Obstructive and Restrictive Lung Disease

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Doctors may classify lung conditions as obstructive lung disease or restrictive lung disease. Obstructive lung diseases include conditions that make it hard to exhale all the air in the lungs. People with restrictive lung disease have difficulty fully expanding their lungs with air.

Obstructive and restrictive lung disease share the same main symptom: shortness of breath with exertion.

What Is Obstructive Lung Disease?

People with obstructive lung disease have shortness of breath due to difficulty exhaling all the air from the lungs. Because of damage to the lungs or narrowing of the airways inside the lungs, exhaled air comes out...
more slowly than normal. At the end of a full exhalation, an abnormally high amount of air may still linger in the lungs.

The most common causes of obstructive lung disease are:

- **Chronic obstructive pulmonary disease (COPD)**, which includes **emphysema** and **chronic bronchitis**
- **Asthma**
- **Bronchiectasis**
- **Cystic fibrosis**

Obstructive lung disease makes it harder to breathe, especially during increased activity or exertion. As the rate of breathing increases, there is less time to breathe all the air out before the next inhalation.

**What Is Restrictive Lung Disease?**

People with restrictive lung disease cannot fully fill their lungs with air. Their lungs are *restricted* from fully expanding.

Restrictive lung disease most often results from a condition causing stiffness in the lungs themselves. In other cases, stiffness of the chest wall, weak muscles, or damaged nerves may cause the restriction in lung expansion.

Some conditions causing restrictive lung disease are:

- **Interstitial lung disease**, such as **idiopathic pulmonary fibrosis**
- **Sarcoidosis**, an autoimmune disease
- **Obesity**, including obesity hypoventilation syndrome
- **Scoliosis**
- Neuromuscular disease, such as muscular dystrophy or amyotrophic lateral sclerosis (ALS)

**Diagnosis of Obstructive Lung Disease and Restrictive Lung Disease**

Most commonly, people with obstructive or restrictive lung disease seek a doctor because they feel short breath.

Restrictive and obstructive lung diseases are identified using pulmonary function tests. In **pulmonary function testing**, a person blows air forcefully through a mouthpiece. As the person performs various breathing maneuvers, a machine records the volume and flow of air through the lungs. Pulmonary function testing can identify the presence of obstructive lung disease or restrictive lung disease, as well as their severity.