



# Smoke-Free Homes

[Recent Additions](#) | [Contact Us](#) | [Print Version](#) Search:  [GO](#)  
[EPA Home](#) > [Smoke-Free Homes](#) > Health Effects

## Health Effects

### In Nonsmoking Adults:

- Lung Cancer
- Heart Disease

### In Children:

- [Asthma](#)
- Sudden Infant Death Syndrome (SIDS)
- Bronchitis and Pneumonia
- Ear Infections

### What is Secondhand Smoke?

- Secondhand smoke is a mixture of the smoke given off by the burning end of a cigarette, pipe, or cigar, and the smoke exhaled from the lungs of smokers.
- This mixture contains more than 4,000 substances, more than 40 of which are known to cause cancer in humans or animals and many of which are strong irritants.
- Secondhand smoke is also called environmental tobacco smoke (ETS); exposure to secondhand smoke is called involuntary smoking or passive smoking.

Health Effects of Secondhand Smoke
The EPA in its 1992 risk assessment <a href="#">Respiratory Health Effects of Passive Smoking - Lung Cancer and Other Disorders</a> , and the California Environmental Protection Agency (Cal EPA) in its 1997 report <a href="#">Health Effects of Exposure to Environmental Tobacco Smoke</a> <a href="#">EXIT disclaimer</a> have found that exposure to secondhand smoke causes increased risk for serious health effects in both nonsmoking adults and children. <a href="#">(These findings have been supported and expanded by several national and international studies.)</a>

### Adult Nonsmokers

- Secondhand smoke has been classified by the U.S. Environmental Protection Agency (EPA) as a known cause of lung cancer in humans (Group A carcinogen). In 2000, the National Institutes of Health formally listed secondhand smoke as a known human carcinogen in its *9<sup>th</sup> Report on Carcinogens*. (NIH, 2000 <http://www.nih.gov/news/pr/may2000/niehs-15.htm> [EXIT disclaimer](#) )
- Secondhand smoke is estimated by EPA to cause approximately 3,000 **lung cancer deaths** in nonsmokers each year.
- [Cal EPA](#) found that secondhand smoke causes increased risk of **death from heart disease**.

### Secondhand Smoke is a Serious Health Risk to Children

- The developing lungs of young children are severely affected by exposure to secondhand smoke because children are particularly vulnerable to secondhand smoke. This is likely due to several factors, including that children are still developing physically, have higher breathing rates than adults, and have little control over their indoor environments. Children receiving high doses of secondhand smoke, such as those with smoking mothers, run the greatest relative risk of experiencing damaging health effects.
- Children with [asthma](#) are especially at risk. EPA estimates that exposure to secondhand smoke increases the number of episodes and severity of symptoms in 200,000 to 1,000,000 children with asthma. Moreover, secondhand smoke is a risk factor for new cases of asthma in children who have not previously exhibited asthma symptoms.
- [Cal EPA](#) found that exposure to secondhand smoke causes increased risk for **Sudden Infant Death Syndrome**.

- Infants and young children whose parents smoke are among the most seriously affected by exposure to secondhand smoke, being at increased risk of lower respiratory tract infections, such as **pneumonia and bronchitis**. EPA estimates that secondhand smoke is responsible for between 150,000 and 300,000 lower respiratory tract infections in infants and children under 18 months of age, resulting in between 7,500 and 15,000 hospitalizations each year.
- [Cal EPA](#) found that exposure to secondhand smoke increases the risk for **middle ear infections** in children.

## U.S. EPA and California EPA Studies

[Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders](#) , US EPA, EPA/600/6-90/006 F, 01 Dec 1992. U.S. Environmental Protection Agency, Office of Research and Development, Office of Health and Environmental Assessment, Washington, DC, 525

California EPA Report *Health Effects of Exposure to Environmental Tobacco Smoke* (1997): [www.oehha.org/air/environmental\\_tobacco/index.html](http://www.oehha.org/air/environmental_tobacco/index.html) [EXIT disclaimer >](#) the California EPA report was also republished by NCI (1999) as part of NCI's tobacco monograph series: [rex.nci.nih.gov/NCI\\_MONOGRAPHS/MONO10/MONO10.HTM](http://rex.nci.nih.gov/NCI_MONOGRAPHS/MONO10/MONO10.HTM) [EXIT disclaimer >](#)

## Other Studies

- Australian National Health And Medical Research Council Report (1997): [www.health.gov.au:80/nhmrc/publications/synopses/ph23syn.htm](http://www.health.gov.au:80/nhmrc/publications/synopses/ph23syn.htm) [EXIT disclaimer >](#)
- United Kingdom's Scientific Committee on Tobacco and Health Report (1998): [www.official-documents.co.uk/document/doh/tobacco/contents.htm](http://www.official-documents.co.uk/document/doh/tobacco/contents.htm) [EXIT disclaimer >](#)
- World Health Organization's (WHO) Consultation on ETS and Child Health Report (1999): [www5.who.int/tobacco/page.cfm?tld=67#healtheffects](http://www5.who.int/tobacco/page.cfm?tld=67#healtheffects) [EXIT disclaimer >](#)
- The National Toxicology Program's 9th Report on Carcinogens (2000): [ehp.niehs.nih.gov/roc/tenth/profiles/s176toba.pdf](http://ehp.niehs.nih.gov/roc/tenth/profiles/s176toba.pdf) [EXIT disclaimer >](#)
- WHO-Europe (2000): [www.euro.who.int/document/aig/8\\_1ets.pdf](http://www.euro.who.int/document/aig/8_1ets.pdf) [EXIT disclaimer >](#)

## Legal Challenge to EPA's 1993 Secondhand Smoke Risk Assessment Dismissed

On March 23, 2003, the U.S. District Court for the Middle District of North Carolina formally dismissed the tobacco industry's lawsuit challenging EPA's landmark 1993 risk assessment on the respiratory health effects of secondhand smoke. The dismissal followed a December ruling by the U.S. Court of Appeals for the 4<sup>th</sup> Circuit that the EPA risk assessment was a statutorily authorized scientific report and was not subject to judicial review.

The 1993 EPA report concluded that secondhand smoke is a known human – or Group A-- carcinogen, responsible for approximately 3,000 lung cancer deaths each year in nonsmokers. EPA's risk assessment further determined that children exposed to secondhand smoke are at increased risk of lower respiratory tract infections such as bronchitis and pneumonia, increased prevalence of other serious respiratory conditions such as asthma and other conditions such as ear infections.

The U.S. Surgeon General and National Research Council of the National Academy of Sciences, among others, have reached the same or even stronger conclusions about the health effects of secondhand smoke. In fact, in the ten years since the report was issued, the science associating secondhand smoke with respiratory disease, as well as with other health problems, has only grown stronger.