

Review for Unit Test #2: Medical and Respiratory Emergencies

Terms and Structures:

1. Be able to recognize the definitions for the following terms for medical emergencies:

personal protective equipment	scene size up	hazmat
tiered response	pathogens	Universal precautions

2. Be able to recognize the definitions for the following terms for the respiratory system:

tidal volume	suffocation	chronic bronchitis
vital capacity	strangulation	emphysema
expiratory reserve volume	asphyxiation (aspiration)	chronic disease
cellular respiration	cyanosis	anaphylaxis
gas exchange	asthma	hives
hemoglobin	COPD	auto-injector (epi-pen)

3. Be able to label these structures on a diagram of the respiratory system. Know their functions:

alveoli	diaphragm	pharynx
bronchi	epiglottis	pulmonary artery
bronchiole	larynx	pulmonary vein
capillaries	nasal cavity	trachea

Practice Multiple Choice Questions

1. The purpose of Universal precautions is to:
 - a) protect the patient from getting a pathogen from a care-giver
 - b) protect the patient from getting a pathogen from medical equipment
 - c) protect the care-giver from getting a pathogen from the patient
 - d) all of the above
2. Your fire truck is dispatched to a domestic dispute. The situation is violent and the husband is present at the scene. You should:
 - a) put on your turn-out suit and helmet, and walk in to confront the husband
 - b) hook up a fire hose and hose down the husband
 - c) put a ladder up to an upstairs window and rescue the wife from here
 - d) stage at a safe distance and wait for the police to secure the scene
3. Tiered response means that:
 - a) more than one emergency service may be dispatched to an emergency
 - b) all emergency services are dispatched to all emergencies
 - c) only the single, most relevant emergency service is dispatched to the emergency
 - d) once the first emergency service arrives at the scene, they call in other help as needed
4. A police car is dispatched by tiered response to a MVC. A truck has hit a hydro pole and wires are draped over the truck. The driver is in the truck and seems to be badly hurt. The police should:
 - a) drive as close to the truck as they can and climb onto the truck without stepping on the ground
 - b) stay a safe distance back from the wires and call Hydro (E-1) to turn off the power
 - c) get the fire department to put a wooden ladder onto the truck and save the driver
 - d) put on rubber boots and rubber gloves, then approach the truck and driver

5. A pathogen is a:
 - a) biological agent that causes disease
 - b) poisonous chemical
 - c) doctor who studies how a person died
 - d) bicycle for patrolling public pathways
6. Which of the following is/are part of Universal precautions?
 - a) wearing a SCBA to a fire
 - b) hand-washing
 - c) wearing steel-toed safety boots
 - d) all of the above
7. Which of the following body fluids has the highest likelihood of transmitting the HIV/AIDS virus?
 - a) vaginal secretions
 - b) vomit
 - c) urine
 - d) all of these fluids will transmit HIV/AIDS
8. You are called to a patient who is coughing up blood. What PPE should you use?
 - a) a face mask over your mouth
 - b) gloves
 - c) a face shield or goggles over your eyes
 - d) all of these PPE should be used
9. Which of the following groups should emergency personnel assume have blood-borne pathogens?
 - a) all adults
 - b) all street people and known drug users
 - c) all people over 12 years of age
 - d) all people, regardless of their age
10. The function(s) of the nasal cavity during inhalation is to:
 - a) filter dirt and dust particles from the air
 - b) moisten the air
 - c) warm the air
 - d) all of the above
11. The tube that carries air from the pharynx to the lungs is called the:
 - a) bronchus
 - b) esophagus
 - c) epiglottis
 - d) trachea
12. The flap that covers the opening of the trachea during swallowing is called the:
 - a) epiglottis
 - b) larynx
 - c) diaphragm
 - d) tongue
13. What is the function of the alveoli?
 - a) they contain haemoglobin to hold oxygen
 - b) they provide a surface for gas exchange
 - c) they trap dirt to keep the air in the lungs clean
 - d) all of the above
14. During inhalation, the muscles in the diaphragm:
 - a) relax and lengthen
 - b) relax and shorten
 - c) contract and lengthen
 - d) contract and shorten
15. When air enters the respiratory system it travels through the structures in which order?
 - a) larynx, pharynx, trachea, bronchioles
 - b) pharynx, larynx, bronchioles, trachea
 - c) pharynx, larynx, trachea, bronchioles
 - d) pharynx, trachea, larynx, bronchioles
16. During gas exchange in the lungs:
 - a) oxygen moves into the alveoli
 - b) carbon dioxide moves into the blood
 - c) oxygen moves into the blood
 - d) both a) and b)
17. The nasal passages, trachea and bronchi are lined with mucous. The function(s) of mucous is to:
 - a) decrease friction during inhalation
 - b) trap dirt so it can be coughed up
 - c) increase gas exchange into the blood
 - d) all of the above
18. Which parts of the respiratory system have cartilage rings?
 - a) the trachea and esophagus
 - b) the bronchi and alveoli
 - c) the esophagus and alveoli
 - d) the trachea and bronchi

