**Respiratory System**

Your respiratory system is the network of organs and tissues that help you breathe. This system helps your body absorb oxygen from the air so your organs can work. It also cleans waste gases, such as carbon dioxide, from your blood. Common problems include allergies, diseases or infections.

**What is the respiratory system?**

The respiratory system is the network of organs and tissues that help you breathe. It includes your airways, lungs, and blood vessels. The muscles that power your lungs are also part of the respiratory system. These parts work together to move oxygen throughout the body and clean out waste gases like carbon dioxide.

**What does the respiratory system do?**

The respiratory system has many functions. Besides helping you inhale (breathe in) and exhale (breathe out), it:

* Allows you to talk and to smell.
* Brings air to body temperature and moisturizes it to the humidity level your body needs.
* Delivers oxygen to the cells in your body.
* Removes waste gases, including carbon dioxide, from the body when you exhale.
* Protects your airways from harmful substances and irritants.

**What are the parts of the respiratory system?**

The respiratory system has many different parts that work together to help you breathe. Each group of parts has many separate components.

Your airways deliver air to your lungs. Your airways are a complicated system that includes your:

* **Mouth and nose:**Openings that pull air from outside your body into your respiratory system.
* **Sinuses:**Hollow areas between the bones in your head that help regulate the temperature and humidity of the air you inhale.
* **Pharynx (throat):**Tube that delivers air from your mouth and nose to the trachea (windpipe).
* **Trachea:**Passage connecting your throat and lungs.
* **Bronchial tubes:**Tubes at the bottom of your windpipe that connect into each lung.
* **Lungs:**Two organs that remove oxygen from the air and pass it into your blood.

From your lungs, your bloodstream delivers oxygen to all your organs and other tissues.

Muscles and bones help move the air you inhale into and out of your lungs. Some of the bones and muscles in the respiratory system include your:

* **Diaphragm:** Muscle that helps your lungs pull in air and push it out
* **Ribs:** Bones that surround and protect your lungs and heart

When you breathe out, your blood carries carbon dioxide and other waste out of the body. Other components that work with the lungs and blood vessels include:

* **Alveoli:**Tiny air sacs in the lungs where the exchange of oxygen and carbon dioxide takes place.
* **Bronchioles:**Small branches of the bronchial tubes that lead to the alveoli.
* **Capillaries:**Blood vessels in the alveoli walls that move oxygen and carbon dioxide.
* **Lung lobes:**Sections of the lungs – three lobes in the right lung and two in the left lung.
* **Pleura:**Thin sacs that surround each lung lobe and separate your lungs from the chest wall.

Some of the other components of your respiratory system include:

* **Cilia:**Tiny hairs that move in a wave-like motion to filter dust and other irritants out of your airways.
* **Epiglottis:** Tissue flap at the entrance to the trachea that closes when you swallow to keep food and liquids out of your airway.
* **Larynx (voice box):** Hollow organ that allows you to talk and make sounds when air moves in and out.

**What conditions affect the respiratory system?**

Many conditions can affect the organs and tissues that make up the respiratory system. Some develop due to irritants you breathe in from the air, including viruses or bacteria that cause infection. Others occur as a result of disease or getting older.

Conditions that can cause inflammation (swelling, irritation, and pain) or otherwise affect the respiratory system include:

* **Allergies:** Inhaling proteins, such as dust, mold, and pollen, can cause respiratory [allergies](https://my.clevelandclinic.org/health/diseases/8610-allergy-overview) in some people. These proteins can cause inflammation in your airways.
* **Asthma:** A chronic (long-term) disorder, [asthma](https://my.clevelandclinic.org/health/diseases/6424-asthma) causes inflammation in the airways that can make breathing difficult.
* **Infection:**Infections can lead to [pneumonia](https://my.clevelandclinic.org/health/diseases/4471-pneumonia) (inflammation of the lungs) or [bronchitis](https://my.clevelandclinic.org/health/diseases/3993-bronchitis) (inflammation of the bronchial tubes). Common respiratory infections include the flu ([influenza](https://my.clevelandclinic.org/health/diseases/4335-influenza-flu)) or a cold.
* **Disease:**Respiratory disorders include [lung cancer](https://my.clevelandclinic.org/health/diseases/4375-lung-cancer) and [chronic obstructive pulmonary disease (COPD)](https://my.clevelandclinic.org/health/diseases/8709-chronic-obstructive-pulmonary-disease-copd). These illnesses can harm the respiratory system’s ability to deliver oxygen throughout the body and filter out waste gases.
* **Aging:**Lung capacity decreases as you get older.
* **Damage:** Damage to the respiratory system can cause breathing problems.

**How can I keep my respiratory system healthy?**

Being able to clear mucus out of the lungs and airways is important for respiratory health.

To keep your respiratory system healthy, you should:

* Avoid pollutants that can damage your airways, including secondhand smoke, chemicals, and radon (a radioactive gas that can cause cancer). Wear a mask if you are exposed to fumes, dust or other types of pollutants for any reason.
* Avoid smoking yourself. [Don't smoke](https://my.clevelandclinic.org/health/articles/8699-quitting-smoking).
* Eat a healthy diet with lots of fruits and vegetables and drink water to stay hydrated
* Exercise regularly to keep your lungs healthy.
* Prevent infections by washing your hands often and getting a flu vaccine each year.

**When should I call a healthcare provider about an issue with my respiratory system?**

Contact your provider if you have breathing trouble or pain. Your provider will listen to your chest, lungs, and heartbeat and look for signs of a respiratory issue such as infection.

To see if your respiratory system is working as it should, your healthcare provider may use imaging tests such as a [CT scan](https://my.clevelandclinic.org/health/diagnostics/4808-computed-tomography-ct-scan) or [MRI](https://my.clevelandclinic.org/health/diagnostics/4876-magnetic-resonance-imaging-mri). These tests allow your provider to see swelling or blockages in your lungs and other parts of your respiratory system. Your provider may also recommend [pulmonary function tests](https://my.clevelandclinic.org/health/diagnostics/17966-pulmonary-function-testing), which will include [spirometry](https://my.clevelandclinic.org/health/diagnostics/17833-spirometry). A spirometer is a device that can tell how much air you inhale and exhale.

See your doctor for regular checkups to help prevent serious respiratory conditions and lung disease. Early diagnosis of these issues can help prevent them from becoming severe.