

Tobacco and Heart Disease and Stroke

Overview

Cigarette smoking is the single largest preventable cause of death and disease. More than 18,000 Australians die each year from smoking-related diseases.

The cigarette represents a uniquely dangerous drug, distinguished from other drugs because it is unsafe at any level. Smoking is also addictive, and begins largely in childhood or youth. Cigarette smoking harms not only smokers, but also the health of non-smokers exposed to other people's tobacco smoke (Environmental Tobacco Smoke).



What's in a cigarette?

Tobacco smoke contains thousands of chemicals, many of which are poisonous. The following components of tobacco smoke contribute to disease:

- **Nicotine:** an addictive drug found in tobacco smoke. Nicotine increases blood pressure, which makes the heart work harder and also affects brain and muscle activity.
- **Carbon monoxide:** makes the heart beat faster and takes the place of oxygen in the blood.
- **Tar:** coats the lungs like soot in a chimney making it harder to breathe. Tar in tobacco contains dozens of chemicals that cause cancer. <http://www.heartfoundation.com.au/WINNT/Profiles/jo/StartMenu/Programs/Windows NT Explorer>
- **Some other poisons** in tobacco smoke that are inhaled by both smokers and passive smokers include nitrogen oxides, hydrogen cyanide, arsenic (white ant poison), ammonia (floor cleaner), phenol (paints), naphthalene (mothballs), cadmium (car batteries), urethane, acetone (paint stripper), carbon monoxide (car exhaust), DDT (insecticide) and butane (lighter fuel).

Health effects of tobacco smoking

There is no safe level of smoking. Smokers have a 70% greater risk of death from coronary heart disease (heart attack) than non-smokers (1). Whenever a person smokes a cigarette, the chemicals in the smoke, particularly nicotine and carbon monoxide, damage the cardiovascular system.

Smoking has both short and long term effects on the body.

Smoking just one cigarette can have immediate health effects on the body. These include:

- temporary increases in blood pressure and heart rate

- constriction of blood vessels, which slows down blood flow around the body
- binding of carbon monoxide to haemoglobin in the bloodstream. This reduces the amount of oxygen delivered to the tissues.

Some of the long-term effects of smoking are heart and blood vessel disease, cancer, chronic bronchitis and emphysema.

Heart and blood vessel disease

Smoking adds to the artery clogging process, called atherosclerosis. This can lead to heart attack, stroke and peripheral vascular disease (narrowing of the leg arteries leading to blockage). It also increases heart rate, reduces the supply of oxygen to the heart and makes blood clots more likely to form in blood vessels.

Cancer

Lung cancer is caused by cigarette smoking. Smoking is also a major cause of cancer of the mouth, oesophagus and larynx, and is also linked with many other cancers eg. of the stomach, pancreas, uterus, cervix, bladder and kidneys.

Chronic bronchitis and emphysema

Bronchitis and emphysema result from the breakdown of the cilia (hair-like cells for cleaning) in the lungs. The cilia become paralysed with cigarette smoke (particularly carbon monoxide) and this reduces their ability to protect the lungs against infection.

Cigarette smoking can also cause:

- bad breath
- smelly hair, clothes and hands
- stained teeth and fingers
- facial wrinkles, especially around the mouth and eyes.

Passive smoking

Exposure to environmental tobacco smoke, also known as passive smoking occurs from breathing in other people's smoke. It comes from both the burning end of a cigarette and from the smoke breathed out by a smoker.

Smoking is specifically prohibited in food preparation areas, public transport, theatres, cinemas, elevators, aircraft and airports. However, tobacco smoke continues to be an important source of exposure to toxic air contaminants in homes, public places and some workplaces.

Health effects of passive smoking



Passive smoking is a hazard to health. Reviews of scientific literature have consistently reported a 24% to 30% increased risk of fatal and non-fatal cardiac events in non-smokers living with smokers.(3,4,5)

Environmental tobacco smoke irritates the eyes, nose and throat. It can contribute to or worsen other people's breathing problems and cause lung cancer, nasal sinus cancer and heart disease.

Passive smoking is especially risky for children and babies. It can cause the following:

- low birth weight babies
- sudden infant death syndrome (SIDS) - instances where babies suddenly stop breathing during sleep
- bronchitis and pneumonia
- middle ear infections
- additional episodes and increased severity of asthma.



Taking action

The Heart Foundation believes that for health reasons, every effort should be made to prevent the uptake of smoking, and to reduce the numbers within the community who smoke. To date, actions to reduce the incidence of smoking have included:

- public education campaigns
- assistance for smokers who wish to stop
- the restriction of advertising of tobacco products
- the placement of health warnings on cigarette packs
- the creation of smoke-free workplaces, restaurants, shopping centres and other public spaces; and
- the banning of the sale of tobacco products to people under the age of 18.

The National Tobacco Campaign is one initiative where the Heart Foundation is working with other agencies to reduce the incidence of smoking in Australia. Visit the **National Tobacco Campaign** site <http://www.quitnow.info.au/> and find out more on the "Every cigarette is doing you damage" public health campaign.

The **Tobacco Control Super Site** <http://www.health.su.oz.au/tobacco/> has the latest information on tobacco control activities and Australian and international links to other tobacco control sites. The site also includes information on the tobacco industry.

For the most up-to-date and comprehensive report of smoking in Australia visit the **Tobacco in Australia. Facts and Issues** site <http://www.peg.apc.org/~vshp>. This site is regularly updated as new research, information and statistics become available.

References

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