

**HOSPITAL MASS-CASUALTY DISASTER MANAGEMENT COURSE  
PRE TEST**

DIRECTIONS: Use the answer sheet to indicate the correct answer for each of the following questions.

1. Possible disaster scenarios are so numerous that real disaster planning is ineffectual
  - A. True
  - B. False
  
2. You are an intensivist at a large community hospital with 28 ICU beds. During the past 8 hours, the ED has admitted 6 patients with hypoxemic respiratory failure and septic shock; two patients have already died. This is busier than the typical ICU day at your hospital, but it is winter and there certainly have been days that compare. Your suspicions that something is wrong have increased, especially since the last 2 patients were previously healthy 25-35 year olds. Some of the CXRS and all of the chest ct scans (only performed on 2 of the 6 patients) reveal extensive mediastinal lymphadenopathy and pleural effusions. You are concerned these patients may have inhalational anthrax.

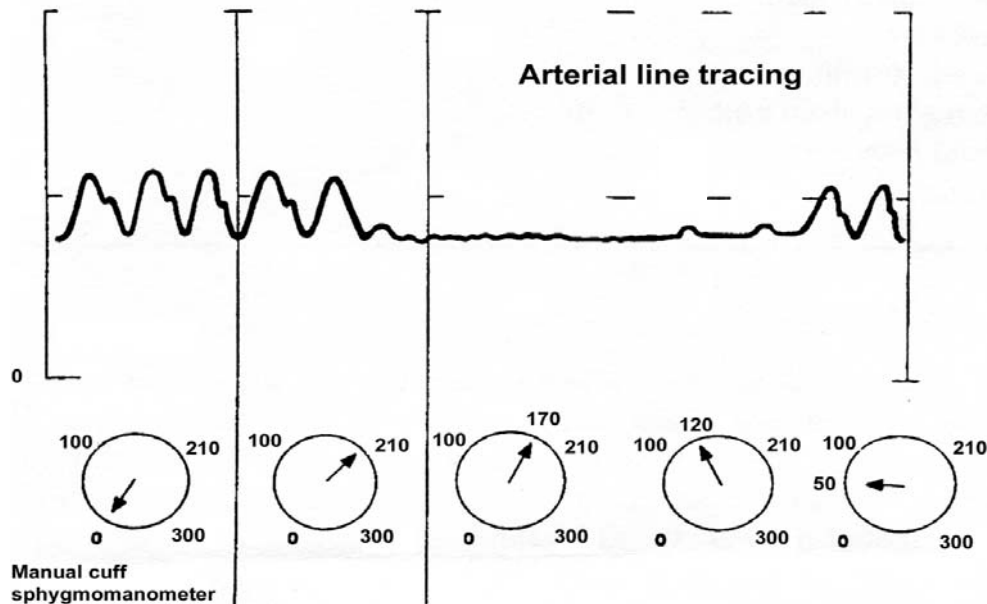
Which of the following is a correct action?

- A. Have the ED prepare to decontaminate any additional patients suspected of having inhalation anthrax
  - B. Await laboratory confirmation prior to notifying public health authorities
  - C. Call the CDC directly to release the strategic national stockpile
  - D. Immediately notify public health based about your suspicions despite only having the above available data
  
3. Which of the following diseases has known human-to-human transmission?
  - A. Inhalational anthrax without gross contamination of bioweapon
  - B. Inhalational plague
  - C. Inhalational tularemia
  - D. A and C
  
4. Which of the following is required for droplet precautions?
  - A. Negative pressure, isolation rooms
  - B. N95 masks or powered-air-purifying respirators (PAPR) on entry into the patient's room
  - C. Surgical mask when working within 3 feet of the patient
  - D. Positive pressure room
  
5. Patients early in an outbreak of inhalational plague will be easy to differentiate from those with community-acquired pneumonia, since the CXR findings are pathognomic.
  - A. True
  - B. False
  
6. Quarantine is limited to the separation or confinement of asymptomatic patients suspected or known to have been exposed to a contagious disease.
  - A. True
  - B. False

7. Removal of victims' clothing and decontamination with copious amounts of water provides the majority of decontamination for most substances.
- True
  - False
8. The mechanism of action of nerve agents is
- Inhibition of cytochrome A3.
  - Acute respiratory distress syndrome due to deposition in the lungs.
  - Inhibition of acetylcholinesterase
  - Inhibition of motor neuron tracts in the spinal cord.
9. It is important to be able to diagnose exposure to nerve agents or cyanogens quickly since.
- They are always more lethal
  - They may be transmitted from person to person.
  - The government is more likely to retaliate after the use of these dangerous agents.
  - They have specific antidotes
10. Pulmonary agents, including phosgene, :
- Can result in ARDS
  - Tend to lead to signs and symptoms following a latent period
  - May result in infectious bronchitis/pneumonia 3-5 days following exposure
  - May have its effects exacerbated by exertion
- 1,3
  - 2,4
  - 1,2,3
  - 4
  - All of the above
11. Rescuers are considering entrance into an area containing a radiologic source. Which of the following factors will affect the amount of radiation the rescuers will be exposed to.
- Distance from source
  - Time exposed to source
  - Shielding from radiation
  - All of the above
12. Identification of the radioisotope present in a radiological exposure is of little clinical importance since no therapies for these agents have yet to be identified.
- True
  - False
13. The demographics of explosions or other sudden-impact disasters normally give ICU's several hours to prepare to receive their first victim of the event.
- True
  - False
14. To be effective, communications in a mass casualty incident must be coordinated through:
- Local and state police
  - An incident management system
  - Area medical center
  - EMS
15. The organizational template for governmental disaster response is known as the:
- National Disaster Medical System
  - National Incident Management System
  - Incident Command System
  - Metropolitan Medical Response System

