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Even small amounts of exposure to tobacco smoke can be harmful to people's health. A smoke-free environment is the only way to fully protect non-smokers from the dangers of second-hand smoke.

Key messages

Passive smoking is a cause of premature death and disease in children and in adults who do not smoke. Even small amounts of exposure to tobacco smoke can be harmful to people's health.¹

A smoke-free environment is the only way to fully protect non-smokers from the dangers of second-hand smoke. Separating smokers from non-smokers, cleaning the air, and ventilating buildings cannot eliminate exposure of non-smokers to second-hand smoke.¹

The Cancer Council Australia recommends:

- people avoid tobacco smoke, to eliminate the risk of health problems caused by passive smoking;
- children are protected from second-hand smoke, including in the home and car. The hazard in the home and car requires greater public education so that everyone recognises the risk to which their families and others are exposed;
- all indoor workplaces, public places and popular outdoor venues such as al fresco dining areas, leisure and cultural settings be completely smoke-free.

What is passive smoking?

Passive smoking describes the inhalation of other people's tobacco smoke or "second-hand smoke".

Second-hand smoke comprises side-stream smoke (the smoke released from the burning end of a cigarette) and exhaled mainstream smoke (the smoke exhaled by the smoker).¹

While second-hand smoke has been referred to as environmental tobacco smoke (ETS) in the past, the term second-hand smoke better captures the involuntary nature of the exposure: most non-smokers do not want to breathe tobacco smoke.¹

Tobacco smoke contains more than 4,000 chemical compounds. Second-hand smoke contains many of the same chemicals that are present in the smoke inhaled by smokers. Side-stream smoke contains higher concentrations of many of the toxins found in cigarette smoke, because it is generated at lower temperatures and under different conditions than mainstream smoke.¹

The US National Toxicology Program estimates that at least 250 chemicals in second-hand smoke are known to be toxic or carcinogenic.¹

Health effects of passive smoking

Major reviews of the evidence on health effects of exposure to second-hand smoke by a number of eminent and authoritative scientific bodies conclude that passive smoking causes the following diseases and conditions.^{1,2,3}

In adults:

- heart disease
- lung cancer
- irritation of the eyes and nose.

In children:

- Sudden Infant Death Syndrome (SIDS or cot death)
- lower birth-weight babies (where the mother was exposed to second-hand smoke)
- bronchitis, pneumonia and other lung/airways infections
- asthma exacerbation
- middle ear disease (otitis media or 'glue ear')
- respiratory symptoms (e.g. coughing, wheezing).

There is evidence that is suggestive, but not sufficient to infer a causal relationship between, exposure to second-hand smoke and the following adverse health effects:¹

In adults:

- breast cancer
- nasal sinus cancer
- stroke
- acute and chronic respiratory symptoms
- adult onset of asthma
- worsening of asthma control
- chronic obstructive pulmonary disease
- pre-term delivery.

In children:

- brain cancer and lymphomas
- decreased lung function (i.e. they cannot breathe with as much force or capacity as they would otherwise)
- onset of asthma
- childhood cancer (where there is prenatal and postnatal exposure to second-hand smoke).

Second-hand smoke has been designated as a known human carcinogen (cancer-causing agent) by the U.S. Environmental Protection Agency, the US National Toxicology Program, and the International Agency for Research on Cancer, and as an occupational carcinogen by the US National Institute for Occupational Safety and Health.¹

Second-hand smoke contains more than 50 cancer-causing chemicals. When non-smokers are exposed to second-hand smoke, they inhale many of the same cancer-causing chemicals that smokers inhale.¹

Scientific evidence indicates that there is no risk-free level of exposure to second-hand smoke. Breathing even a little second-hand smoke can be harmful to a person's health.¹

Lung cancer

Exposure to second-hand smoke is a cause of lung cancer in non-smokers.¹

Non-smokers who are exposed to second-hand smoke at home or at work increase their risk of developing lung cancer by 20 to 30 per cent.¹

Heart disease

Breathing second-hand smoke for even a short time can have immediate adverse effects on the cardiovascular system, interfering with the normal functioning of the heart, blood, and vascular systems in ways that increase the risk of a heart attack.¹

Even a short time in a smoky room can cause a person's blood platelets to become stickier, damage the lining of blood vessels, decrease coronary blood flow, and reduce heart rate variability.¹

Persons who already have heart disease are at especially high risk of suffering adverse effects from breathing second-hand smoke.¹

Non-smokers who are exposed to second-hand smoke at home or at work increase their risk of developing heart disease by 25 to 30 per cent.¹

Respiratory disease

Second-hand smoke contains many chemicals that can quickly irritate and damage the lining of the airways. Even brief exposure can trigger respiratory symptoms, including cough, phlegm, wheezing, and breathlessness.¹

People who already have asthma or other respiratory conditions are at especially high risk for being affected by second-hand smoke.¹

