

What is the primary mechanism by which chronic exposure to irritants leads to the pathogenesis of emphysema?

- A) Increased production of surfactant
 - B) Inflammation of airway epithelium and release of inflammatory mediators
 - C) Decreased elasticity of the alveolar walls
 - D) Hypertrophy of the diaphragm
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- **Correct Answer:** B) Inflammation of airway epithelium and release of inflammatory mediators

Which of the following is the most common genetic risk factor associated with chronic obstructive pulmonary disease (COPD)?

- A) Cystic fibrosis
 - B) Alpha-1-antitrypsin deficiency (AATD)
 - C) Bronchial asthma
 - D) Pulmonary fibrosis
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- **Correct Answer:** B) Alpha-1-antitrypsin deficiency (AATD)

In the context of pulmonary function tests (PFTs), what does a post-bronchodilator FEV1/FVC ratio of less than 0.7 indicate?

- A) Normal lung function
 - B) Restrictive lung disease
 - C) Obstructive lung disease
 - D) Hyperinflation
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- **Correct Answer:** C) Obstructive lung disease

Which of the following statements about the FEV1/FVC ratio is true?

- A) A ratio greater than 70% indicates obstructive lung disease.
- B) A ratio less than 70% indicates restrictive lung disease.
- C) A normal ratio is indicative of normal lung function regardless of FEV1 values.
- D) A decrease in the FEV1/FVC ratio is a hallmark of obstructive lung disease.

- **Correct Answer:** D) A decrease in the FEV1/FVC ratio is a hallmark of obstructive lung disease.

What is a common complication of chronic obstructive pulmonary disease (COPD) due to impaired gas exchange?

- A) Hypertension
- B) Pneumonia
- C) Diabetes
- D) Osteoporosis

- **Correct Answer:** B) Pneumonia

Which of the following is NOT a recommended prevention strategy for reducing exacerbations in patients with COPD?

- A) Smoking cessation
- B) Regular vaccinations
- C) Avoiding air pollutants
- D) Increased exposure to respiratory irritants

- **Correct Answer:** D) Increased exposure to respiratory irritants

In the management of COPD, which pharmacological treatment is recommended for a patient experiencing two or more exacerbations per year?

- A) Short-acting beta-agonists (SABAs)
- B) Long-acting beta-2 agonists (LABAs) and long-acting muscarinic antagonists (LAMAs)
- C) Inhaled corticosteroids (ICS)
- D) Oral corticosteroids

- **Correct Answer:** B) Long-acting beta-2 agonists (LABAs) and long-acting muscarinic antagonists (LAMAs)

1. ****What process occurs during alveolar gas exchange?****

- A) Oxygen diffuses into the alveoli

- B) Carbon dioxide diffuses into the blood
- C) Oxygen diffuses into the bloodstream
- D) Carbon dioxide is produced

****Answer:** C) Oxygen diffuses into the bloodstream**

2. ****What drives the gas exchange process in the alveoli?****

- A) Temperature differences
- B) Partial pressure differences
- C) Blood flow velocity
- D) Airway obstruction

****Answer:** B) Partial pressure differences**

3. ****In obstructive pulmonary disease, what is typically decreased?****

- A) FEV1/FVC ratio
- B) Lung volume
- C) Total lung capacity
- D) Inspiratory reserve volume

****Answer:** A) FEV1/FVC ratio**

4. ****What indicates a restrictive pulmonary disease?****

- A) Low FEV1 and low FEV1/FVC ratio
- B) Normal FEV1/FVC ratio with reduced lung volume
- C) Normal FEV1 and FVC
- D) Airway obstruction

****Answer:** B) Normal FEV1/FVC ratio with reduced lung volume**

5. ****What is a common symptom of COPD?****

- A) Fever
- B) Decreased FEV1
- C) Increased FVC
- D) Normal breathing rate

****Answer:** B) Decreased FEV1**

6. ****Which of the following is associated with asthma?****

- A) Airway dilation
- B) Increased mucus production
- C) Gas exchange improvement
- D) Decreased airway resistance

****Answer:** B) Increased mucus production**

7. ****Which symptom is NOT typically associated with asthma?****

- A) Wheezing
- B) Chest tightness
- C) Weight gain
- D) Coughing

****Answer:** C) Weight gain**

8. ****SABAs are used for what purpose in asthma management?****

- A) Long-term control of symptoms
- B) Relieving bronchoconstriction
- C) Preventing inflammation
- D) Treating infections

****Answer:** B) Relieving bronchoconstriction**