

# Respiratory Diseases/Conditions

4th period

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# **Asthma**

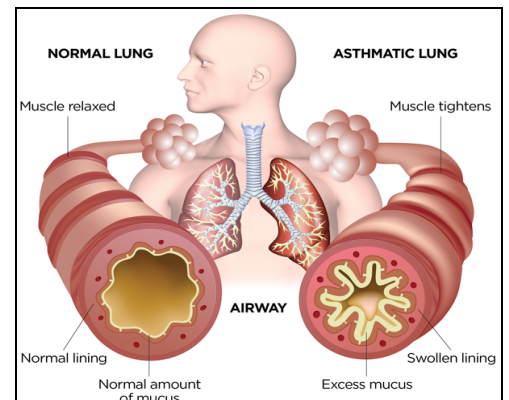
Asthma is a **chronic** Condition that, most of the time, does not go away, nor can be cured. Asthma is when a person's **airways** are/become inflamed and swollen. These airways narrow, and **produce** extra mucus. This makes it difficult to breathe. Most of the time asthma is caused by an allergy.

### What Does Asthma Affect?

Asthma can affect people in many different ways. Asthma affects the airways to your lungs. When having asthma a person's bronchial muscles tighten and **contract**. When having asthma it can be harder to breathe, especially when exercising. Some symptoms of asthma can be

- Shortness of breath
- Regular coughing
- wheezing

There can also be different levels of asthma such as mild intermittent, mild persistent, and severe persistent.



This diagram shows what the lungs look like when a person has asthma attack.

### How is it Taken Care Of?

One way to take care of asthma is by using an **inhaler**. There are two different types of inhalers, flovent and albuterol. Flovent is used about everyday, depending on the person's prescription. The albuterol is the emergency inhaler, if/while you are having an asthma attack. An asthma attack is when the airways are/become swollen and inflamed. This can be dangerous because it makes it very difficult to breathe. Studies show that a person can die from an asthma attack. Luckily, most people know how to stop/prevent an asthma attack.



### How is Asthma Diagnosed?



Asthma can be diagnosed in many different ways. One lung function test is called the peak flow test. This test uses a simple device that measures how hard you can **exhale**. Another lung function test is called the spirometry test. This test **approximates** the narrowing of your bronchial tubes by verifying how much air you can exhale, after a deep breath and how quickly.

## Bronchitis

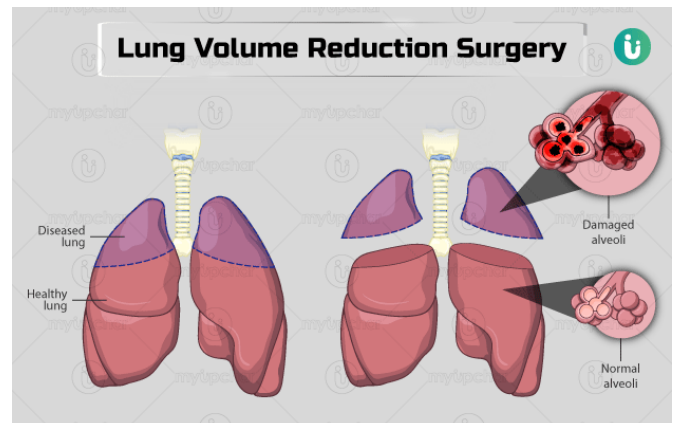
Drinking plenty of fluids can actually clear the clogged airways.

Bronchitis is a **respiratory** disease where the airways called the **bronchioles** swell up and fill with mucus and make it difficult to breathe. This causes your airways to get clogged and blocked. People can develop diseases like bronchitis by smoking, and smoking is the main cause of bronchitis. Different ways people can get bronchitis are by being too close to someone with **acute bronchitis**. Also if somebody has not gotten a flu shot, or if somebody's lungs are exposed to lung irritants. Lung irritants are things like tobacco smoke, fumes, and dust and **air pollutants**.

Did You Know?  
Ginger is a proven anti-inflammation agent.

Smoking is usually the main cause of bronchitis. An easy way and probably the easiest way to prevent and avoid bronchitis is don't smoke. Also don't be close to someone who smokes. People that get bronchitis sometimes get surgeries or get medicines to help reduce pain and **inflammation**, as well as swelling.

In the case that somebody does get it and they want to check for it, doctors will ask for your medical history and your symptoms, and/or do a blood test or a chest x-ray to see if the bronchioles and lungs are normal. One of the surgeries doctors will do is called the lung volume reduction surgery. In this surgery doctors will remove small wedges of damaged **lung**



This is a photo of a healthy lung and the diseased part of the lung and what part doctors cut off if it is unhealthy.

**tissue** and this helps with symptoms and other things that bronchitis does to you.

When somebody gets bronchitis they have trouble breathing. But it's more than just breathing issues. The bronchioles fill up and swell with mucus and this blocks the airways and it makes it to where it is difficult to breathe. The reason for the swelling is because the body tries to fight it off. Since the airways are blocked, it's not as easy to breathe as it is if the airways were clear. There is no exact cure or treatment that makes it go away forever instantly, but instead the **immune system** tries to fight it on its own.

Some cases of untreated bronchitis can turn into pneumonia. Which is worse and harder to get rid of.

## Pneumonia

Pneumonia is a disease in which the lungs become swollen and fill with fluid. This can be very painful.

