



Physiology of Respiration and Cough

Causes

The causes of cough are numerous, and workup often involves the expertise and guidance of several disciplines. Cough is a protective reflex, and ensures expectoration of inhaled particulates, secretions, and irritants. Cough is a motor response that can occur in the setting of inflammatory diseases such as asthma, bronchitis, and chronic obstructive pulmonary disease. The most common etiologies of cough are those related to upper respiratory infections, including sinusitis. Cough can also be a symptom of more serious diseases such as a pulmonary embolism, pneumonia, or congestive heart failure.

Symptoms, Signs, and Diagnosis

Cough as a symptom should be evaluated concurrently with presence or absence of shortness of breath, fever, rhinorrhea (runny nose), chest pain, or globus (lump sensation in throat). A complete physical exam includes evaluation of the nasal passages and sinuses, throat, and lungs. Chest imaging may reveal causes of chronic cough, but sometimes more detailed CT imaging may be needed. In the setting of a possible lung disease, pulmonary function testing has value in objectively measuring the severity of airway compromise.

Treatment

Treatment of cough rests in identifying in elimination of the causative factor or managing the inflammatory state. For chronic inflammatory diseases, medications including beta-agonist, inhaled steroids, or anticholinergics, often used in concert, are effective. For reflux, proton pump inhibitors and histamine blockade will limit symptoms. In the setting of infections such as pneumonia, appropriate antimicrobials are selected. For cough related to recent viral upper respiratory infection, cough suppression agents including benzonatate and dextromethorphan are effective agents.