

## Check this out

In 1997, Australian children aged between 12 and 17 smoked \$70 million worth of cigarettes.

More than 90 per cent of smokers take up the habit before they reach the age of 20.

Nine out of ten smokers eventually experience breathing difficulties.

## The consequences of smoking

Smoking is the largest preventable cause of sickness and death in Australia. Each year over 19 000 people die from diseases related to smoking. Most of these deaths are due to the long-term effects of the chemicals in tobacco. These chemicals have a cumulative effect and the risk of contracting a disease will increase with regular use.

The health problems associated with smoking can be a source of great pain and discomfort and may result in some degree of disability. People who have had amputated limbs or who suffer from permanent difficulties in breathing (emphysema) may have escaped death but their quality of life has been reduced. Many of the hospital beds in Australia are occupied by people with diseases associated with tobacco, and this places a huge burden on our health-care system.

The economic cost of ill health from smoking cannot be measured easily. However, research has shown that smokers tend to be absent from work because of illness more often than non-smokers. This will affect their job performance. It has been estimated that smoking costs the community more than \$9 billion each year.

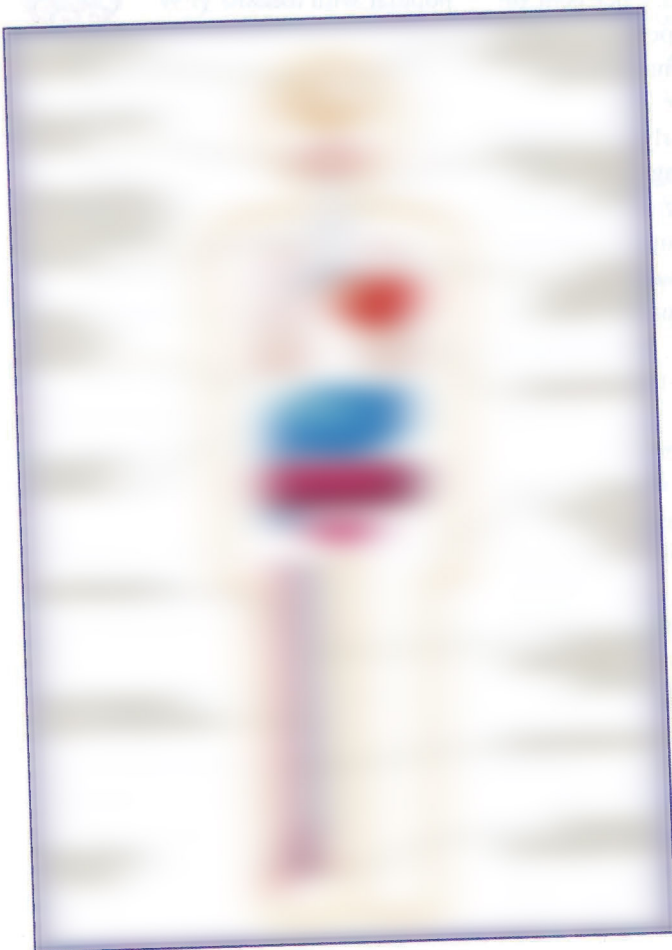
Many young people find it hard to become alarmed about future health problems, but they should take the time to examine the long-term implications of their decisions.

## Immediate effects of smoking

It takes only a few seconds for the body to be affected by cigarette smoke. Nicotine, a chemical in tobacco, is rapidly absorbed into the bloodstream and reaches the brain within 7 seconds of inhalation. After smoking, nicotine remains in the body for 8–12 hours. The immediate effects of the chemicals in tobacco smoke include:

- an increase in heart rate and blood pressure
- a reduction in the amount of oxygen delivered to the tissues
- a reduction in the amount of urine produced by the kidneys
- paralysis of the small hairs that line the airways and lungs (cilia)
- dizziness and nausea.

Figure 4.4 ● The short-term effects of smoking one cigarette. Health Department, South Pacific Division, Seventh-day Adventist Church



## Smoking and dependence

Smokers can become dependent on the nicotine in tobacco. Because the effects of nicotine diminish with regular use, a smoker needs larger amounts of nicotine to get the same effect. When this happens, the smoker has developed a tolerance to tobacco. Once the body becomes used to functioning with an amount of nicotine in the blood it seeks to maintain that amount. The smoker has become dependent on tobacco and needs to continue to smoke. Dependent people may experience difficulties when they try to give up smoking.

You are dependent on tobacco if:

- you continue to smoke even when you don't enjoy it
- you feel an overwhelming desire to light up a cigarette
- you smoke soon after waking up in the morning
- you experience unpleasant effects if you try to stop smoking.

People who are dependent on tobacco may experience withdrawal symptoms when they try to cut down on the number of cigarettes they smoke or give up altogether. Some people experience extreme symptoms such as tremors, nausea, sweating and dizziness. The most common symptoms include:

- anxiety and irritability
- headaches
- concentration problems
- increased appetite
- restlessness and impatience
- depression
- fatigue
- problems with sleeping.

Not everyone will have withdrawal symptoms, but 25–50 per cent of dependent smokers will have two or more of these symptoms. The severity of the effects will start to decrease after 3 weeks.

