



Surgeon General's Report States Secondhand Smoke Is a Serious Health Hazard

Focus

Just about everybody knows that smoking is dangerous. Many people, however, do not realize that even those who don't light up face health risks from tobacco smoke. Secondhand smoke—the smoke that comes from other people's cigarettes, cigars, or pipes—is a serious health hazard that can lead to disease and premature death in children and nonsmoking adults. That's the message of a comprehensive report, *The Health Consequences of Involuntary Exposure to Tobacco Smoke*, issued on June 27, 2006, by the Surgeon General of the United States. The 29th Surgeon General's Report on smoking and health, it is available free of charge at www.surgeongeneral.gov/library/secondhandsmoke/.

Then Surgeon General Richard H. Carmona opened his speech at a press conference announcing the release of the report by stating that “the debate is over. The science is clear: secondhand smoke is not a mere annoyance, but a serious health hazard that causes premature death and disease in children and nonsmoking adults.” The Surgeon General went on to note that 20 years had passed since the only previous Surgeon General's Report on the health effects of secondhand smoke, the 1986 report on *The Health Consequences of Involuntary Smoking*. That report concluded that secondhand smoke exposure was a cause of disease in nonsmokers, [including] lung cancer among nonsmoking adults and several respiratory problems among children.” Dr. Carmona stated that the scientific evidence on these and other health effects of secondhand smoke has grown substantially since the 1986 report as a result of hundreds of peer-

reviewed studies and several additional major reports which document beyond any doubt that secondhand smoke is a serious health hazard.

Dr. Carmona added that 20 years ago, the report “concluded that the simple separation of smokers and nonsmokers within the same air space may reduce, but does not eliminate, secondhand smoke exposure among nonsmokers.” The new report expands on that finding by concluding that separating smokers from nonsmokers, cleaning the air, and ventilating buildings cannot eliminate secondhand smoke exposure in indoor spaces, and that smoke-free environments are the only approach that effectively protect nonsmokers from the dangers of secondhand smoke.

Secondhand Smoke Is Always Dangerous

Complete freedom from secondhand smoke is important because the concentration of some dangerous chemicals is even higher in the secondhand smoke that nonsmokers breathe than in the smoke that smokers inhale, the 2006 report notes. Secondhand smoke contains more than 4,000 chemicals, including more than 50 substances that cause cancer.

Breathing secondhand smoke is particularly perilous for infants and children, pregnant women, persons with heart disease and respiratory conditions, and older Americans. Special precautions should be taken to protect these groups. However, secondhand smoke poses serious health risks to all nonsmokers. Accordingly, all nonsmokers should avoid

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secondhand smoke exposure and deserve protection from this preventable health hazard. The past 20 years have seen substantial progress in protecting nonsmokers in homes, workplaces, restaurants, businesses, and public buildings, but much more needs to be done if all nonsmokers are to be protected.

There Is No Safe Level of Exposure to Secondhand Smoke

The new report concludes that breathing secondhand smoke causes health risks for everyone. Nonsmokers who are exposed to secondhand smoke at home or at work increase their risk of developing heart disease by 25 to 30 percent and their risk of developing lung cancer by 20 to 30 percent. Breathing secondhand 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 heart attack. Persons who already have heart disease are at especially high risk of suffering adverse effects from breathing secondhand smoke and should take special precautions to avoid even brief exposure. In addition, even brief exposure to secondhand smoke can bring on respiratory symptoms such as coughing, wheezing, and breathlessness, and can trigger asthma attacks in asthmatic children.

Secondhand smoke poses especially severe health risks to children. Infants who are exposed to secondhand smoke run a greater risk of sudden infant death syndrome. Infants and children who are exposed also have slower lung growth and higher risks of respiratory infections such as bronchitis and pneumonia, respiratory symptoms, more severe asthma, and chronic ear infections that may require insertion of tubes.

Millions of Nonsmoking Americans of All Ages Are Regularly Exposed to Secondhand Smoke

Secondhand smoke exposure among U.S. nonsmokers has declined since the publication of the 1986 Surgeon General's Report. Levels of cotinine, the

biomarker of secondhand smoke exposure, fell by 70 percent from 1988–1991 to 2001–2002. The proportion of nonsmokers with detectable cotinine levels has been halved from 88 percent to 43 percent.

