

## Infections and Disorders Related to Lower Respiratory Tract

Jim Carrywan\*

Department of Public Health, Madda Walabu University, Robe, Ethiopia

### Commentary

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**\*For Correspondence:**

Dr. Jim Carrywan, Department of Public Health, Madda Walabu University, Robe, Ethiopia

**E-mail:** jimcar@gmail.com

### DESCRIPTION

Respiratory infections many types of diseases among them Lower Respiratory Infections are mentioned in this article:

#### **Lower Respiratory Infections**

**Acute bronchitis:** An infection that is located in the primary and secondary bronchi is called bronchitis. Most of the time, it is preceded by a viral URI that led to a secondary bacterial infection. Usually, a non-productive cough turns into a deep cough that will expectorate mucus and sometimes pus.

**Pneumonia:** A bacterial or viral infection in the lungs where the bronchi and the alveoli fill with a thick fluid. Usually it is preceded by influenza. Symptoms of pneumonia include high fever & chills, with headache and chest pain. Pneumonia can be located in several lobules of the lung and obviously, the more lobules involved, the more serious the infection. It can be caused by a bacteria that is usually held in check, but due to stress or reduced immunity has gained the upper hand.

#### **Restrictive Pulmonary Disorders**

**Pulmonary Fibrosis:** Vital capacity is reduced in these types of disorders because the lungs have lost their elasticity. Inhaling particles such as sand, asbestos, coal dust, or fiberglass can lead to pulmonary fibrosis, a condition where fibrous tissue builds up in the lungs. This makes it so our lungs cannot inflate properly and are always tending toward deflation. Pulmonary fibrosis can be synonymous with interstitial lung disease (ILD), or interstitial pneumonia or pneumonitis.

#### **Obstructive Pulmonary Disorders**

**Asthma:** Asthma is a respiratory disease of the bronchi and bronchioles. The symptoms include wheezing, shortness of breath, and sometimes a cough that will expel mucus. The airways are very sensitive to irritants which can include pollen, dust, animal dander, and tobacco. Even being out in cold air can be an irritant. When exposed to an irritant, the smooth muscle in the bronchioles undergoes spasms. Most asthma patients have at least some

degree of bronchial inflammation that reduces the diameter of the airways and contributes to the seriousness of the attack.

**Emphysema:** Emphysema is a type of chronic obstructive pulmonary disease. Typically characterized by a loss of elasticity and surfactant in the alveoli, a loss of surface area decreases the gas exchange in the lungs. These patients have difficulty with too little expiratory pressure, not retaining inspired air long enough for sufficient gas exchange to happen.

**Chronic Bronchitis:** Another type of chronic obstructive pulmonary disease, Chronic Bronchitis is caused by overproduction of mucus in the airways, causing an inadequate expiration of inspired air. Retention of air in the lungs reduces gas exchange at the alveoli, and can lead to a hypoxic drive. These patients are known as "blue bloaters", vulnerable to cyanosis and often have increased thoracic diameters.

**Sleep Apnea:** CPAP is the most common treatment for obstructive sleep apnea. Sleep apnea or sleep apnoea is a sleep disorder characterized by pauses in breathing during sleep. These episodes, called apneas (literally, "without breath"), each last long enough so one or more breaths are missed, and occur repeatedly throughout sleep. The standard definition of any apneic event includes a minimum 10 second interval between breaths, with either a neurological arousal or a blood oxygen desaturation of 3-4 percent or greater, or both arousal and desaturation. Sleep apnea is diagnosed with an overnight sleep test called polysomnogram. One method of treating central sleep apnea is with a special kind of CPAP, APAP, or VPAP machine with a spontaneous time feature. This machine forces the wearer to breathe a constant number of breaths per minute. Continuous positive airway pressure, in which a controlled air compressor generates an airstream at a constant pressure. This pressure is prescribed by the patient's physician, based on an overnight test or titration.

**Cystic Fibrosis:** This disease is most common in Caucasians and will happen to 1 in every 2500 people. It is most known for its effects on the respiratory tract although it does effect other systems as well. The respiratory passages become clogged with a thick mucus that is difficult to expel even with vigorous coughing. Breathing becomes difficult and affected individuals run the risk of choking to death on their own secretions unless strenuous effort is made to clear the lungs multiple times every day. Victims frequently will die in the 20's of pneumonia.