b. There is less need to protect medical facilities against contamination on the battlefield
c. Civilian responders may not be able to provide emergency medical treatment on the dirty side of the hot line (warm zone), whereas military responders probably can do this
d. None of these are true
e. All of these are true

37. Which statement is true concerning responsibility for a chemical terrorist incident in the United States?

a. Once the Federal authorities are on the scene, they are in charge.
b. Local authorities remain in charge unless the military arrives, at which time the military will be in charge.
c. Once State authorities arrive, they will accept responsibility from local authority.
d. Local authorities remain in charge throughout the incident.
e. Each incident is a unique event and responsibility will be different depending upon circumstances.

38. The medical services of which agencies of the US Federal Government have specified roles to play in responding to a chemical terrorist incident?

a. Active duty military
b. Military reservists
c. The National Guard
d. Department of Veterans' Affairs (VA)
e. All of these

39. Under the Federal Response Plan, the Department of Justice is the lead Federal agency during crisis management. What is true concerning the consequence management phase?

a. The Department of Justice remains in charge of Federal response.
b. The Federal Emergency Management Agency (FEMA) is the lead Federal Agency for consequence management.
c. Since the incident started as crisis management it will remain a crisis management incident throughout.
d. During consequence management, the Federal authorities will supersede local ones.
e. None of these.

40. What is true regarding the threat of chemical terrorism in the United States?

a. The FBI receives more chem./bio terrorism threats every year than conventional bomb threats.
b. Most alleged perpetrators of chemical terrorism in the United States are foreigners.
c. All potential chemicals of terrorist interest in the United States are illegal to buy on the open market.
d. The amount of money dedicated to fighting chemical terrorism in the United States has plateaued or declined.
e. Dual-use technology is a good way to conceal a chemical terrorist program.