

# Types of Lung Disease



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER

Lung disease prevents the lungs from working well. To find out what type of lung disease you have, your doctor may have done breathing tests, chest x-rays or a CT (computed tomography) scan. **Place a mark next to the lung disease(s) that you have.** If you are not sure, ask a staff member for help.

## ❑ Obstructive lung disease

Obstructive lung disease, also called **COPD** or chronic obstructive pulmonary disease, **affects the airways and air sacs (alveoli)** of the lungs. The airways narrow or become blocked, **decreasing the amount of air exhaled out of the lungs.** People with obstructive lung disease may feel like they are trying to breathe out through a straw. Over time, the lungs may get bigger because the air gets trapped.

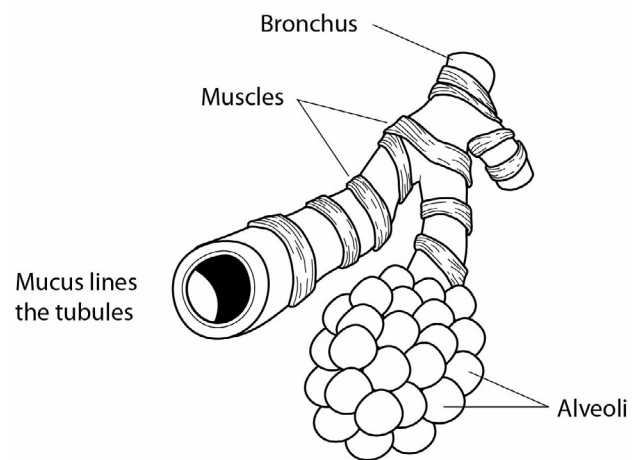
Symptoms of COPD include shortness of breath, chest tightness, increased mucus, wheezing and coughing.

Treatments may include medicines, inhalers, oxygen use, breathing retraining, exercise, surgery or lung transplant.

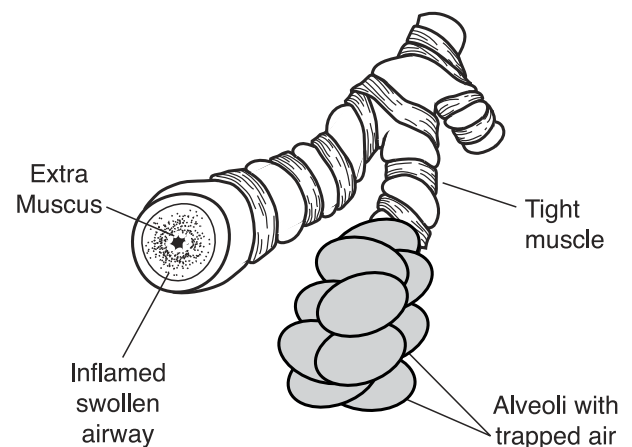
### Obstructive lung diseases include:

- ❑ **Alpha-1 antitrypsin deficiency** - an air sac disease passed down through families that may cause lung and liver disease. People with this disease can develop emphysema.
- ❑ **Asthma** - lung irritants and allergens cause the airways to swell, narrow and tighten.
- ❑ **Bronchiectasis** - damage, scarring and widening of the large airways caused by recurring swelling or infection of the airways. People with this disease are at risk for frequent lung infections.

### Healthy airways



### Obstructive lung disease airways



- ❑ **Bronchiolitis obliterans syndrome** - damaged and inflamed airways from chemical particles, lung infections or inflammation in lung transplant patients. This leads to scarring that blocks the airways in the lungs.
- ❑ **Chronic bronchitis** - frequent infections that cause inflamed airways, increased mucus, shortness of breath, wheezing and chest tightness. Treatment may include antibiotics, steroids and oxygen use. Chronic bronchitis means that you have had these episodes a few times a year for 2 years or more. The main cause of chronic bronchitis is smoking.
- ❑ **Cystic fibrosis** - a disease passed down through families that causes thick, sticky mucus to build up in the lungs, digestive tract and other areas of the body.
- ❑ **Emphysema** - the air sacs lose their elasticity and become overinflated. This causes air trapping, shortness of breath and a decrease in gas exchange. The main cause of emphysema is smoking.

## ❑ Restrictive lung disease

Restrictive lung disease, also called **interstitial lung disease**, may affect lung tissue by causing scarring, inflammation (swelling) or thickening of lung tissue. This makes the lungs unable to expand fully. It becomes hard for the lungs to take in oxygen and release carbon monoxide. Oxygen and carbon dioxide molecules have a hard time passing through the lung tissue to enter or exit the blood stream.

