



Environmental Tobacco Smoke (ETS)

Environmental tobacco smoke (ETS), also known as secondhand smoke, is a complex mixture of more than 4,000 chemical compounds, including 43 known carcinogens. According to the California Environmental Protection Agency (CalEPA), the World Health Organization (WHO) and other scientific bodies that have conducted extensive reviews of current data, ETS is a human carcinogen for which there is no "safe" level of exposure.¹

ETS Harms Children and Other Nonsmokers

Currently, WHO estimates that nearly 700 million, or almost half of the world's children, breathe air polluted by tobacco smoke, particularly at home. Infants and young children exposed to ETS experience:

- increased rates of lower respiratory tract infections (such as bronchitis and pneumonia) and ear infections;
- an exacerbation of chronic respiratory symptoms (such as asthma);
- a reduced rate of lung growth; and
- an increased risk of death from sudden infant death syndrome (SIDS).

Children's exposure to ETS may also contribute to cardiovascular disease in adulthood and to neurobehavioural impairment, while exposure of non-smoking women to ETS during pregnancy may cause reductions in fetal growth.²

The evidence that ETS is a significant cause of heart disease has grown much stronger in recent years and is now generally accepted by leading

scientists. In 1997, for example, CalEPA concluded that secondhand smoke is responsible for an estimated 35,000 to 62,000 deaths among non-smokers from heart disease in the United States each year.³ Subsequently, two important investigations reviewed all of the studies on the link between ETS and heart disease. Both of these meta-analyses concluded that nonsmokers who lived with smokers were at increased risk for heart disease and that the greater the exposure, the greater the risk.⁴

Other recent studies documenting the harm ETS causes to nonsmokers include:

- A 1998 study in Norway which concluded that passive maternal smoking increased the risk for low birth-weight babies.⁵
- A 1994 study published in the *British Medical Journal* which found that nonsmoking women in the Xi'an province of China had a 24% increased incidence of coronary heart disease if their husbands smoked, and an 85% increased incidence if they were exposed to passive smoke at work.⁶

Policies to Reduce Exposure to ETS

Prohibiting smoking in public places and workplaces protects children and other nonsmokers from ETS and increases public awareness of the negative health effects of smoking. It also reduces the social acceptability of smoking and may increase the likelihood that smokers of all ages will smoke fewer cigarettes or stop smoking entirely. Locations most commonly

made smoke-free in legislation include:

- hospitals, child-care centers, schools and universities;
- places of public entertainment, such as theaters, concert halls and museums;
- public transportation, such as public buses, taxicabs, trains, airplanes and boats;
- restaurants, stores and shopping malls;
- federal or local government offices where public business is transacted; and
- offices and other workplaces.

WHO also recommends:

- the placement of health warnings on cigarette packages advising smokers that their tobacco smoke is injurious to children and others;
- training for physicians and other health workers on the health impacts of ETS; and
- programs to assist pregnant women to stop smoking.

Nevertheless, legislation can do little to prevent exposure to tobacco smoke in the home, where the majority of young peoples' exposure occurs. WHO therefore recommends that governments launch educational campaigns targeted at household decision-makers highlighting the negative impact of ETS on children and other nonsmokers.⁷



Tobacco Industry Resistance to ETS Restrictions

Despite overwhelming scientific evidence to the contrary, the tobacco industry argues that ETS poses no danger to nonsmokers. An analysis of ETS articles published in the *Journal of the American Medical Association* found that "the only factor correlated with concluding that passive smoking is not harmful was whether an author was affiliated with the tobacco industry."⁸

The tobacco companies perceive emerging public concern and awareness about ETS as a major threat to their business. Therefore they have vowed to maintain the "continued social acceptability of smoking through industry and/or corporate actions," as one industry memo put it.⁹ The tobacco companies are using several tactics to fight against clean air policies:

- Tobacco companies have paid scientists to write letters to newspapers and specialist journals discrediting

research showing a link between ETS and lung cancer.¹⁰

- According to a recently disclosed industry document, the tobacco companies have developed a strategy in "every international area (USA, Europe, Australia, Far East, South America, Central America & Spain)...to set up a team of scientists organized by one national coordinating scientist and American lawyers, to review scientific literature and carry out work on ETS to *keep the controversy alive.*" (emphasis added).¹¹
- Tobacco companies spent millions of dollars in an attempt to undermine the findings of a ten year study on passive smoking by the research branch of WHO.¹²
- Tobacco companies have secretly funded businesses and research institutes such as Healthy Buildings International, Inc. and the Center for Indoor Air Research, to minimize the dangers of workplace ETS through suspect research methods and advocacy work.¹³

