Some lung diseases cause **problems breathing air out of the lungs**, also called exhaling. These are called **obstructive** lung diseases. With these diseases, the lungs get big over time because the air gets trapped. Lung diseases in this group include:

- COPD-chronic obstructive pulmonary disease
- Emphysema
- Bronchitis
- Bronchiectasis
- Cystic Fibrosis
- Asthma

Other lung diseases **limit the amount the lungs can expand when air is breathed in**. These are called **restrictive** lung diseases. The lungs often get smaller over time with these diseases. Lung diseases in this group include:

- Pulmonary fibrosis
- Sarcoidosis
- Scleroderma
- Asbestosis
- Silicosis
- Rheumatoid Arthritis and Lupus

To find out which type of lung disease you have, your doctor may have done breathing tests, chest x-rays or a CT scan.

**Check the lung disease(s) you have from the list above.** If you are not sure, ask one of your pulmonary rehab staff to help you.

**What part of your lungs is not working right?**

- **Airway Diseases**
  
  Some of the lung diseases affect the airways. Airways are usually open and air can pass through them with ease. When the airways narrow or are less open because of muscle tightening or from mucus build up, less air can flow. The exchange of oxygen and carbon dioxide does not happen as well when the flow of air is lessened.

  - **With asthma**, the airways can tighten to cause them to narrow. Some people also have more mucus build up that can further narrow the openings in the airways.
• **With bronchitis**, swelling occurs in the airways and there is more mucus so the airways narrow.

• **With bronchiectasis or cystic fibrosis**, mucus builds up to narrow the airway.

**Air Sac Disease**

Healthy air sacs or alveoli are very elastic and they are able to stretch and return to their normal size. With emphysema, the air sacs are destroyed or lose their stretch. Air gets trapped in the air sacs so less oxygen gets into the blood.

**Chronic Obstructive Pulmonary Disease (COPD)**

This disease of the lungs is often a combination of several lung diseases, such as:

- Emphysema
- Bronchitis
- Asthma

In this disease, airway and air sac problems reduce the exchange of oxygen and carbon dioxide.

**Connective Tissue Diseases**

In some lung diseases, the layer between the air sacs and the blood vessels, called the connective tissue becomes swollen or scarred. This can reduce the ability of the lungs to expand. Less oxygen can be exchanged from the lungs into the blood. This can occur with:

- Sarcoidosis
- Pulmonary Fibrosis
- Asbestosis
- Silicosis
- Scleroderma