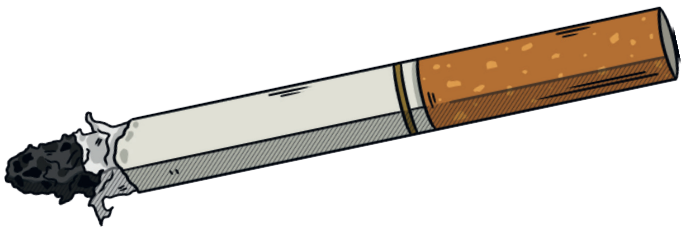
The Dangers of Smoking

What Is Smoking?

Smoking is the act of breathing in tobacco or other plant material, most commonly in the form of a cigarette. Smoking cigarettes can be damaging to the lungs and airways. Smoking is a risk factor for lung disease and several different types of cancer.

The main components of cigarette smoke are:

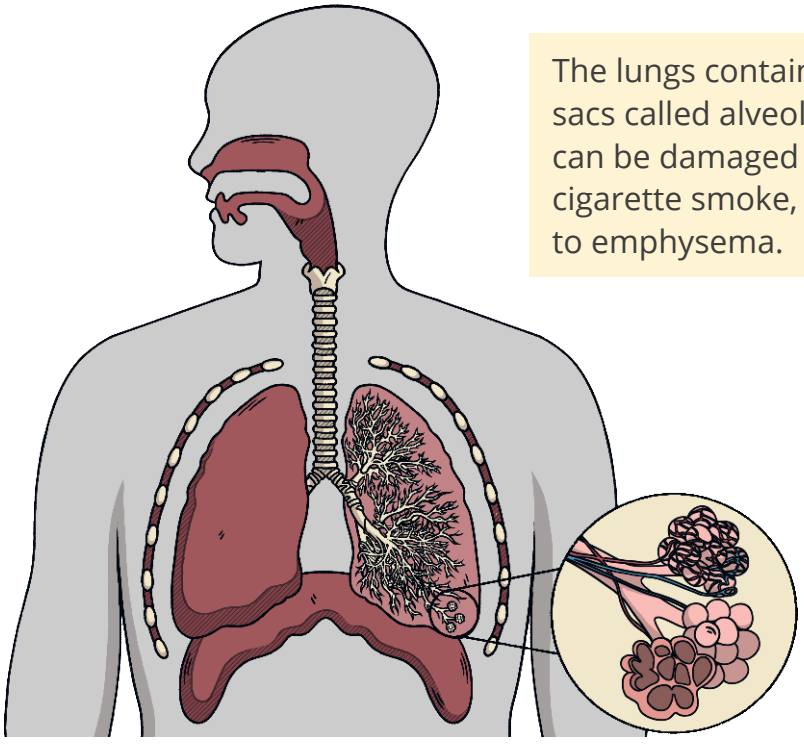
- tar
- carbon monoxide
- nicotine



Why Is Smoking Dangerous?

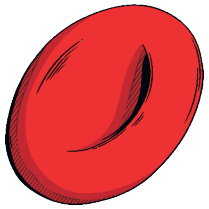
Tar is particularly harmful to the human gas exchange system. When we breathe in (inhale), air travels from the nose and mouth to the lungs via the trachea and bronchi. Ciliated cells that line the trachea and bronchi have tiny hairs (cilia) to sweep mucus away from the lungs. This protects the lungs from infection by moving pathogens out of the airways. When a person smokes, tar covers these cilia and damages them. This means that mucus is not effectively cleared from the airways, making it harder to breathe and causing the person to cough more to try and remove it, sometimes known as smoker's cough. This can eventually lead to a disease called chronic bronchitis. 'Chronic' means that the disease lasts for a long period of time without getting better.

Smoking can also lead to a disease called emphysema. This is where tar forms a sticky layer inside the lungs, causing the alveoli to break down. Emphysema reduces the surface area to volume ratio of the lungs, so less gas exchange can take place. As a result, people with emphysema often experience shortness of breath. Emphysema and chronic bronchitis both contribute to chronic obstructive pulmonary disease (COPD).