However, despite this progress, more than 126 million nonsmoking Americans are still exposed to secondhand smoke. Some 30 percent of those who worked indoors in 2001–2002 lacked the protection of smoke-free workplace rules. Although this figure is down from 54 percent in 1992–1993, it is still way too high. As of June 2006, only 14 states had laws requiring private employers to provide smoke-free workplaces.

Blue collar and service workers are more likely than white collar workers to work in places where smoke-free policies are not in force. The more than 6 million people working in restaurants have the lowest level of protection. Only 43 percent of the restaurant workforce, including just 28 percent of wait staff and 13 percent of bartenders, work in establishments with smoke-free workplace policies.

Furthermore, as frequently as adults are exposed to secondhand smoke, children's exposure, on average, is even higher. Nearly 60 percent of America's 3- to 11-year-olds—or almost 22 million youngsters—along with 18 million 12- to 19-year-olds, show signs of exposure, according to the report. Children in the 3- to 11-year-old age group are more than 3 times as likely to live in a household with a smoker than are adults who do not smoke—almost 25 percent of these children live with a smoker, compared with about 7 percent of nonsmokers age 20 years and older.

Fortunately, though, the number of Americans living in smoke-free homes has been rising. In 2001–2002, two-thirds of households had house rules against smoking, up from 43 percent in 1992–1993. But that means that millions of Americans still have not taken the steps that would ensure that they and their families are free from secondhand smoke.

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Everyone Has the Right to Freedom From Secondhand Smoke

As the new report concludes, a smoke-free environment is the only way to protect fully nonsmokers from secondhand smoke. If smoking is permitted anywhere in a building, such steps as setting aside smoking and nonsmoking areas, cleaning the air, opening windows, and using ventilation equipment cannot eliminate secondhand smoke exposure.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers, a leading professional group that sets national standards on ventilation, has stated that no existing ventilation technology can eliminate the health risks associated with secondhand smoke in an indoor space where smoking is permitted. Air cleaning technology can remove the larger particles found in tobacco smoke, but not the smaller particles and the gases. Moreover, the operation of a heating, ventilating, and air conditioning system can actually spread secondhand smoke throughout a building.

Making Environments Smoke Free

The new report makes clear that the only way that Americans can fully protect themselves from the health effects of secondhand smoke is to make their homes, vehicles, worksites, public buildings, and businesses smoke free. You can start at home by taking the Smoke-free Home Pledge (1-866-SMOKE-FREE/1-866-766-5337 or www.epa.gov/smokefree) and by politely but firmly asking smokers not to smoke inside your home and vehicles or around you or your children. You can explain that you are taking this step to protect the health of your family.

If you are a smoker, the single best way to protect your family from secondhand smoke is to quit smoking. In the meantime, you can protect your family by always going outside to smoke. Making your home smoke free can also help you quit smoking. To access a telephone quitline serving your

area, call 1-800-QUIT-NOW (1-800-784-8669) or visit www.smokefree.gov.

Parents need to make sure that their children's daycare centers and schools are smoke free. Whenever possible, consumers should patronize smoke-free restaurants and other smoke-free businesses, and should thank these establishments for protecting their employees and customers. They also should let proprietors of businesses that allow smoking know that they prefer to patronize businesses that are smoke free. If a locality or state lacks smoke-free laws for workplaces and public places, citizens can educate opinion leaders and policymakers about the health effects of secondhand smoke and effective measures to control this health hazard.

These steps will bring us closer to the new report's vision of a country where all nonsmokers are safe from the dangers of tobacco smoke. "I am confident," said Surgeon General Carmona, "that the information in this report, when broadly disseminated, will literally save lives."

Spotlight

Smoke Free Homes: Pediatric Clinicians Working To Protect Children From Secondhand Smoke

Smoke Free Homes (www.kidslivesmokefree.org/aboutus/) is a national effort by the physicians who specialize in caring for America's children to protect them from secondhand smoke. It aims to increase doctors' awareness of the importance of smoke-free homes and to keep them up to date on the most effective ways of reducing children's secondhand smoke exposure and convincing parents to stop smoking and to make their homes smoke free.

The program makes available an array of resources—ranging from brochures aimed at consumers to technical information for clinicians—that are intended to help physicians, families, and communities make the environments that America's children grow up

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in smoke free. The program's Professional Tool Box includes a pocket guide for physicians to help them help parents trying to quit, Clinical Practice Guidelines for treating tobacco use, materials to use in documenting and coding cessation counseling, and much more. Also available are the slides from talks given at a Smoke Free Homes symposium held in April 2005, including presentations by more than a dozen experts on secondhand smoke, smoking cessation, and steps that physicians can take to help reduce their children's secondhand smoke exposure. The slides are available at www.kidslivesmokefree.org/symposium/presentations.php.

