Emergency Oxygen for Scuba Diving Injuries Final Assessment

The following questions have only one correct answer.

1. The atmosphere is comprised of what percentages of oxygen, nitrogen and inert gases?

   a. 21% O_2, 78% N_2, 1% inert gases
   b. 15% O_2, 65% N_2, 20% inert gases
   c. 25% O_2, 74% N_2, 1% inert gases
   d. 33% O_2, 33% N_2, 34% inert gases

2. The primary cause for decompression sickness (DCS) is

   a. dehydration and cold water
   b. heavy exertion before diving
   c. heavy exertion after diving
   d. inert gas bubbles in the body

3. Gas exchange takes place at the

   a. trachea and intrapulmonary bronchi
   b. long bone joints
   c. alveolar-capillary membrane
   d. muscle-nerve junctions

4. Symptoms of decompression illness (DCI) may include

   a. dizziness/vertigo
   b. motor weakness
   c. pain, numbness or tingling
   d. all of the above

5. A diver with suspected DCI may benefit from breathing 100 percent inspired oxygen before medical treatment because

   a. symptoms may be relieved and results of recompression treatment may be enhanced
   b. it may make recompression treatment unnecessary
   c. oxygen stimulates breathing
   d. all of the above

6. When faced with a fellow diver who presents with symptoms that might be related to DCI, the correct course of action may include

   a. placing the diver on oxygen
   b. alerting local emergency medical services first and calling DAN
   c. getting the diver to a medical facility
   d. all of the above

7. The delivery system that provides the highest possible concentration of inspired oxygen to a breathing injured diver is the
   a. nasal cannula
   b. oronasal resuscitation mask with supplemental oxygen
   c. nonrebreather mask
   d. demand inhalator valve and mask

8. Before providing oxygen to an injured diver using a nonrebreather mask, the mask must be
   a. cleaned with a 10 percent bleach solution to prevent contamination
   b. primed by inflating the reservoir bag
   c. attached to the primary threaded DISS outlet by the clear oxygen tubing
   d. none of the above

9. When choosing an oxygen cylinder for use in a diving emergency, what should you consider?
   a. type of oxygen delivery device or mask
   b. cylinder capacity
   c. time and distance to the next level of emergency response
   d. all of the above

10. A breathing injured diver who is in danger of vomiting should be placed
   a. in the supine position (on his or her back)
   b. in someone else's boat
   c. in the recovery position (on his or her side with head supported)
   d. in a litter and made ready for helicopter evacuation

11. While the immediate first aid for AGE and DCS is emergency oxygen, symptoms of these conditions often occur at which different times following decompression?
   a. DCS symptoms typically occur within 6 hours.
   b. AGE symptoms occur within 15 minutes.
   c. AGE symptoms may be delayed up to 24 hours.
   d. both a and b

12. The dive boat is three hours from shore, and your emergency oxygen unit has a single full oxygen cylinder that will last only one hour. When providing oxygen first aid to a breathing injured diver with suspected DCI, you should use the
    a. demand inhalator valve continuously for as long as the oxygen supply lasts
    b. nonrebreather mask at a reduced flow rate so that the oxygen will last
    c. oronasal resuscitation mask at a minimum continuous flow rate of 10 lpm
    d. demand inhalator valve only until the injured diver feels better
13. In an emergency, it is not necessary to distinguish between DCS and AGE.
    a. True
    b. False
14. The primary reason to provide the highest concentration of oxygen possible is to speed inert gas washout/removal and to slow symptom progression.
    a. True
    b. False
15. Effective oxygen administration may result in symptom resolution. In such cases divers should still receive medical evaluation and potentially hyperbaric oxygen therapy.
    a. True
    b. False
16. The initial oxygen flow rate for the nonrebreather mask is
    a. 2-4 lpm
    b. 10-15 lpm
    c. 20-25 lpm
    d. the rate the injured diver will tolerate
17. As a first responder to a nonfatal drowning, your primary role is to
    a. monitor vital signs
    b. provide supplemental oxygen
    c. facilitate transport to the nearest medical facility
    d. all of the above
18. Oxygen should be provided only to injured divers in or around
    a. confined areas without ventilation
    b. petroleum products
    c. open, well-ventilated areas
    d. burning materials or other ignition sources

19. The pin indexing system is one method used to
    a. prevent the use of nonoxygen-compatible regulators with oxygen cylinders
    b. prevent oxygen from flowing from an open threaded DISS outlet
    c. hold oxygen-compatible washers in place
    d. hold one-way valves on the nonrebreather mask

20. A BVM can also be used to ventilate an inadequately breathing diver.
    a. True
    b. False

21. Before using an MTV, its function should be checked by
    a. connecting the hose to a barbed outlet
    b. setting the constant flow to 10 lpm
    c. testing the safety shut off against the palm of your hand
    d. priming the unit with several breaths

22. If symptoms of possible DCI occur following a dive, DAN advises that in addition to emergency oxygen to
    a. go to the nearest emergency facility for evaluation
    b. refrain from proceeding directly to the closest known chamber, which may not be open, available or have staff on duty
    c. contact DAN early so we may assist you and medical personnel who may not be familiar with diving medicine
    d. all of the above

On your answer sheet, identify the component parts of the DAN Oxygen Unit:

23._____ Oxygen cylinder and valve

24._____ DISS hose connector

25._____ T-handle

26._____ Handwheel wrench

27._____ Constant-flow controller

28._____ Barbed constant-flow outlet

29._____ Demand inhalator valve

30._____ Multifunction regulator

31._____ Oronasal resuscitation mask with oxygen inlet

32._____ Nonrebreather mask

33._____ Intermediate pressure hose

34._____ Pressure gauge

35._____ Manually triggered ventilator