

EMT

Chapter 13 Review

1. The process in which oxygen and carbon dioxide are exchanged in the lungs is called:
 - A. respiration.
 - B. ventilation.
 - C. metabolism.
 - D. inhalation.

Answer: A

Rationale: Respiration is defined as the exchange of gases between the body and its environment. The exchange of oxygen and carbon dioxide in the lungs is called pulmonary (external) respiration. The exchange of oxygen and carbon dioxide at the cellular level is called cellular (internal) respiration.

1. The process in which oxygen and carbon dioxide are exchanged in the lungs is called:

A. respiration.

Rationale: Correct answer

B. ventilation.

Rationale: Ventilation is the exchange of air between the lungs and the environment.

1. The process in which oxygen and carbon dioxide are exchanged in the lungs is called:

C. metabolism.

Rationale: Metabolism is the series of processes by which food is converted into the energy and products needed to sustain life.

D. inhalation.

Rationale: Inhalation is the active, muscular part of breathing.

2. Which of the following respiratory diseases causes obstruction of the lower airway?

A. Croup

B. Asthma

C. Epiglottitis

D. Laryngitis

Answer: B

Rationale: Asthma is a lower airway disease that causes the bronchioles in the lungs to constrict (bronchospasm), resulting in various degrees of obstruction. Croup, epiglottitis, and laryngitis cause swelling, inflammation, and varying degrees of obstruction of the upper airway.

2. Which of the following respiratory diseases causes obstruction of the lower airway?

A. Croup

Rationale: This causes an upper airway obstruction.

B. Asthma

Rationale: Correct answer

2. Which of the following respiratory diseases causes obstruction of the lower airway?

C. Epiglottitis

Rationale: This causes an upper airway obstruction.

D. Laryngitis

Rationale: This causes an upper airway obstruction.

3. Which of the following diseases is potentially life threatening and is thought to be transmitted by close person-to-person contact?

A. SARS

B. Croup

C. Diphtheria

D. Epiglottitis

Answer: A

Rationale: Severe acute respiratory syndrome (SARS) is a viral infection that starts with flu-like symptoms, which can progress to pneumonia, respiratory failure, and sometimes death. It is thought to be transmitted via close person-to-person contact.

3. Which of the following diseases is potentially life threatening and is thought to be transmitted by close person-to-person contact?

A. SARS

Rationale: Correct answer

B. Croup

Rationale: Croup is an inflammatory condition of the larynx and trachea, marked by a cough, hoarseness, and difficulty in breathing.

3. Which of the following diseases is potentially life threatening and is thought to be transmitted by close person-to-person contact?

C. Diphtheria

Rationale: Diphtheria is caused by a bacterium that attacks the membranes of the throat.

D. Epiglottitis

Rationale: Epiglottitis is an acute bacterial infection of the epiglottis.

4. All of the following are causes of acute dyspnea, EXCEPT:
- A. asthma.
 - B. emphysema.
 - C. pneumothorax.
 - D. pulmonary embolism.

Answer: B

Rationale: Emphysema—a form of COPD—is a chronic respiratory disease; therefore, it presents with progressively worsening dyspnea. Asthma, pulmonary embolism, and pneumothorax are all acute conditions; therefore, they typically present with an acute onset of dyspnea.

4. All of the following are causes of acute dyspnea, EXCEPT:

A. asthma.

Rationale: Asthma is an acute condition with a sudden onset of dyspnea.

B. emphysema.

Rationale: Correct answer

4. All of the following are causes of acute dyspnea, EXCEPT:

C. pneumothorax.

Rationale: Pneumothorax is an acute condition with a sudden onset of dyspnea.

D. pulmonary embolism.

Rationale: Pulmonary embolism is an acute condition with a sudden onset of dyspnea.

5. Bronchospasm is MOST often associated with:

- 5. asthma.
- 6. bronchitis.
- 7. pneumonia.
- 8. pneumothorax.

Answer: A

Rationale: Asthma—a reactive airway disease—is caused by bronchospasm (sustained constriction of the bronchioles). Common triggers to an acute asthma attack include environmental allergens, stress, and temperature changes.

5. Bronchospasm is MOST often associated with:

A. asthma.

Rationale: Correct answer

B. bronchitis.

Rationale: Bronchitis is the inflammation of the mucous membrane in the bronchial tubes of the lungs.

5. Bronchospasm is MOST often associated with:

C. pneumonia.

Rationale: Pneumonia is an inflammation of one or both lungs.

D. pneumothorax.

Rationale: Pneumothorax is the presence of air or gas in the pleural cavity surrounding the lungs, causing pain and difficulty in breathing.

6. A sudden onset of difficulty breathing, sharp chest pain, and cyanosis that persists despite supplemental oxygen is MOST consistent with:
- A. severe pneumonia.
 - B. myocardial infarction.
 - C. a pulmonary embolism.
 - D. a spontaneous pneumothorax.

Answer: C

Rationale: Signs of an acute pulmonary embolism include a sudden onset of difficulty breathing, sharp (pleuritic) chest pain, and cyanosis that persists despite the administration of high-flow oxygen. Patients who are immobile for prolonged periods of time (eg, confined to a hospital bed) are prone to a pulmonary embolism.

6. A sudden onset of difficulty breathing, sharp chest pain, and cyanosis that persists despite supplemental oxygen is MOST consistent with:

A. severe pneumonia.

Rationale: This is an acute bacterial or viral infection associated with a fever, cough, and productive sputum.

