

1. **During a surgical procedure, the surgeon is working close to the respiratory airways. A structure is identified that has cartilage and contains glands in its submucosa. This structure is most likely:**
 - Nonrespiratory bronchioles
 - Alveoli
 - Respiratory bronchioles
 - **Bronchi**
2. **Which of the following changes in the airways is most likely responsible for the reversible airflow limitation seen in asthma?**
 - **Collapse of the small airways during expiration**
 - Overexpansion of the alveoli
 - Accumulation of inflammatory cells in the bronchial walls
 - Fibrosis of the interstitial tissue
3. **An adult patient presents with persistent productive cough, dyspnea, and frequent respiratory infections. A high-resolution CT scan reveals dilated and thick-walled bronchi. Which of the following best describes the pathogenesis underlying these changes?**
 - Repeated episodes of acute bronchospasms leading to structural changes
 - A gradual decline in surfactant production resulting in airway collapse
 - **Chronic inflammation and infection leading to destruction of the bronchial walls**
 - Consistent overproduction of mucus without associated inflammation
4. **When a large pulmonary embolism occurs, what immediate effect does it most likely have on the cardiovascular system?**
 - Increased preload on the left ventricle
 - Decreased afterload on the left ventricle
 - **Increased afterload on the right ventricle**
 - Decreased preload on the right ventricle
5. **An older adult patient presents with a 10-year history of chronic cough and sputum production, particularly in the mornings. She has smoked 1 pack of cigarettes daily for 45 years but quit last year. Spirometry indicates a post-bronchodilator**