16. Which one of the following factors does not lead to erroneous pulse oximetry readings?
- Dark nail polish
  - Vasoconstriction
  - Hematocrit of 27%
  - Elevated level of carboxyhemoglobin

17. In the following illustration, the systolic pressure obtained by a return to flow measurement is:



- 50 mm Hg
  - 120 mm Hg
  - 170 mm Hg
  - 210 mm Hg
18. Definitive management of critically ill victims of a mass casualty incident should ideally occur in hospitals or equivalently equipped facilities rather than makeshift facilities.
- True
  - False
19. Which classification of shock is most consistent with the hemodynamic profile below?

Pulmonary artery occlusion pressure	Cardiac output	System vascular resistance
< or normal	< or normal or >	<

- Obstructive
  - Distributive
  - Cardiogenic
  - Hypovolemic
20. A patient who sustained blunt abdominal trauma in an explosion required a laparotomy for peritoneal injuries. Twenty-four hours following surgery he becomes progressively oliguric. Renal studies include the following:
- BUN/Cr = 30
  - Urine specific gravity 1.030
  - Urine sodium 15 mEq/L
- Initial management of this patient should include each of the following **except**:
- Increase IV fluids
  - Consider measurement of intravascular volume

- C. Discontinue use of ketorolac
  - D. Institute renal-dose dopamine infusion
21. Pharmacological agents useful for sedation and/or amnesia during endotracheal intubation include all of the following **EXCEPT**
- A. Etomidate 0.3-0.4 mg/kg IV as a single bolus
  - B. Succinylcholine 1.0-1.5 mg/kg IV as a single bolus
  - C. Midazolam 1 mg IV bolus every several minutes repeated as necessary
  - D. Fentanyl 25-100 mcg IV bolus every several minutes repeated as necessary
22. The best assessment of a patient's degree of pain is assessed by:
- A. The degree of injury or illness leading to the patient's pain
  - B. Assessment of bodily gestures and/or facial expression
  - C. Changes in heart rate, blood pressure or respiratory rate
  - D. The patient's report
23. The preferred analgesic in a critically ill or injured patient is:
- A. Morphine
  - B. Hydromorphone
  - C. Codeine
  - D. Meperidine
24. Which one of the following statements concerning assist-control (AC) ventilation is true?
- A. AC ventilation is typically delivered as time-cycled ventilation.
  - B. Total respiratory rate cannot exceed the preset minimum on the ventilator.
  - C. Tidal volume varies with respiratory rate to deliver preset minute ventilation.
  - D. with proper use of AC ventilatory support, the work of breathing may be significantly reduced.
25. A 36-year-old male is admitted to the intensive care unit following extensive intra-abdominal surgery. He remains intubated and received a neuromuscular blocker just prior to leaving the operating room. Which one of the following is the appropriate setting for the initiation of mechanical ventilation?
- A.  $F_iO_2$  1.0 with synchronized intermittent mandatory ventilation, tidal volume 8-10 mL/kg, rate 10-12/min, and positive end-expiratory pressure (PEEP) 5 cm  $H_2O$
  - B.  $F_iO_2$  1.0 with pressure control ventilation set at a level of 40 cm  $H_2O$ , rate 10-12/min and continuous positive airway pressure of 10 cm  $H_2O$
  - C.  $F_iO_2$  0.3 with synchronized intermittent mandatory ventilation, tidal volume 12-15 mL/kg, rate 15-18/min, and PEEP 5 cm  $H_2O$
  - D.  $F_iO_2$  0.3 with pressure support ventilation set at a level of 20 cm  $H_2O$  pressure and continuous positive airway pressure of 5 cm  $H_2O$
26. What is the primary determinant of  $CO_2$  exchange during Mechanical ventilation?
- A.  $CO_2$  production
  - B. Peak inspiratory flow rate
  - C. Alveolar minute ventilation
  - D. Anatomic dead space ventilation
27. The **most common** cause of hypoxemia is:
- A. Alveolar hypoventilation
  - B. Shunting of venous blood through poorly ventilated lung units
  - C. Decreased concentration of inspired oxygen
  - D. Decreased diffusion of oxygen across the alveolocapillary membrane complex

28. Excessive alveolar distension and potential risk for barotrauma and volutrauma correlates best with measured levels of:
- A. Mean airway pressure
  - B. Peak inspiratory pressure
  - C. Inspiratory plateau pressure
  - D. Positive end-expiratory pressure
29. Which one of the following interventions will most likely decrease auto-PEEP?
- A. Decreasing number of delivered ventilator breaths
  - B. Decreasing inspiratory flow rate
  - C. Increasing tidal volume
  - D. Lengthening inspiratory time
30. Which one of the following is an appropriate target for adjusting pressure-support settings?
- A. Tidal volume 10-12 mL/kg
  - B. Absence of spontaneous patient respiratory effort
  - C. Slowing of spontaneous respiratory rate to normal
  - D. Tidal volume equal to dead space ventilation