B. myocardial infarction.

Rationale: A heart attack is associated with chest pain, sudden onset of weakness, nausea, sweating, and discomfort.

6. A sudden onset of difficulty breathing, sharp chest pain, and cyanosis that persists despite supplemental oxygen is MOST consistent with:

C. a pulmonary embolism.

Rationale: Correct answer

D. a spontaneous pneumothorax.

Rationale: This is when air escapes into the pleural cavity.

7. Albuterol, a beta-2 agonist, is the generic name for:

A. Alupent.

B. Metaprel.

C. Brethine.

D. Ventolin.

Answer: D

Rationale: Albuterol is the generic name for Ventolin (Proventil). Albuterol is a beta-agonist, which dilates the bronchioles, and is commonly used to treat patients with asthma and other reactive airway diseases.

7. Albuterol, a beta-2-agonist, is the generic name for:

A. Alupent.

Rationale: This is the trade name for metaproterenol, also a beta-2 agonist.

B. Metaprel.

Rationale: This is the trade name for metaproterenol, also a beta-2 agonist.

7. Albuterol, a beta-2-agonist, is the generic name for:

C. Brethine.

Rationale: This is the trade name for terbutaline, also a beta-2 agonist.

D. Ventolin.

Rationale: Correct answer

8. An acute bacterial infection that results in swelling of the flap that covers the larynx during swallowing is called:

A. croup.

B. laryngitis.

C. epiglottitis.

D. diphtheria.

Answer: C

Rationale: Epiglottitis—a potentially life-threatening illness—is an acute bacterial infection that causes swelling of the epiglottis (the flap that covers the larynx during swallowing). It is characterized by a sudden onset of high fever, difficulty breathing, stridor, drooling, and varying degrees of hypoxemia.

8. An acute bacterial infection that results in swelling of the flap that covers the larynx during swallowing is called:

A. croup.

Rationale: This is an inflammatory condition of the larynx and trachea, marked by a cough, hoarseness, and difficulty in breathing.

B. laryngitis.

Rationale: This is an inflammation of the larynx, usually accompanied by hoarseness and coughing.

8. An acute bacterial infection that results in swelling of the flap that covers the larynx during swallowing is called:

C. epiglottitis.

Rationale: Correct answer

D. diphtheria.

Rationale: This is caused by a bacterium that attacks the membranes of the throat.

9. A 70-year-old man recently had a heart attack and now complains of severe difficulty breathing, especially when lying flat. He is coughing up pink, frothy secretions. This patient is MOST likely experiencing:
- A. acute right heart failure.
 - B. severe left heart failure.
 - C. an acute onset of bronchitis.
 - D. an acute pulmonary embolism.

Answer: B

Rationale: As a result of his recent heart attack, the left side of this patient's heart has been severely damaged. The left side of the heart is responsible for pumping oxygenated blood to the rest of the body. When it fails to do this, blood backs up into the lungs, resulting in pulmonary edema. Signs of pulmonary edema include dyspnea (especially when lying flat), rapid and shallow respirations, and, in severe cases, coughing up of pink, frothy sputum.

9. A 70-year-old man recently had a heart attack and now complains of severe difficulty breathing, especially when lying flat. He is coughing up pink, frothy secretions. This patient is MOST likely experiencing:

A. acute right heart failure.

Rationale: Acute heart failure causes a backup of blood into the systemic circulatory system and typically causes symptoms of peripheral edema in the hands and feet.

B. severe left heart failure.

Rationale: Correct answer

9. A 70-year-old man recently had a heart attack and now complains of severe difficulty breathing, especially when lying flat. He is coughing up pink, frothy secretions. This patient is MOST likely experiencing:

C. an acute onset of bronchitis.

Rationale: This is an acute inflammation of the lungs associated with a cough, increased sputum, fever, and tachypnea.

D. an acute pulmonary embolism.

Rationale: This is a blood clot in the lungs and is seen as dyspnea, acute chest pain, cyanosis, tachypnea, and coughing up of blood.

10. Which of the following patients is breathing adequately?

- A. 36-year-old man with cyanosis around the lips and irregular respirations
- B. 29-year old woman with respirations of 20 breaths/min, who is conscious and alert
- C. 22-year-old man with labored respirations at a rate of 28 breaths/min and pale skin
- D. 59-year-old woman with difficulty breathing, whose respirations are rapid and shallow

Answer: B

Rationale: Adequate breathing in the adult is characterized by a respiratory rate between 12 and 20 breaths/min; good chest rise (indicates adequate tidal volume); unlabored breathing effort; non-altered mental status; and good perfusion to the skin (ie, pink, warm, dry).

10. Which of the following patients is breathing adequately?

A. 36-year-old man with cyanosis around the lips and irregular respirations

Rationale: A patient with irregular respirations is not breathing adequately. Cyanosis is a sign of hypoxia.

B. 29-year old woman with respirations of 20 breaths/min, who is conscious and alert

Rationale: Correct answer

10. Which of the following patients is breathing adequately?

C. 22-year-old man with labored respirations at a rate of 28 breaths/min and pale skin

Rationale: The normal adult rate of respirations is 12–20 breaths/min.

D. 59-year-old woman with difficulty breathing, whose respirations are rapid and shallow

Rationale: A patient with adequate breathing has a normal rate and an unlabored breathing effort.