JBL Airway Practice Test (Sample)

Study Guide

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Questions

1. What should you do if a patient with a severe airway obstruction becomes unresponsive?

A. Open his airway and look inside his mouth.

B. Perform 30 chest compressions and open his airway.

C. Continue abdominal thrusts until ALS support arrives.

D. Assess for a carotid pulse for up to 10 seconds.

2. What condition occurs when blood from the lungs returns to the left side of the heart in a deoxygenated state?

A. Insufficient hemoglobin for oxygen binding.

B. Intrapulmonary shunting.

C. Carbon dioxide removal from the blood.

D. Blood bypassing the alveoli to the right side of the heart.

3. What is the correct action regarding an apneic patient who has dentures?

A. Remove the dentures to prevent airway obstruction

B. Use the jaw-thrust maneuver to keep the airway open

C. Do not attempt to remove dentures due to the risk of obstruction

D. Tight-fitting dentures should be left in place for effective ventilation

4. A patient who breathes through his or her mouth is least likely to benefit from which oxygen delivery method?

A. Nasal cannula

B. Simple face mask

C. Non-rebreather mask

D. Biphasic positive airway pressure

5. Which patient characteristic suggests a higher risk of pulmonary embolism?

A. History of asthma

B. Obesity and recent inactivity

C. Engagement in regular exercise

D. History of recent upper respiratory infections

6. A patient with an end-tidal carbon dioxide level of 70 mm Hg is most likely?

A. Hypercarbic and breathing adequately.

B. Hypocarbic and breathing adequately.

C. Hypercarbic and breathing inadequately.

D. Hypocarbic and breathing inadequately.

7. What condition is most likely to cause a patient's skin to become cyanotic?

A. A decrease in the amount of carbon dioxide.

B. An increase in the amount of arterial oxygen.

C. A decrease in the amount of arterial oxygen.

D. An overall increase in circulating red blood cells.

8. A patient presents with acute shortness of breath and pale skin. What is your best immediate step?

A. Administer high-flow oxygen and assess breathing adequacy

B. Place her supine and ventilate with a bag-mask device

C. Deliver humidified oxygen and administer inhaled bronchodilator

D. Give supplemental oxygen only if saturation is under 90%

9. The best practice for nasal or mouth suctioning involves what consideration?

A. Performing suctioning for 10 seconds at a time.

B. Utilizing a device that can differentiate between gases.

C. Ensuring the patient is fully conscious before suctioning.

D. Inserting the suction catheter until resistance is met.

10. What indicates an increase in residual volume in a patient with emphysema?

A. Improved tidal volume

B. Inability to fully exhale

C. Decreased lung compliance

D. Increased vital capacity

Answers

1. B
2. B
3. D
4. A
5. B
6. C
7. C
8. A
9. A
10. B

Explanations

1. What should you do if a patient with a severe airway obstruction becomes unresponsive?

A. Open his airway and look inside his mouth.

B. Perform 30 chest compressions and open his airway.

C. Continue abdominal thrusts until ALS support arrives.

D. Assess for a carotid pulse for up to 10 seconds.

In the scenario of an unresponsive patient with a severe airway obstruction, the appropriate action is to perform 30 chest compressions and then open the airway. This approach aligns with the principles of basic life support and is critical in a situation where the patient cannot breathe effectively due to an obstruction. Administering chest compressions serves a dual purpose. First, it helps maintain circulation to vital organs, which may be compromised due to the lack of oxygen when the airway is obstructed. Second, the compressions can create pressure changes within the chest that may assist in dislodging the obstruction. After performing the chest compressions, opening the airway is essential to assess the situation further and determine if additional measures, such as rescue breaths or advanced interventions, are necessary. This methodical transition from chest compressions to airway management ensures that both circulation and potential removal of the obstruction are addressed effectively. This response prioritizes the stabilization of the patient while simultaneously addressing the life-threatening condition of airway obstruction. It's important to act swiftly and efficiently in such emergencies, as they are time-sensitive situations that require immediate action.

2. What condition occurs when blood from the lungs returns to the left side of the heart in a deoxygenated state?

A. Insufficient hemoglobin for oxygen binding.

B. Intrapulmonary shunting.

C. Carbon dioxide removal from the blood.

D. Blood bypassing the alveoli to the right side of the heart.

Intrapulmonary shunting refers to the phenomenon where blood flows through the lungs without undergoing the necessary gas exchange, resulting in deoxygenated blood returning to the left side of the heart. This occurs when the blood bypasses the alveoli, the air sacs responsible for oxygenating the blood, and can occur in situations such as pulmonary conditions or anatomical shunts. When blood is shunted within the lungs, it does not receive the oxygen it needs while also failing to expel carbon dioxide effectively. This condition contributes to a decrease in overall oxygen levels in the bloodstream, leading to hypoxemia and potentially affecting the overall oxygen supply to the body's tissues. In contrast, the other options pertain to different respiratory and circulatory mechanisms: insufficient hemoglobin for oxygen binding relates to the inability of blood to carry oxygen effectively, carbon dioxide removal involves the normal functioning of the lungs to expel CO_2 during breathing, and blood bypassing the alveoli to the right side of the heart inaccurately suggests a different type of shunting that doesn't specifically relate to the return of deoxygenated blood to the left side.