Smoke Free Homes is a partnership of the American Academy of Allergy, Asthma, and Immunology; the American Academy of Pediatrics; the Center for Child Health Research of the University of Rochester; and the Children's National Medical Center in Washington, DC. Funding comes from the U.S. Environmental Protection Agency, the American Legacy Foundation, the Centers for Disease Control and Prevention, the Flight Attendant Medical Research Institute, and the National Institute on Environmental Health Sciences.

Resources

Smokefree.gov provides accurate, up-to-date information, resources, and professional assistance to help support the immediate and long-term needs of people trying to quit smoking at <http://smokefree.gov/>.

The **Healthy People 2010 Focus Area on Tobacco** addresses the reduction of illness, disability, and death related to tobacco use and exposure to secondhand smoke. For more information, visit www.healthypeople.gov/Document/HTML/Volume2/27Tobacco.htm.

The Agency for Healthcare Research and Quality's **Treating Tobacco Use and Dependence** is a U.S. Public Health Service clinical practice guideline that was issued in June 2000. It includes evidence-based information on first-line pharmacologic

therapies and counseling that help patients quit using tobacco at www.ahrq.gov/path/tobacco.htm.

TIPS, the Tobacco Information and Prevention Source of the Centers for Disease Control and Prevention (CDC), offers publications, data and statistics, educational materials, and other resources from the CDC Office on Smoking and Health at www.cdc.gov/tobacco/.

A list of the **29 reports on smoking and health** that have been issued by the **Surgeon General** since 1964 is available at www.cdc.gov/tobacco/sgr/sgr_2004/Factsheets/11.htm.

The **American Lung Association** provides fact sheets about secondhand smoke at www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=35422. A fact sheet focusing on children and families is available at www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=39858.

The **U.S. Environmental Protection Agency** provides information on the health effects of secondhand smoke and protection approaches at www.epa.gov/smokefree/pubs/etsfs.html. "**What You Can Do About Secondhand Smoke as Parents, Decision-Makers, and Building Occupants**" is available at www.epa.gov/smokefree/pubs/etsbro.html.

Americans for Nonsmokers' Rights offers a wide range of resources at www.no-smoke.org/getthefacts.php.

The **ABCs of Secondhand Smoke** provides resources for and about children, including four children's books about secondhand smoke, which are available for free download from the National Safety Council at www.nsc.org/EHC/indoor/abc.htm.

Quitnet offers science-based smoking cessation tools free from Boston University at www.quitnet.com/.

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Activities

Taking Action Against Secondhand Smoke: An Online Toolkit, developed by the Centers for Disease Control and Prevention, provides tools for taking action against secondhand smoke at home, at work, and in the community. It includes action steps to implement a clean indoor air policy for public buildings with direct links to tools; tools and materials that can be reproduced for a community campaign; an extensive Resources section; Best Practices information; and reports, fact sheets, and other data about secondhand smoke as well as information on how to build a community coalition. The toolkit is available at www.cdc.gov/tobacco/ETS_Toolkit/index.htm.

NoTobacco.org, a Web site sponsored by the Foundation for a Smokefree America, is designed to motivate youth to stay tobacco free. A companion Web site, **TobaccoFree.org**, contains videos and live talks. The foundation also seeks to empower smokers to quit. The Web sites include tips on quitting, anti-tobacco news alerts, and press kit materials. To learn more about activities and resources on these Web sites, visit www.anti-smoking.org.

I Mind Very Much If You Smoke contains steps nonsmokers can take to reduce their exposure to secondhand smoke at home, at work, and in public places. Included are examples of how to say no, what to do if you live with a smoker, health effects associated with environmental tobacco smoke, activities for healthcare providers and insurers, a list of organizations as well as links to relevant Web sites. To learn more, visit http://dccps.nci.nih.gov/terb/I_mind_if_you_smoke/mindsmo.html.

The Environmental Protection Agency has developed a number of free resources for its **Smoke-free Homes Program**, which are designed to help individuals start local programs and to educate the public about risks associated with exposure to environmental

tobacco smoke. Materials include the *Smoke-free Homes Community Action Kit*, a *Planning Guide for Pledge Events CD-ROM*, a series of booklets for use in promoting local programs, ideas for outreach activities, a *Smoke-free Homes Activity Map*, an e-newsletter, and information on how to establish effective community partnerships to promote the *Smoke-free Homes Program*. To learn more, visit <http://www.epa.gov/smokefree/community.html>.