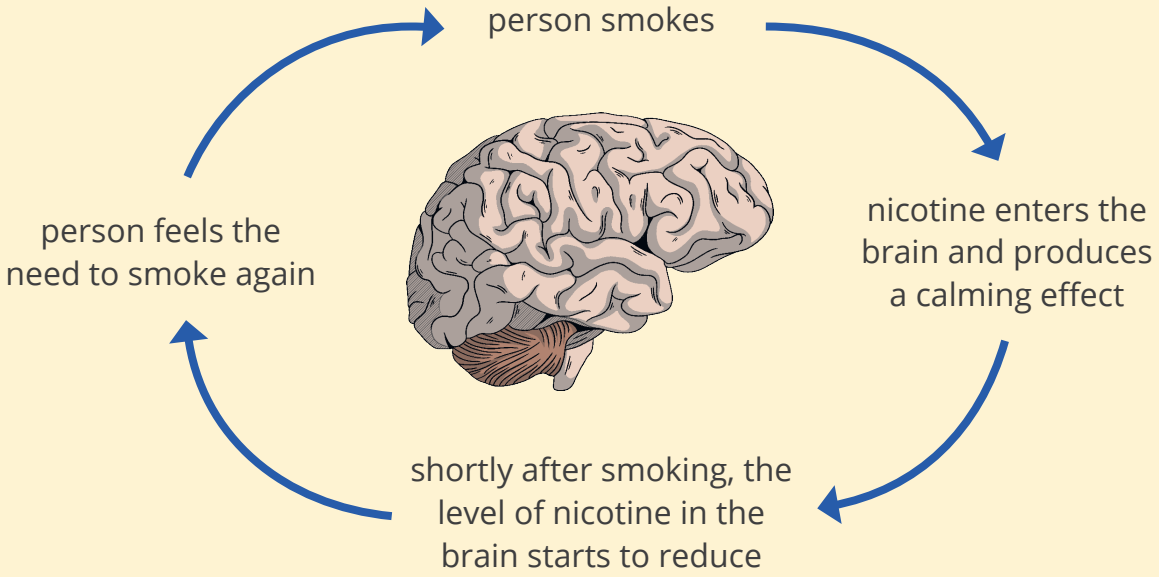
The lungs contain many tiny air sacs called alveoli. These alveoli can be damaged by the tar in cigarette smoke, which can lead to emphysema.

In addition to causing COPD, tar and other chemicals in cigarette smoke also increase the risk of certain types of cancer, including mouth, throat and lung cancer. Cancer is when the DNA in cells become damaged, leading to uncontrolled cell division and the formation of a tumour. Chemicals that can cause cancer are called carcinogens.



Carbon monoxide is a colourless, odourless gas. When you breathe in carbon monoxide, it binds to haemoglobin in your red blood cells. This means that the red blood cells are able to carry less oxygen. Smokers are at increased risk of heart disease and strokes because the circulatory system needs to work harder to get enough oxygen to the muscle cells for respiration.

Nicotine is the substance that makes cigarettes addictive. When a person smokes, nicotine is sent to the brain and produces a calming effect. When this feeling wears off, the person feels like they need to smoke another cigarette to replicate the effect. This means that people often find it very difficult to stop smoking once they start. In addition to being addictive, nicotine also causes the narrowing of blood vessels. This increases the blood pressure and puts more strain on the heart, increasing the risk of heart disease and heart attacks.



Benefits of Stopping Smoking

Stopping smoking is incredibly important for improving lung health. Within a few days of giving up smoking, a person will find it easier to breathe and have more energy. After a few weeks, they will produce less mucus and cough less. Giving up smoking at any point in life greatly reduces the risk of dying from COPD or cancer, as well as reducing the risk of heart disease and strokes. The sooner a person stops, the greater the benefits will be.