## Long-term effects of smoking

Smoking causes the skin to wrinkle and age prematurely. It also causes shortness of breath and stains the fingers and teeth. Smoking can also affect your level of fitness and performance in sport. Although smokers can be fit, they require more energy because of impaired circulation and less oxygen in the blood. The aspect of fitness most affected is endurance capacity.



### Overhead 4.3 Deadly poisons

Smokers are also more prone to certain diseases, because smoking damages the body's immune system. These diseases include respiratory viral infections and malignant tumours. Smokers often develop a recurrent cough sometimes called 'smoker's cough' because while they sleep the cilia recover from their paralysis caused by the tar and remove all the irritants deposited by the cigarette smoke in the lungs.

### Heart disease

Smoking damages the lining of blood vessels and increases the risk of blood clots. It also makes the heart work harder by increasing blood pressure and heart rate. All of these factors may lead to the blocking of the arteries around the heart, which will cut off the blood supply to the heart. This may cause a heart attack.



Figure 4.5 ● The long-term effects of smoking. Health Department, South Pacific Division, Seventh-day Adventist Church

Smoking is the major preventable cause of heart disease. Twenty-five per cent of deaths in Australia are caused by heart disease. Smokers have a 70 per cent greater chance of premature death than non-smokers, with heavy smokers having a 200 per cent greater chance. The good news is that the risk of heart attack falls sharply when the person gives up smoking.

### Stroke

If the arteries leading to the brain are blocked, the brain will be deprived of oxygen and a stroke will occur. This blockage may be caused by a blood clot or damage to the artery lining. Smoking increases the risk of stroke by at least 50 per cent.

### Gangrene

Damage to the blood vessels can result in a loss of oxygen supply to the surrounding tissues. When this happens, the tissue will die. This occurs mainly in the extremities, such as the fingers, hands, feet and toes. If gangrene sets in, the affected part will have to be amputated. This condition is strongly linked to smoking.

### Cancer

Thirty per cent of all cancer deaths in Australia are caused by smoking. There are 43 known carcinogens, or cancer-causing agents, in tobacco smoke. These chemicals act as irritants and long-term exposure can cause abnormal growth of cells in many parts of the body. A smoker is ten times more likely to contract lung cancer than a non-smoker. Smokers also have an increased risk of cancer of the stomach, bladder, kidney, pancreas, throat and mouth.

### Respiratory disease

Smoking can contribute to chronic bronchitis and emphysema. The chemicals in tobacco gradually destroy the air sacs (alveoli) in the lungs, causing breathing difficulties. Smokers have a greater risk of contracting pneumonia and have ten times the risk of bronchitis than non-smokers.

### Other health problems

Smoking affects vision, because of the high levels of carbon monoxide in the blood, and smokers are prone to stomach ulcers. Smoking mothers give birth to a greater proportion of underweight babies and have more stillbirths than non-smoking mothers. Children of parents who smoke are more likely to develop respiratory diseases.

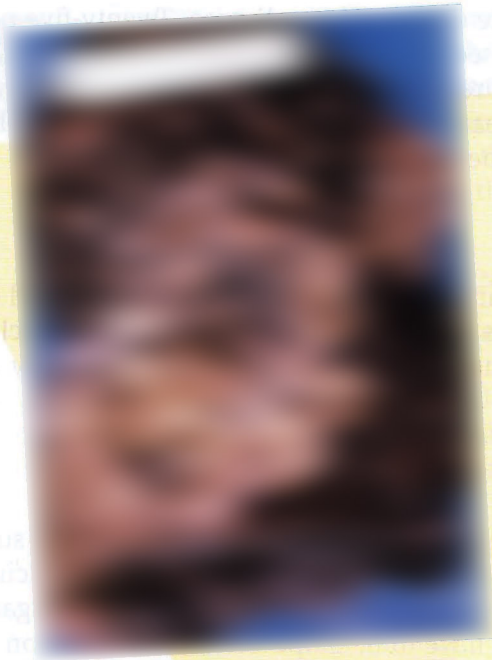


Figure 4.6 ● This lung that was removed from a smoker shows large deposits of tar.



Figure 4.7 ● A healthy lung from a non-smoker



Developing  
literacy 4  
Should we  
ban tobacco  
products?

- 1 List some consequences of smoking on the following areas: economic, legal, social, physical.
- 2 'Many teenagers see themselves as invincible.' Discuss this statement with reference to smoking.
- 3 In groups, identify the chemicals in tobacco smoke and explain their effects on the body.
- 4 Interview one person who has given up smoking. Describe the withdrawal symptoms that he or she experienced.
- 5 Class essay: 'Smoking is the largest preventable cause of sickness and death in Australia.' Discuss this statement.

## Smoking and the law

The federal and state governments have passed **legislation** to protect the public from the **dangers of passive smoking** and to **reduce the incidence of young people taking up smoking**.

The New South Wales Public Health Act makes it a **criminal offence** to **sell tobacco products to people under the age of 18**. Retailers who break this law can be fined up to \$5000 or have their licence to sell tobacco cancelled. Retailers must demand **official proof of age** before selling cigarettes to young people.