

# Wheeze

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Wheezing is a whistling sound that occurs when you breathe. It is a common symptom. There are various causes. If you have any breathing difficulty or other alarming symptoms in addition to wheezing - and you do not know what to do - then see a doctor immediately. This leaflet discusses the main causes of wheezing.

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## What is wheezing?

Wheezing is a whistling sound that occurs during breathing when the airways are narrowed. Commonly the sound is more prominent when you breathe out than when you breathe in (although not always). The sound is caused by air that is forced through airways that are narrower than normal. Narrowed airways can be due to:

- Bronchospasm. This means that the muscle within the lining of the airways contracts. This has an effect of narrowing (constricting) the airways.
- Swelling of the lining of the airways.
- A lot of secretions (mucus, etc) in the airways.
- An inhaled object. For example, if you inhale a peanut (which is not uncommon in children).
- An abnormal growth in the airway, such as a tumour (cancer).

## What should I do if I am wheezing?

Wheeze is a very common symptom that can occur with a wide range of lung and airways disorders at any age. The severity of the diseases causing wheeze can vary. Typically, other lung or respiratory related symptoms tend to occur at the same time as wheeze. In particular, a cough is common but other more serious symptoms may be present such as breathing difficulty.

### Wheeze with breathing difficulty

Breathing difficulty can mean breathlessness, fast breathing or difficulty getting your breath. If you have any breathing difficulty and do not already have clear instruction as to what to do then see a doctor immediately. (Some people with asthma have pre-arranged action plans as agreed with their doctor. For example, if they have wheeze and become breathless then they have a plan of which medication to take. However, if you do not have such a plan and become breathless, you need to see a doctor immediately. In particular, children with any breathing difficulty need to be seen as soon as possible by a doctor.)

### Wheeze with other serious symptoms

Again, it is best to see a doctor immediately if you develop chest pain, cough up blood or have any other alarming symptom.

### Wheeze without breathing difficulty or other serious symptoms

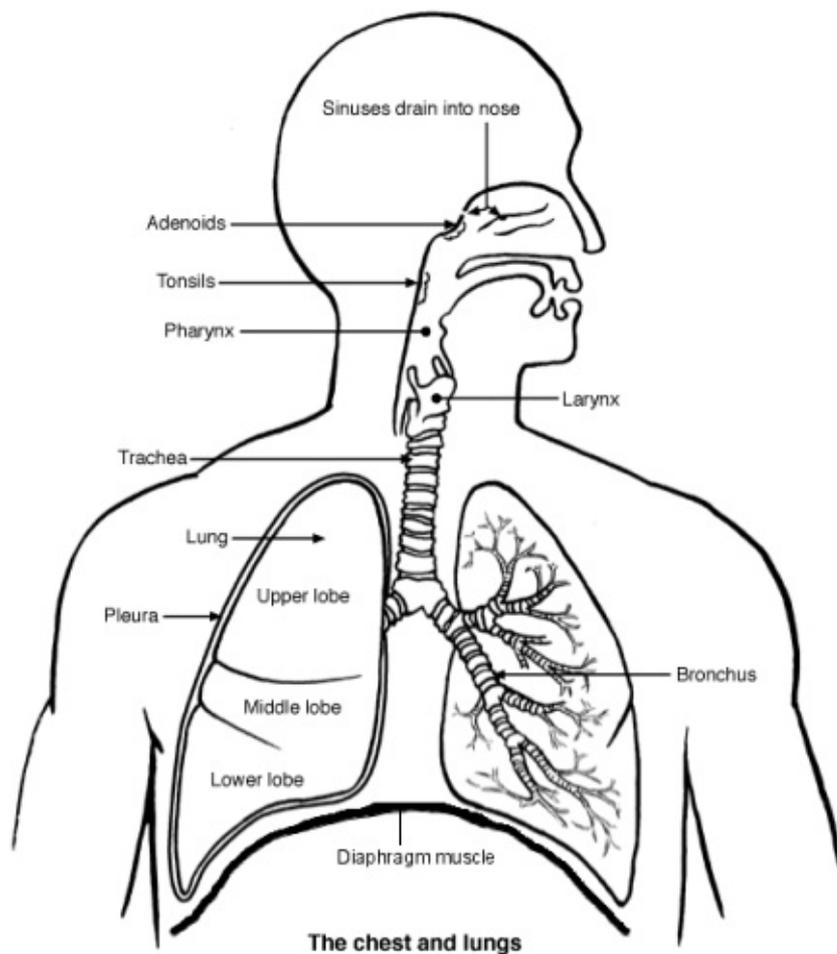
It is common to have a mild wheeze during a cough, cold, or similar viral infection of the respiratory tract. In this situation it is best to see a doctor at some point if the symptoms do not soon clear. A recurring wheeze when you have viral respiratory infections may mean that you have asthma.