19. What is the major trigger for breathing?
- a) low levels of CO₂ in the blood
 - b) high levels of CO₂ in the blood
 - c) high levels of O₂ in the blood
 - d) low CO₂ in the alveoli
20. What are the number of breaths per minute and tidal volume for an average adult?
- a) 15 breaths per minute, and 500 mL
 - b) 72 breaths per minute and 5 – 6 L
 - c) 15 breaths per minute and 5 – 6 L
 - d) 72 breaths per minute and 500 mL
21. Exhalation is:
- a) an active process, the diaphragm contracts
 - b) a passive process, the diaphragm contracts
 - c) an active process, the diaphragm relaxes
 - d) a passive process, the diaphragm relaxes
22. The **maximum** volume of air that can be exchanged in a single breath is called the:
- a) vital capacity
 - b) tidal volume
 - c) residual volume
 - d) expiratory reserve
23. Which of the following factors can affect vital capacity?
- a) sex (gender)
 - b) body size
 - c) fitness
 - d) all of the above
24. Cellular respiration:
- a) is another name for breathing
 - b) takes place in the alveoli of the lungs
 - c) uses oxygen and produces carbon dioxide
 - d) all of the above
25. The tiny blood vessels that surround the alveoli for gas exchange are called:
- a) venules
 - b) arteries
 - c) capillaries
 - d) haemoglobin
26. If the airway is obstructed from the outside of the body, it is called:
- a) asphyxiation
 - b) aspiration
 - c) suffocation
 - d) all of the above
27. Which of the following is/are common causes of choking in young children?
- a) hot dogs
 - b) popcorn
 - c) peanuts
 - d) all of the above
28. Which of the following age groups is most at risk for choking?
- a) teenagers due to alcohol intoxication
 - b) pregnant women
 - c) elderly people
 - d) men who have had a heart attack
29. When a choking person is coughing effectively and can speak, you should:
- a) pat them gently on the back
 - b) hit them forcefully on the back
 - c) perform abdominal thrusts
 - d) leave them alone, but monitor closely
30. Which of the following is/are common causes of strangulation in young children?
- a) cords on window blinds
 - b) choking on small toys
 - c) soft toys and pillows in their beds
 - d) all of the above
31. When putting infants to sleep, you should:
- a) prop them up on a pillow to help them breath
 - b) remove all soft, fluffy toys from their crib
 - c) always sleep with them in your bed
 - d) use a soft mattress that forms to their body
32. Which of the following is/are **true** about asthma?
- a) asthma is annoying but not serious
 - b) asthma can be life-threatening
 - c) asthma is a disease of the alveoli
 - d) all of the above

33. Which of the following cause narrowing of the bronchioles during an asthma attack?
- the lining of the bronchioles becomes inflamed and swollen
 - cells lining the bronchioles produce excess mucous
 - rings of muscle around the bronchioles contract and squeeze the bronchioles shut
 - all of the above
34. Which of the following is/are signs that a person is having a severe asthma attack?
- cyanosis
 - swelling of the hands and feet
 - an abnormal ECG pattern
 - all of the above
35. Many asthma sufferers have puffers that are “bronchodilators”. Who can legally administer a puffer?
- EMS
 - fire fighters
 - teachers
 - both “a” and “c”
36. Legally, teachers are allowed to administer which of the following drugs:
- aspirin (ASA)
 - epinephrine (epi-pens)
 - ventalin (asthma puffers)
 - all of the above
37. COPD stands for:
- constable on patrol duty
 - coronary occlusion and pressure disease
 - chronic obstructive pulmonary disease
 - congestive ocular pressure disorder
38. A chronic disease is one which:
- begins rapidly and lasts a very short time
 - is usually fatal
 - is highly contagious
 - goes on for a very long time
39. During inspiration (inhalation), the chest cavity:
- increases in volume and decreases in pressure
 - increases in volume and increases in pressure
 - decreases in volume and decreases in pressure
 - decreases in volume and increases in pressure
40. In emphysema, the alveoli are:
- much larger than normal
 - much smaller than normal
 - more numerous than normal
 - both “a” and “c”
41. When a person is anaphylactic, their immune system:
- over-reacts to a dangerous substance
 - under-reacts to a dangerous substance
 - over-reacts to a non-dangerous substance
 - under-reacts to a non-dangerous substance
42. Which of the following tissues may swell during an anaphylactic reaction?
- the tongue
 - the throat
 - tissues around the eyes
 - all of the above
43. Hives is/are:
- a red, itchy rash on the body
 - cool, clammy greyish coloured skin
 - swelling of the face, tongue and lips
 - all of the above
44. What is the first aid for a person who is having an anaphylactic reaction?
- epinephrine
 - a puffer
 - nitroglycerine
 - tPA
45. Before giving any medication, EMS must check:
- with the person’s parents or spouse
 - the five R’s
 - that the person is lying down
 - all of the above
46. Which of the following is NOT one of the five R’s for administering a medication?
- right patient
 - right dose
 - right drug store
 - right time