3. What is the correct action regarding an apneic patient who has dentures?

A. Remove the dentures to prevent airway obstruction

B. Use the jaw-thrust maneuver to keep the airway open

C. Do not attempt to remove dentures due to the risk of obstruction

D. Tight-fitting dentures should be left in place for effective ventilation

In the case of an apneic patient with dentures, the appropriate action is to leave the tight-fitting dentures in place for effective ventilation. This is because properly fitting dentures can help maintain the structure of the airway and reduce the risk of obstruction during ventilation. When dentures are tight and well-fitted, they may actually aid in providing a suitable seal when delivering breaths, especially in situations like bag-mask ventilation where creating a proper seal is crucial for effective oxygenation. Additionally, removing dentures in an emergency setting could lead to further complications or risks, such as dislodging other airway structures or causing additional airway obstruction. Therefore, maintaining the dentures in place can be beneficial for managing the patient's airway more effectively. While other factors, such as the patient's specific circumstances and the discretion of trained personnel, can influence the immediate actions taken, the general best practice is to prioritize the patient's ability to ventilate effectively, which can be supported by leaving tight-fitting dentures in place.

4. A patient who breathes through his or her mouth is least likely to benefit from which oxygen delivery method?

A. Nasal cannula

B. Simple face mask

C. Non-rebreather mask

D. Biphasic positive airway pressure

A patient who breathes through their mouth is least likely to benefit from the nasal cannula because this method delivers oxygen through two small prongs that are inserted into the nostrils. Effective oxygen delivery through a nasal cannula relies on the patient's ability to breathe through their nose, as oxygen is delivered directly into the nasal passages and is primarily intended for patients who can maintain nasal breathing. In contrast, other methods such as the simple face mask, non-rebreather mask, and biphasic positive airway pressure provide oxygen directly over the mouth and nose, making them suitable for mouth breathers. The face mask covers both the mouth and nose to ensure inhalation of oxygen, the non-rebreather mask creates a seal around the mouth and nose to provide high concentrations of oxygen, and biphasic positive airway pressure supports breathing during both inhalation and exhalation. Therefore, for a mouth-breathing patient, those options would be more beneficial.

5. Which patient characteristic suggests a higher risk of pulmonary embolism?

A. History of asthma

B. Obesity and recent inactivity

C. Engagement in regular exercise

D. History of recent upper respiratory infections

The characteristic that indicates a higher risk of pulmonary embolism is obesity coupled with recent inactivity. This combination is a well-documented risk factor because obesity increases the pressure in the venous system, leading to venous stasis or slower blood flow. When paired with recent inactivity, such as prolonged bed rest or sitting for long periods, the likelihood of blood clots forming in the veins increases significantly. If these clots dislodge, they can travel to the lungs and cause a pulmonary embolism, which is a serious condition. On the other hand, a history of asthma, engagement in regular exercise, and a history of recent upper respiratory infections do not directly correlate with an increased risk for pulmonary embolism. While asthma can affect lung function, it does not increase the risk of clot formation. Regular exercise is generally associated with improved circulation and a reduced risk of blood clots. Recent upper respiratory infections may affect respiratory health but are not linked to the mechanisms that lead to pulmonary embolism.

6. A patient with an end-tidal carbon dioxide level of 70 mm Hg is most likely?

A. Hypercarbic and breathing adequately.

B. Hypocarbic and breathing adequately.

C. Hypercarbic and breathing inadequately.

D. Hypocarbic and breathing inadequately.

An end-tidal carbon dioxide level of 70 mm Hg indicates severe hypercapnia, which is an elevated level of carbon dioxide (CO_2) in the bloodstream. Normal end-tidal carbon dioxide levels typically range from 35 to 45 mm Hg. When levels exceed this range significantly, as in this case, it suggests that the body is retaining CO_2, often due to inadequate ventilation. In the context of this scenario, a patient exhibiting hypercarbia at this level is likely experiencing respiratory insufficiency or failure. This condition implies that the patient's ventilatory effort is not sufficient to expel the accumulated CO_2, leading to the elevated end-tidal levels. Therefore, the patient is not breathing adequately. This condition might be seen in various situations, including respiratory diseases, neurological deficits, or severe sedation. Being aware of a patient's end-tidal carbon dioxide is critical because it helps in assessing their respiratory status. In this case, the high level indicates that the patient is hypercarbic and unable to maintain proper ventilation.