Health effects on the unborn child, infants and children

Children who are exposed to second-hand smoke are inhaling many of the same cancer-causing substances and poisons as smokers. Because their bodies are developing, infants and young children are especially vulnerable to the poisons in second-hand smoke.¹

Both babies whose mothers smoke while pregnant and babies who are exposed to second-hand smoke after birth are more likely to die from sudden infant death syndrome (SIDS) than babies who are not exposed to cigarette smoke.¹

Babies whose mothers smoke while pregnant or who are exposed to second-hand smoke after birth have weaker lungs than unexposed babies, which increases the risk for many health problems.¹

Among infants and children, second-hand smoke causes bronchitis and pneumonia, and increases the risk of ear infections.¹

Second-hand smoke exposure can cause children who already have asthma to experience more frequent and severe attacks.¹

The human and health care costs of passive smoking

The human and health care costs caused by exposure to second-hand smoke are staggering.⁴ In 1998-99, passive smoking in the home caused 224 deaths, more than 77,000 hospital bed-days and over \$47 million in hospital costs. Children under the age of 15 years accounted for a large proportion of hospitalisations and hospital costs.⁴

Table 1: Human and hospital costs of passive smoking in Australia, 1998-99⁴

| | Deaths | Hospital Bed-days | Hospital Costs (\$m) |
|-------------------|------------|-------------------|----------------------|
| 0 to 14 years | 103 | 75,311 | 45.2 |
| 15 years and over | 122 | 2,639 | 2.5 |
| <i>Total</i> | <i>224</i> | <i>77,950</i> | <i>47.6</i> |

Passive smoking and hospitality venues

Hospitality venues where smoking is still permitted tend to have higher levels of tobacco smoke than other workplaces. As a result, hospitality workers are more likely to suffer from health problems such as wheezing, shortness of breath, coughing, sore eyes and sore throats.⁵

Bar workers are typically exposed to concentrations of second-hand smoke up to 4 to 6 times higher than in other workplaces.⁶ Both bar and restaurant workers have a higher risk of lung cancer compared to the general population, partly due to exposure to second-hand smoke in their workplace.⁶ Importantly, research also shows that when smoking is banned in indoor venues, the health of bar staff improves, even if they are smokers.⁷ The health of casino workers and patrons has also been shown to be affected by exposure to second-hand smoke.⁸

Studies in both workplace and hospitality settings confirm that only those policies that require establishments to be totally smoke-free adequately protect non-smokers from exposure to second-hand smoke.⁹

Public support for smoke-free spaces

Public support and demand for smoke-free work places and public spaces has continued to grow over the past 20 years: over this same period there have been significant falls in the prevalence of smoking as people have become more aware of the effects of smoking on their own health and others.

Today, most Australians support smoke-free dining (89%), workplaces (87%), pubs and clubs (73%) and shopping centres (72%). Indeed more and more Australians are choosing to avoid places where they might be exposed to second-hand smoke. A 2004 survey found that two in five (39.2%) non-smokers always avoided places where they might be exposed to other people's tobacco smoke; one in 25 (3.8%) smokers did so. What is more, the same survey found that 20% of smokers who said they had changed their smoking behaviour over the past 12 months did so because they were worried their smoking was affecting the health of those around them.¹⁰

Cancer Council recommendations

The Cancer Council Australia recommends:

- people avoid tobacco smoke, to eliminate the risk of health problems caused by passive smoking
- children are protected from second-hand smoke, including in the home and car. The hazard in the home and car requires greater public education so that everyone recognises the risk to which their families and others are exposed
- all indoor workplaces, public places and popular outdoor venues such as al fresco dining areas, leisure and cultural settings be completely smoke-free.

For further information on the health effects of passive smoking, visit:

The Health Consequences of Involuntary Exposure to Tobacco Smoke (USSG, 2006)
<http://www.surgeongeneral.gov/library/secondhandsmoke/report/>

Environmental Tobacco Smoke: Toxic Air Contaminant Report (CalEPA, 2005)
<http://www.arb.ca.gov/toxics/ets/ets.htm>

Tobacco Smoke and Involuntary Smoking (IARC, 2004)
<http://monographs.iarc.fr/ENG/Monographs/vol83/volume83.pdf>

For tips on how to minimise exposure to second-hand smoke:

Car and Home – Smoke-free Zone
<http://www.smokefreezone.org/>

Smoke Free Australia – Workplaces
<http://www.ashaust.org.au/SF'03/index.htm>

Quit Victoria
<http://www.quit.org.au/>

Smokefree Victoria
www.smokefree.org.au/

For help to quit smoking:

- Call the Quitline on 137 848 (available 24 hours a day, 7 days a week)
- Or contact your State Quit Campaign or Cancer Council

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This statement draws heavily on the US Surgeon General's 2006 report, *The Health Consequences of Involuntary Exposure to Tobacco Smoke*.

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- ¹⁰ Australian Institute of Health and Welfare. 2004 National Drug Strategy Household survey: detailed findings. Drug Statistics Series No.16. AIHW cat. no. PHE 66. Canberra: AIHW, 2005.