### How Long Does it Last?

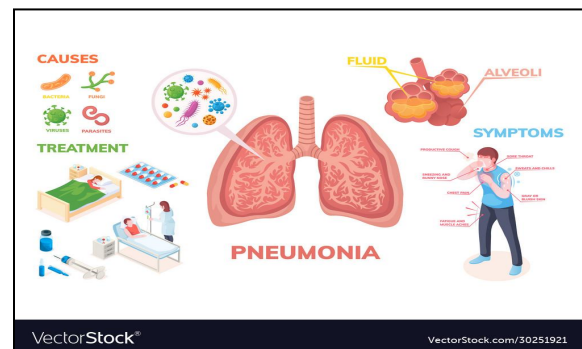
Pneumonia lasts for about 2 to 3 weeks in healthy people. In other cases, pneumonia can last for 6 to 8 weeks in older adults and people with health problems.

### What Does it Affect?

Pneumonia mainly affects a person's lungs which can cause the following symptoms:

- shortness of breath
- Nausea
- **Fatigue**

And more! Most viruses and bacteria cause pneumonia are in the air that breathe!



This picture shows different ways on how to treat pneumonia, and what symptoms might come with catching pneumonia.



that people

## How Can People Prevent It?

Some ways to prevent pneumonia are to get vaccinated, practice good **hygiene**, and to not smoke.

Some ways that might increase the chance of getting it include, being hospitalized, having a chronic disease, smoking, and weakened immune system.

## What Age Does It Affect?

Some high risk groups include:

- Adults older than 65
- Children younger than 2
- People with serious health conditions
- People receiving **chemotherapy**

If someone falls in one of these categories, and has symptoms, they should see a doctor right away.

Did you know?  
Asthma can be  
deadly to young  
children.

Even non-smokers can  
develop emphysema.  
Not just people that  
smoke a lot.

# Emphysema

Emphysema is another respiratory disease and it is also another form of COPD (chronic obstructive pulmonary disease). COPD includes bronchitis and emphysema and they are both strongly connected to smoking. Emphysema takes a long time to develop but once it fully develops it damages a person's lungs and makes it difficult for them to breathe. In fact 15-20% of people develop emphysema if they smoke. And of course the more

you smoke the higher risk you are to develop emphysema. Over 3 million Americans have been **diagnosed** with emphysema. The cause of emphysema is smoking

Did You Know?  
Emphysema is the most  
preventable respiratory  
disease.



This is a photo of Rene Laennec. Laennec was a French physician who discovered emphysema in the early 1800s.

or being close to somebody who smokes, and by being close you are inhaling all that smoke. The easiest prevention, do not smoke which is something known to a lot of people because you can develop things other than emphysema. But also don't consume air pollutants.

Emphysema was discovered by a man named Rene Laennec in 1821. He was also the inventor of the **stethoscope**. Rene used the stethoscope and listened to somebody's sounds made by the heart and lungs. This helped him to determine that his discoveries were supported by his observations. He discovered emphysema as another form of COPD and back then smoking wasn't as common. So he found the main causes were air pollution, and genetic factors that would damage the lungs and airways. However nowadays smoking is the leading cause. The more someone smokes the worse and worse the disease gets.

There are 4 stages to emphysema. In the first stage, symptoms are barely felt and the lungs feel normal. The second stage, lungs are at 50-80% **lung capacity** and most people go to the doctors about a constant cough. In the third state it starts to get serious and the lung capacity goes down to 30-50%. Constant flare ups start to happen **bi-annually**. In the final stage, people **frequently** get hospitalized due to fatal flare ups of symptoms.

Sadly, there is no cure. However there are treatments. Some medicines like bronchodilators, inhaled steroids, and antibiotics to relieve shortness of breath and other symptoms. As well as the lung volume reduction surgery. Bronchodilators relieve coughing, shortness of breath, and breathing issues. Inhaled steroids reduce inflammation and may help with shortness of breath. And people use antibiotics for bacterial infections.

A person can have emphysema for YEARS without noticing.

## Glossary

- **Acute Bronchitis:** A lower respiratory tract infection that causes reversible bronchial inflammation. In up to 95 percent of cases it is viral.
- **Air Pollutants:** A material in the air that can/have effects on life
- **Air ways:** a passage for a current of air
- **Approximates:** nearly correct or exact
- **Bi-annually:** Occurs twice a year
- **Bronchioles:** Any of the minute branches into which a bronchus divide
- **Chemotherapy:** The treatment of disease by the use of chemical substances, especially the treatment of cancer by cytotoxic and other drugs
- **Chronic:** persisting for a long time or constantly recurring.
- **Contract:** (of a muscle) become shorter and tighter in order to affect movement of part of the body.
- **Diagnosed:** Identify the nature of an illness from symptoms; Identify nature of medical condition of someone
- **Exhale:** To breathe out
- **Fatigue:** Weariness or exhaustion from labor, exertion, or stress
- **Frequently:** Regularly or habitual; often
- **Hygiene:** conditions of practices of cleanliness
- **Inflamed:** red or swollen as a result of inflammation
- **Inhaler:** A device by means of which medicinal material is inhaled
- **Lung Capacity:** The volume of gas in the lungs at a given time during the respiratory cycle
- **Lung Tissue:** A thin tissue layer that surrounds the lungs called the pleura. The same kind of tissue lines inside of the chest cavity
- **Produce:** make or manufacture
- **Respiratory:** Relating to or affecting respiration
- **Stethoscope:** A medical tool for listening to someone's action of breathing or heart beat patterns.

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