- The tobacco industry argues that eating establishments and other businesses where people congregate will suffer enormous financial losses from smoking bans. Yet recent research in the United States has found these claims to be greatly exaggerated.¹⁴

Resources on the World Wide Web

WHO Consultation on ETS and Child Health (1999)
<http://www.who.int/toh/TFI/consult.htm>

UK Department of Health, *Report of the Scientific Committee on Tobacco and Health.* (1998)
<http://www.official-documents.co.uk/document/doh/tobacco/contents.htm>

CalEPA, "Health Effects of Exposure to Environmental Tobacco Smoke" (1997)
http://www.oehha.org/air/environmental_tobacco/finalets.html#download

¹California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, "Health Effects of Exposure to Environmental Tobacco Smoke," *Tobacco Control* Vol. 6 No. 4, 1997; National Institute of Environmental Sciences, Report by the National Toxicology Program's Board of Scientific Counselors, 1998; U.S. Environmental Protection Agency, *Regulatory Health Effects of Passive Smoking: Lung Cancer and Other Disorders*, 1993; WHO, *International Consultation on Environmental Tobacco Smoke (ETS) and Child Health*, 11-14 January 1999 (WHO/NCD/TFI/99.10).

²WHO, *International Consultation on Environmental Tobacco Smoke (ETS) and Child Health*, 11-14 January 1999 (WHO/NCD/TFI/99.10).

³California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, "Health Effects of Exposure to Environmental Tobacco Smoke," *Tobacco Control*, Vol. 6 No. 4, 1997.

⁴J. He et al. "Passive Smoking and the Risk of Coronary Heart Disease - A Meta-Analysis of Epidemiologic Studies," *New England Journal of Medicine*, 1999, vol. 340, pp.920-6 and M.W. Law et al., "Environmental Tobacco Smoke Exposure and Ischaemic Heart Disease: An Evaluation of the Evidence," *British Medical Journal*, 1997, vol. 315, pp. 973-980.

⁵P. Nafstad and D. Fugelseth, "Nicotine Concentration in the Hair of Nonsmoking Mothers and Size of Offspring," *American Journal of Public Health*, Vol. 88, January 1998.

⁶H. Ye, "Passive Smoking at Work as a Risk Factor for Coronary Heart Disease in Chinese Women Who Have Never Smoked" *British Medical Journal*, Vol. 5, February 1994.

⁷WHO, *International Consultation on Environmental Tobacco Smoke (ETS) and Child Health*, 11-14 January 1999 (WHO/NCD/TFI/99.10).

⁸DF Barnes et al., "Why Review Articles on the Health Effects of Passive Smoking Reach Different Conclusions," *Journal of the American Medical Association*, Vol. 279 No. 19, 20 May 1998.

⁹Health Canada, "ETS: Protection from Environmental Tobacco Smoke," Office of Tobacco Control, Canada, 1998.

¹⁰Associated Press, "Tobacco Industry Paid Scientists," 4 August 1998.

¹¹Note on special meeting of the UK [Tobacco] Industry on Environmental Tobacco Smoke, London, February 17th, 1988. Bates #701247331-336; http://www.pmdocs.com/PDF/2060563936_3941.PDF

¹²Sarah Boseley, "\$2m Plot to Discredit Smoking Study Exposed," *The Guardian*, 7 April 2000; Elisa Ong and Stanton Glantz, "Tobacco Industry Efforts Subverting International Agency for Research on Cancer's Second-Hand Smoke Study," *The Lancet*, Vol. 355, 8 April 2000; available online at: <http://www.thelancet.com/newlancet/sub/issues/vol355no9211/publichealth1253.html> (free registration required).

¹³Morton Mintz, "The Building Doctor," *Washington Post Magazine*, 24 March 1996; The Tobacco Institute, Inc. Minutes of meeting of the Executive Committee, December 10, 1987 <http://www.tobaccoinstitute.com/getallimg.asp?DOCID=TIMN0014390/4393>

¹⁴Stanton Glantz and L.R. Smith, "The Effect of Ordinances Requiring Smoke-Free Restaurants and Bars on Revenues: A Follow-Up," *American Journal of Public Health*, Vol. 87 No. 10, October 1997.