Other conditions, such as obesity and scoliosis or side curve to the spine, may also prevent the lungs from expanding fully and be considered a restrictive lung disease.

Symptoms of restrictive lung disease include shortness of breath, fatigue especially with activity, chest tightening and increased mucus.

Treatments may include medicines to decrease swelling or the progression of the disease, breathing retraining, exercise, oxygen use, surgery or lung transplant.

### **Restrictive lung diseases include:**

- ❑ **Autoimmune connective tissue disorders** may affect the connective tissue in the body and the lungs, causing inflammation, swelling, hardening and scarring.
  - ❑ **Rheumatoid arthritis** - a disorder that causes inflammation of the body's joints because of increased immune cell production. About 1 in 10 people with rheumatoid arthritis develop restrictive lung disease. Scarring of the lungs occurs from the body's over-active immune system attacking the lungs.
  - ❑ **Scleroderma** - immune cells produce more collagen, causing the body's skin to harden or scar. One type of scleroderma, called systemic sclerosis, can cause hardening or scarring in many parts of the body, including the lungs.
  - ❑ **Sjögren's syndrome** - autoimmune disease of unknown cause that causes dryness of the eyes, mouth and other body parts. Pulmonary symptoms act like interstitial lung disease, causing swelling and inflammation.
- ❑ **Bronchiolitis obliterans with organizing pneumonia (BOOP) / Cryptogenic organizing pneumonia (COP)** - a rare condition where the small airways (bronchioles) and air sacs (alveoli) become inflamed and blocked with connective tissue.

- ❑ **Hypersensitivity pneumonitis** - a disease that causes inflammation of the alveoli in the lungs due to an allergic reaction to dust, fungus, molds or chemicals. Exposure comes most often from the person's occupation or hobbies. The disease causes symptoms that are similar to the flu.
  - ❑ **Bird fancier's lung / pigeon breeder's disease** - from inhaling bird feathers or droppings.
  - ❑ **Farmer's lung** - from inhaling mold that grows on hay, straw or grain.
- ❑ **Pneumoconiosis** - a disease caused by inhaling workplace dust. The disease causes coughing and shortness of breath. It may lead to pulmonary fibrosis.
  - ❑ **Asbestosis** - from inhaling asbestos fibers.
  - ❑ **Black lung disease** - from inhaling coal dust (coal miners).
  - ❑ **Siderosis** - from inhaling iron from mines or welding fumes.
  - ❑ **Silicosis** - from inhaling silica dust.
- ❑ **Pulmonary fibrosis** - lung tissue becomes scarred overtime, making it hard to breathe. Scarring may occur from the environment, chemotherapy, radiation, certain medicines, autoimmune disease or unknown cause.
- ❑ **Sarcoidosis** - disease of unknown cause where abnormal growths, called granulomas, grow in the tissue of the lungs, skin or lymph nodes, causing inflammation. The disease may progress into pulmonary fibrosis or bronchiectasis.

## ❑ Other lung conditions

- ❑ **Recovery from lung transplant** - after a single or double lung transplant, pulmonary rehab is done to improve your physical strength and endurance. Preventing Infection and watching for symptoms of rejection are key during your recovery.
- ❑ **Pulmonary hypertension** - the blood vessels (pulmonary arteries) that carry blood from the heart to the lungs become hard and narrow. This causes pressure within the heart, leading to a decrease in gas exchange in the lungs. The heart has to work harder and over time weakens. Chest pain, shortness of breath, abnormal heart rhythm and heart failure can occur. Treatment may include medicines to open the pulmonary arteries and oxygen use. High pressure in these arteries is not shown with an arm blood pressure reading. It is diagnosed based on medical history, physical exam and results from tests and procedures.
- ❑ **Diaphragm disorders** - half or all of the diaphragm muscle does not work well due to nerve damage or unknown causes. You may hear this called diaphragm paralysis or eventration (thinning of the diaphragm muscle). Treatment may include chest wall muscle strengthening with breathing exercises (inspiratory muscle training), breathing retraining, surgery or phrenic nerve pacing where electrical impulses are applied to the diaphragm.
- ❑ **Chest wall restriction** - conditions, such as morbid obesity and scoliosis or side curve to the spine may prevent the lungs from fully expanding, causing shortness of breath.

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**Talk to your doctor or health care team if you have any questions about your care.**

The Library for Health Information is available to help you find more health information at (614) 293-3707 or e-mail: [health-info@osu.edu](mailto:health-info@osu.edu).