7. What condition is most likely to cause a patient's skin to become cyanotic?

A. A decrease in the amount of carbon dioxide.

B. An increase in the amount of arterial oxygen.

C. A decrease in the amount of arterial oxygen.

D. An overall increase in circulating red blood cells.

Cyanosis refers to a bluish or purplish discoloration of the skin and mucous membranes, typically resulting from inadequate oxygenation of the blood. The correct choice highlights a decrease in the amount of arterial oxygen, which directly correlates with the development of cyanosis. When arterial oxygen levels drop, the hemoglobin molecules in red blood cells become less saturated with oxygen, leading to a shift in the color of blood from bright red to darker shades with a bluish tint. This reduced oxygen saturation can occur due to various factors, such as respiratory diseases, poor circulation, or high altitudes, all of which hinder the delivery of sufficient oxygen to tissues. As a result, the skin may appear cyanotic, indicating significant oxygen deprivation. In contrast, a decrease in carbon dioxide, an increase in arterial oxygen, or an increase in circulating red blood cells would not commonly lead to cyanosis. These factors either stabilize or enhance oxygenation, which makes them less likely to result in the bluish discoloration associated with inadequate oxygen levels.

8. A patient presents with acute shortness of breath and pale skin. What is your best immediate step?

A. Administer high-flow oxygen and assess breathing adequacy

B. Place her supine and ventilate with a bag-mask device

C. Deliver humidified oxygen and administer inhaled bronchodilator

D. Give supplemental oxygen only if saturation is under 90%

In a scenario where a patient presents with acute shortness of breath and pale skin, administering high-flow oxygen and assessing breathing adequacy is the most appropriate immediate step. High-flow oxygen can help ensure that the patient receives sufficient oxygen to mitigate the effects of hypoxia, especially since acute shortness of breath indicates a potential respiratory issue. Assessing the adequacy of breathing is crucial as it allows you to evaluate whether the patient can maintain their own ventilation or requires assistance. This dual approach ensures that immediate oxygenation is provided while you gather vital information about their respiratory status. Other options may not address the situation as effectively. For instance, placing the patient supine and ventilating with a bag-mask device could be appropriate in a different context but would not be the best initial action without first determining the adequacy of spontaneous breathing. Delivering humidified oxygen and administering an inhaled bronchodilator may be beneficial in cases of wheezing or chronic obstructive pulmonary disease but would potentially delay the necessary immediate intervention of oxygenation. Giving supplemental oxygen only if saturation is under 90% is not proactive enough in an emergency setting where acute symptoms are present, as the patient may already be in distress before reaching that threshold.

9. The best practice for nasal or mouth suctioning involves what consideration?

A. Performing suctioning for 10 seconds at a time.

B. Utilizing a device that can differentiate between gases.

C. Ensuring the patient is fully conscious before suctioning.

D. Inserting the suction catheter until resistance is met.

The best practice for nasal or mouth suctioning is to perform suctioning for short intervals, typically not exceeding 10 seconds at a time. This is crucial because prolonged suctioning can lead to hypoxia or discomfort for the patient. A duration of 10 seconds is generally recommended to minimize these risks, allowing the airway to remain open while still being effective in clearing secretions. Short suctioning intervals give time for the patient to recover, breathe, and minimize irritation in the airways. It is also important to consider the patient's overall condition; if they are in distress or at risk of aspiration, careful monitoring during suctioning is necessary. The other considerations, such as using a device that differentiates between gases or ensuring the patient is fully conscious, while they may play roles in a larger context of airway management, are not specifically aligned with the primary objective of effective suctioning practices. Additionally, inserting the catheter until resistance is met could cause trauma to the airway and is not a recommended approach.

10. What indicates an increase in residual volume in a patient with emphysema?

A. Improved tidal volume

B. Inability to fully exhale

C. Decreased lung compliance

D. Increased vital capacity

An increase in residual volume in a patient with emphysema is primarily indicated by an inability to fully exhale. In emphysema, the elasticity of the lung tissue is compromised due to damage to the alveoli. This leads to an obstruction of airflow during exhalation, thereby trapping air in the lungs and preventing complete emptying. As a result, the residual volume—the amount of air remaining in the lungs after a maximal exhalation—becomes elevated. This phenomenon is closely associated with the characteristic difficulty in breathing that patients with emphysema experience. They often find it challenging to expel air completely, leading to retained air in the lungs and an overall decrease in their breathing efficiency. Other choices provided do not accurately reflect the physiological changes occurring within the lungs of an emphysema patient. For example, improved tidal volume does not typically occur in this condition, and decreased lung compliance usually involves a direct relationship with respiratory effort, while increased vital capacity would not occur due to the air obstruction inherent in emphysema. Thus, the inability to fully exhale serves as a clear indicator of increased residual volume in such patients.