
Smoking - effects on your body

Summary

- Tobacco smoke contains over 70 known cancer-causing chemicals.
 - Smoking harms nearly every organ in your body.
 - Smoking when you are pregnant causes harm to your unborn baby.
 - Children exposed to second-hand smoke in their first year of life have a greater risk of illness and sudden unexpected death in infancy (SUDI).
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Nicotine is the addictive drug in tobacco smoke that causes people who smoke to continue to smoke.

Along with nicotine, people who smoke inhale about 7,000 other chemicals in cigarette smoke. Many of these chemicals come from burning tobacco leaf. Some of these compounds are chemically active and trigger profound and damaging changes in the body.

Tobacco smoke contains over 70 known cancer-causing chemicals. Smoking harms nearly every organ in the body, causing many diseases and reducing health in general.

Dangerous chemicals in tobacco smoke

Highly damaging components of tobacco smoke include:

- **tar** – is the word for the solid particles suspended in tobacco smoke. The particles contain chemicals, including cancer-causing substances (carcinogens). Tar is sticky and brown, and stains teeth, fingernails and lung tissue
- **carbon monoxide** – is a poisonous gas. It is odourless and colourless and, in large doses, quickly causes death because it takes the place of oxygen in the blood. In people who smoke, the carbon monoxide in their blood makes it harder for oxygen to get to their organs and muscles
- **oxidizing chemicals** – are highly reactive chemicals that can damage the heart muscles and blood vessels of people who smoke. They react with cholesterol, leading to the build-up of fatty material on artery walls. Their actions lead to heart disease, stroke and blood vessel disease
- **metals** – tobacco smoke contains several metals that cause cancer, including arsenic, beryllium, cadmium, chromium, cobalt, lead and nickel
- **radioactive compounds** – tobacco smoke contains radioactive compounds that are known to be carcinogenic.

Effects of smoking tobacco on the body

Inhaling tobacco smoke causes damage to many of the body's organs and systems.

Effects of smoking on the respiratory system

The effects of tobacco smoke on the respiratory system include:

- irritation of the trachea (windpipe) and larynx (voice box)
 - reduced lung function and breathlessness due to swelling and narrowing of the lung airways and excess mucus in the lung passages
 - impairment of the lungs' clearance system, leading to the build-up of poisonous substances, which results in lung irritation and damage
 - increased risk of lung infection and symptoms such as coughing and wheezing
 - permanent damage to the air sacs of the lungs.
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Effects of smoking on the circulatory system

The effects of tobacco smoke on the circulatory system include:

- raised blood pressure and heart rate
- constriction (tightening) of blood vessels in the skin, resulting in a drop in skin temperature
- less oxygen carried by the blood during exercise
- 'stickier' blood, which is more prone to clotting
- damage to the lining of the arteries, which is thought to be a contributing factor to atherosclerosis (the build-up of fatty deposits on the artery walls)
- reduced blood flow to extremities (fingers and toes)
- increased risk of stroke and heart attack due to blockages of the blood supply.

Effects of smoking on the immune system

The effects of tobacco smoke on the immune system include:

- greater susceptibility to infections such as pneumonia and influenza
- more severe and longer-lasting illnesses
- lower levels of protective antioxidants (such as vitamin C), in the blood.

Effects of smoking on the musculoskeletal system

The effects of tobacco smoke on the musculoskeletal system include:

- tightening of certain muscles
- reduced bone density.

Effects of smoking on the sexual organs

The effects of tobacco smoke on the male body include an increased risk for:

- lower sperm count
- higher percentage of deformed sperm
- genetic damage to sperm
- impotence, which may be due to the effects of smoking on blood flow and damage to the blood vessels of the penis.

The effects of tobacco smoke on the female body include:

- reduced fertility, menstrual cycle irregularities, or absence of menstruation
- menopause reached one or two years earlier
- increased risk of cancer of the cervix
- greatly increased risk of stroke and heart attack if the person who smokes is aged over 35 years and taking the oral contraceptive pill.

Other effects of smoking on the body

Other effects of tobacco smoke on the body include:

- irritation and inflammation of the stomach and intestines
- increased risk of painful ulcers along the digestive tract
- reduced ability to smell and taste
- premature wrinkling of the skin
- higher risk of blindness
- gum disease (periodontitis).

Effects of smoking on babies

The effects of maternal smoking on an unborn baby include:

- increased risk of miscarriage, stillbirth and premature birth
- weaker lungs
- low birth weight, which may have a lasting effect on the growth and development of children. Low birth weight is associated with an increased risk of heart disease, high blood pressure, and diabetes in adulthood
- increased risk of cleft palate and cleft lip
- increased risk of attention deficit hyperactivity disorder (ADHD).

Passive smoking (exposure of the non-smoking mother to second-hand smoke) can also harm the fetus.

If a parent continues to smoke during their baby's first year of life, the child has an increased risk of ear infections, respiratory illnesses such as pneumonia and bronchitis, **sudden unexpected death in infancy (SUDI)** and meningococcal disease.

Diseases caused by long-term smoking

A person who smokes throughout their life is at high risk of developing a range of potentially lethal diseases, including:

- cancer of the lung, mouth, nose, larynx, tongue, nasal sinus, oesophagus, throat, pancreas, bone marrow (myeloid leukaemia), kidney, cervix, ovary, ureter, liver, bladder, bowel and stomach
- lung diseases such as chronic bronchitis and chronic obstructive pulmonary disease, which includes obstructive bronchiolitis and emphysema
- heart disease and stroke
- ulcers of the digestive system
- osteoporosis and hip fracture
- poor blood circulation in feet and hands, which can lead to pain and, in severe cases, gangrene and amputation
- type 2 diabetes
- rheumatoid arthritis.

Where to get help

- Your **GP (doctor)**
- Your **pharmacist**
- **Quitline** Tel. 13 QUIT (**13 7848**)

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