



Second-hand Smoke: Frequently Asked Questions

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1. What is second-hand smoke?

Second-hand smoke refers to the smoke from a person's cigarette, generated by active smoking. This includes smoke released from the tip of the cigarette (side-stream smoke) and smoke exhaled by the person who smokes (mainstream smoke). Inhaling second-hand smoke was formerly known as passive smoking or involuntary smoking.ⁱ

All types of smoked tobacco products, including cigars, and pipes, produce second-hand smoke.ⁱⁱ

2. What is in second-hand smoke?

Second-hand smoke contains the same 4000+ chemicals inhaled by a person who smokes, including 250 substances known to be toxic or carcinogenicⁱⁱⁱ and shares comparable disease mechanisms. Non-smokers exposed to second-hand smoke inhale many of the same carcinogens and poisons that are inhaled by people who smoke.ⁱⁱⁱ

There is no safe level of exposure to second-hand smoke, with any level of exposure known to cause poorer health outcomes. However, the effects of second-hand smoke are less severe than active smoking due to lower levels of exposure.ⁱⁱⁱ

3. What are the health effects of second-hand smoke exposure?

Exposure to second-hand smoke affects the respiratory system of non-smokers through mechanisms like that seen in active smoking. This most commonly includes eye, nasal, and throat irritation, and more chronic or acute respiratory symptoms such as wheezing and shortness of breath.ⁱⁱⁱ

Research also suggests that second-hand smoke exposure may increase the risk of developing chronic obstructive pulmonary disease (COPD). COPD results in reduced lung function, with progressive damage to the airways and airway sacs of the lung.^{i,iv}

Exposure to second-hand smoke can cause lung cancer, and the risk escalates with the duration and intensity of exposure.ⁱⁱⁱ

Second-hand smoke exposure has various effects on the cardiovascular system that interferes with the normal functioning of the heart, blood, and vascular systems, increasing the risk of heart attack.ⁱⁱⁱ It is estimated that exposure to second-hand smoke increases the risk of acute coronary health disease in non-smokers by 25-30%.^{v vi vii}

- Health effects of second-hand smoke for infants and children

Children face heightened vulnerability to the adverse effects of second-hand smoke. This is due to their increased breathing rates, larger lung surface area^{viii}, and ongoing developmental processes.ⁱ Their inability to control their environment makes them less able to avoid exposure.^{viii}

Therefore, children are especially vulnerable to the harmful effects of second-hand smoke. These including:

- Chronic respiratory symptoms including cough, phlegm production, breathlessness, and wheezingⁱ
- Causing or exacerbating asthma^{vi}

- Contracting acute chest infection such as bronchitis, bronchiolitis, and pneumonia ^{ix x}
- Reduced lung function in childhood, contributing to a lowered peak level during adolescence and early adulthood ^{xi xii}
- Impaired olfactory function, or reduced sense of smell ^{xiii xiv}
- Sudden infant death syndrome (SIDS) or infant death ^{vi}

4. What is ‘third-hand’ smoke and what are the health consequences?

‘Third-hand’ smoke refers to the residual tobacco smoke components that remain on surfaces and in dust even after smoking. These residual substances can re-enter the air as gases or react with other compounds in the environment to create other substances.^{xv xvi}

Research indicates that smoking indoors leads to persistent levels of harmful tobacco by-products long after smoking stops.^{xvii} Vapor-phase components adhere to surfaces, like walls, furniture, and objects within minutes to hours of smoking. These compounds are gradually released into the air over weeks or months. ^{ii xvii} Additionally, particulate matter settles on surfaces and contaminates dust, sometimes becoming airborne. ^{iv xviii}

5. What are the health effects of second-hand aerosol exposure from e-cigarettes?

Evidence demonstrates that the use of e-cigarettes results in elevated levels of airborne particulate matter within indoor settings.^{xix} Recent findings also suggest possible adverse effects associated with inhaling second-hand aerosols emitted from e-cigarettes. This includes irritations to the airways and other respiratory discomfort, as well as an elevated risk of conditions such as bronchitis or shortness of breath.^{xx}

Where can I find further information?

- Cancer Council Webpages
 - Cancer Council Australia - [Tobacco](#)
 - Cancer Council NSW – [Second-hand smoke](#) / [Smoke-free environments](#) / [Smoke-free workplaces](#)
- [Tobacco in Australia – Facts & Issues Website](#)
 - [The health effects of second-hand smoke](#)
 - [What is in second-hand smoke?](#)
 - [Smoke Free Environments](#)

ⁱ Campbell, MA, Ford, C, & Winstanley, MH . Ch 4.The health effects of secondhand smoke 4.1 What is secondhand smoke? In Greenhalgh, EM, Scollo, MM and Winstanley, MH [editors]. Tobacco in Australia: Facts and issues. Melbourne: Cancer Council Victoria; 2021. Available from <http://www.tobaccoinaustralia.org.au/chapter-4-secondhand/4-1-what-is-secondhand-smoke>

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