## Understanding the airways and the lungs

The two lungs are found in the chest - one on the right side and one on the left side. They are separated by the heart, which lies in between them.

Air that we breathe enters the nose, flows through the throat (pharynx) and voice box (larynx) and enters the windpipe (trachea). The trachea eventually divides into two parts called bronchi. The right main bronchus (bronchus is the word for one of the bronchi) supplies the right lung; the left main bronchus supplies the left lung. These bronchi then go on to divide into smaller bronchi. Eventually, the bronchi become known as bronchioles - the smallest air tubes in the lungs. This system of air tubes can be thought of as an upside down tree, with the trachea being the main trunk and the bronchi and bronchioles being the branches. The medical term for all the air tubes is the respiratory tract.

At the end of the smallest bronchioles are alveoli. Alveoli are tiny sacs that are lined by a very thin layer of cells. They also have an excellent blood supply. The tiny alveoli are the place where oxygen enters the blood and where carbon dioxide (CO<sub>2</sub>) leaves the blood.



Wheeze most commonly comes from problems with the smaller bronchi and/or the bronchioles.

## What are the causes of wheezing?

There are many possible causes. Below is a brief overview of the more common and important causes.

### **Asthma**

**Asthma** is a condition that affects the smaller airways (bronchioles). From time to time the airways narrow (constrict) due to bronchospasm (described earlier). Asthma can start at any age, but it most commonly starts in childhood. At least 1 in 10 children, and 1 in 20 adults, have asthma. The common symptoms are cough and wheeze. You may also become breathless, and develop a feeling of chest tightness. Symptoms can range from mild to severe between different people, and at different times in the same person. Each episode of symptoms may last just an hour or so, or persist for days or weeks unless treated.

## Chronic obstructive pulmonary disease (COPD)

**COPD** is a general term which includes the conditions chronic bronchitis and emphysema. Chronic means persistent. Bronchitis is inflammation of the airways of the lungs (bronchi). Emphysema is damage to the smaller airways and air sacs (alveoli) of the lungs. Pulmonary means 'affecting the lungs'. Chronic bronchitis and emphysema commonly occur together. The term COPD is used to describe airflow obstruction due to chronic bronchitis, emphysema, or both. The main cause of COPD is smoking and it mainly affects older people.

## Bronchiectasis

**Bronchiectasis** is an abnormal widening of one or more airways. Extra mucus is made in the abnormal airways, which is prone to infection. The main symptom is a cough which produces a lot of sputum. You may also cough up some blood from the abnormal inflamed airway and become wheezy. There are various underlying causes of bronchiectasis. For example, a previous severe lung infection, some inherited conditions, and some other conditions that can damage part of an airway.

## Bronchiolitis

**Bronchiolitis** is an infection of the small airways of the lung (the bronchioles). It is a common condition of babies. Most affected babies are not seriously ill, and make a full recovery. Sometimes it becomes more serious and hospital care may be needed. It is usually caused by a virus called the respiratory syncytial virus (RSV). Bronchiolitis in the UK usually occurs in the winter months (November to March).

## Other infections

An infection anywhere in the respiratory tract may trigger wheezing. For example, **acute bronchitis** (infection of the bronchi) is common in adults and may cause some wheezing in addition to other symptoms. A viral respiratory infection is a common cause in young children.

## An inhaled object

For example, an inhaled peanut may partially block one of the bronchi.

## Less common causes

Include lung cancer, various inflammatory conditions, and various uncommon and rare lung disorders.

## What assessment and tests may be done?

Your doctor is likely to ask various questions about the nature of the wheezing, and ask if you have any other symptoms. He or she will also examine you. Following a doctor's assessment, the likely cause may be clear and your doctor will advise on what to do next. Tests may or may not be appropriate.

Many people have repeated episodes of wheezing when the cause is usually clear. For example, people with asthma or COPD.

However, if the cause is not clear, or you are seriously unwell, your doctor may refer you for one or more tests. The tests done can vary depending on the suspected cause (which is often based on your other symptoms and the doctor's examination). Tests that are commonly done include a chest **X-ray** and lung function tests.

## What is the treatment for wheeze?

The treatment depends on the cause. See individual leaflets on the various diseases that can cause wheezing.

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