

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**