In the Literature

Passive Smoking in Asthmatic Children: Effect of a “Smoke-Free House” Measured by Urinary Cotinine Levels

by M. Olivieri et al. *Allergy and Asthma Proceedings* 27(4):350–353, 2006.

This study evaluated the exposure to environmental tobacco smoke in asthmatic children and the contribution of unapparent smoke exposure by measuring urinary cotinine levels. Urinary cotinine concentrations were found to be higher in children living with smoking parents compared with children not exposed to parental smoke.

Smoking and the Sudden Infant Death Syndrome

by E.A. Mitchell and J. Milerad. *Reviews on Environmental Health* 21(2):81–103, 2006.

This article examined the epidemiologic evidence for a possible association between smoking and sudden infant death syndrome (SIDS). The researchers found it difficult to distinguish between the effect of maternal smoking during pregnancy from involuntary tobacco exposure by the infants of smoking mothers. Clear evidence for environmental tobacco smoke exposure can be obtained by examining the risks of SIDS from paternal smoking when the mother is a nonsmoker. The authors concluded that the predominant effect from maternal smoking comes from in utero exposure and that about one-third of SIDS deaths might be prevented if fetuses were not exposed to maternal smoking in utero.

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Environmental Tobacco Smoke Exposure in School Children: Parent Report and Urine Cotinine Measure

by H. Boyaci et al. *Pediatrics International* 48(4):382-389, 2006.

This study examined the relationship between parent-reported estimates of children's exposure to environmental tobacco smoke (ETS) and children's urinary cotinine levels, and also evaluated the effect of ETS exposure on respiratory health in children. The authors found that parents' reports were not reliable to evaluate the level of ETS exposure. Rather, biological measures were more reliable in estimating ETS exposure in children.

Respiratory Effects of Environmental Tobacco Exposure Are Enhanced by Bronchial Hyperreactivity

by M.W. Gerbase et al. *American Journal of Respiratory Critical Care Medicine*, 2006, in press.

The objective of this research was to assess the longitudinal effects of environmental tobacco smoke (ETS) exposure on the development of respiratory symptoms and spirometry in subjects with bronchial hyperresponsiveness (BHR). The study found a strong association between exposure to ETS with the development of respiratory symptoms in previously asymptomatic BHR subjects within 11 years and that subjects with underlying BHR had reduced lung function at followup.

Comparison of Parental Reports of Smoking and Residential Air Nicotine Concentrations in Children

by U. Gehring. *Occupational and Environmental Medicine*, 2006, in press.

The objective of this study was to compare questionnaire-reported smoking with air nicotine concentrations in a large population of children and with urinary cotinine levels in a subpopulation. The researchers found that air nicotine concentrations increased with increasing questionnaire-reported smoking and concluded that questionnaire reports are an inexpensive and valid estimate

of residential environmental tobacco smoke exposure among preschool and school children.

Environmental Tobacco Smoke

by National Toxicology Program, Public Health Service, U.S. Department of Health and Human Services. *In Report on Carcinogens, 11th Edition*, 2005.

The profile on environmental tobacco smoke (ETS) in this report covers the carcinogenicity of ETS, chemical properties of tobacco smoke, use, production, prevalence of exposure, regulations, guidelines, and references.

Meetings

American Public Health Association 134th Annual Meeting: Public Health and Human Rights. Boston, MA. Visit www.apha.org/meetings/. **November 4–8, 2006.**

1st African Conference on Tobacco or Health. Casablanca, Morocco. Visit www.acthmorocco.org/. **December 7–10, 2006.**

Society for Research on Nicotine and Tobacco (SRNT) 13th Annual Conference. Austin, TX. Visit www.srnt.org/meeting/2007/index.html. **February 21–24, 2007.**

14th Annual Mayo Clinic Nicotine Dependence Conference. Rochester, MN. Visit http://mayoresearch.mayo.edu/mayo/research/ndc_education/conference.cfm. **May 1–31, 2007.**

National Environmental Health Association's (NEHA's) 71st Annual Educational Conference and Exhibition. Atlantic City, NJ. Visit www.neha.org/. **June 18–21, 2007.**

4th European Conference on Tobacco or Health. Basel, Switzerland. Visit <http://calendar.globalink.org/us:all>. **October 11–13, 2007.**