Review for Unit Test #1: Medical Emergencies

Short and Long Answer Questions: Medical Emergencies in General

1. What are six (6) types of hazards at an emergency scene that could put the emergency personnel at risk?
2. What is the “rhyme” that can be used to remember the basic types of hazards at a scene?
3. Classify the following body fluids as high risk or low risk for transmitting pathogens:
 - a) Semen _____
 - b) Feces _____
 - c) Saliva _____
 - d) Blood _____
 - e) Cerebrospinal fluid _____
 - f) Vomit _____
 - g) Amniotic fluid _____
 - h) Mucous _____
 - i) Urine _____
 - j) Vaginal secretions _____
4. Which of the following are universal precautions?
 - a) Using PPE such as gloves _____
 - b) Never re-capping sharps such as needles _____
 - c) Hand-washing _____
 - d) Using alcohol to sterilize equipment _____
 - e) Using a disposable face shield when performing ventilations (rescue breathing) _____
5. An ambulance just transported a MVC victim who was bleeding badly. The inside of the ambulance is covered with blood. When cleaning the ambulance, the EMS attendants should:
 - a) wear gloves _____
 - b) wear a regular (unfitted) face mask _____
 - c) wear an N-95 (fitted) face mask _____
 - d) use an antiseptic to sterilize all surfaces _____
 - e) refuse to clean the ambulance because it is too dangerous _____
 - f) wash their hands carefully when they are finished _____
6. What is the single most important thing that emergency personnel can do to prevent the transmission of pathogens?
7. When treating any patient, what assumption should be made by emergency personnel?
8. Describe the proper method for effective hand-washing. What two regions of the hands are often missed?
9. Give two examples of diseases that are spread by air-borne transmission.
10. Give two examples of diseases that are spread by body fluids.
11. What are the five Rs that must be checked before administering or assisting with medication?
12. A fire truck is dispatched by tiered response to a domestic dispute. A woman with two small children is being threatened by her husband, who is armed with a long knife. He threatens to kill anyone who comes inside. What should the firefighters do?
13. A police car is dispatched by tiered response to a MVC. A truck has hit a hydro pole and wires are draped over the truck. The driver is in the truck and seems to be badly hurt. What should the police do?

Short and Long Answer Questions: Respiratory Emergencies

1. What are the normal or average values for the following:
 - a) Number of breaths most people take, on average, per minute: _____
 - b) Tidal volume: _____
 - c) Vital capacity (maximum air exchanged in one breath): _____
2. Explain the difference between tidal volume and vital capacity.
3. Describe the steps that take place during one complete breath (breathing in and out).
4. Why is exhalation considered to be a “passive” process?
5. What is the main signal that triggers us to take a breath?
6. What are three factors that can affect vital capacity?
7. What two age groups of people are at the greatest risk for choking?
8. What are two diseases or medical conditions that increase the risk of choking?
9. Why are people who are intoxicated with drugs or alcohol at a high risk for choking?
10. What food is the most common cause of choking in young children?
11. What are three common causes of strangulation in children?
12. Explain three things that happen during an asthma attack that makes breathing difficult.
13. Which emergency service(s) can legally administer medications, such as a puffer or epi-pen?
14. Before administering any medications, what must the emergency personnel check?
15. Describe what happens to a person’s lungs when they have emphysema.
16. How does COPD affect tidal volume? _____ Vital capacity? _____
17. What part of the respiratory system is affected by asthma? Emphysema? Chronic bronchitis?
18. What are four symptoms of an anaphylactic reaction?
19. What are four common allergens that can trigger an anaphylactic reaction?
20. What is the most effective first aid treatment for anaphylaxis?
21. You come across a person in a public washroom who is choking. The person is coughing forcefully. Describe exactly what you should do.
22. You see a student in hallway who is stumbling. Her face is swollen and her breath is noisy and laboured. Describe exactly what you should do.