

BIBLIOGRAPHY OF SECONDHAND SMOKE STUDIES

In Descending Chronological Order

April 11, 2005

Li, Y.; Langholz, B.; Salam, M.T.; Gilliland, F.D., "Maternal and grandmaternal smoking patterns are associated with early childhood asthma*," *CHEST* 127 (4): 1232, April 2005.

This study concluded that smoking during pregnancy by a child's mother or grandmother increased the risk of that child developing asthma.

de la Chica, R.A.; Ribas, I.; Giraldo, J.; Egozcue, J.; Fuster, C., "Chromosomal instability in amniocytes from fetuses of mothers who smoke," *Journal of the American Medical Association* 293: 1212-1222, 2005.

This study found that smoking 10 or more cigarettes per day for at least 10 years and during pregnancy is associated with increased chromosomal instability in amniocytes.

Hanaoka, T.; Yamamoto, S.; Sobue, T.; Sasaki, S.; Tsugane, S., "Active and passive smoking and breast cancer risk in middle-aged Japanese women," *International Journal of Cancer* 114(2): 317-322, March 20, 2005.

This study concluded that secondhand smoke exposure increased the risk of developing breast cancer in premenopausal women.

Jamrozik, K., "Estimate of deaths attributable to passive smoking among UK adults: database analysis," *British Medical Journal (BMJ)*, doi:10.1136/bmj.38370.496632.8F, March 1, 2005.

This study estimated the deaths from secondhand smoke exposure in employees of the hospitality industry as well as in the general workforce and general population of the United Kingdom. The study found that, "Across the United Kingdom as a whole, passive smoking at work is likely to be responsible for the deaths of more than two employed people per working day (617 deaths per year), including 54 deaths in the hospitality industry each year. Each year passive smoking at home might account for another 2700 deaths in persons aged 20-64 years and 8000 deaths among people aged 65." The authors concluded, "Exposure at work might contribute up to one fifth of all deaths from passive smoking in the general population aged 20-64 years, and up to half of such deaths among employees of the hospitality industry."

National Toxicology Program (NTP), "11th Report on Carcinogens," U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program (NTP), 2005.

This report reconfirms findings that secondhand smoke is a known human carcinogen.

McGhee, S.M.; Ho, S.Y.; Schooling, M.; Ho, L.M.; Thomas, G.N.; Hedley, A.J.; Mak, K.H.; Peto, R.; Lam, T.H., "Mortality associated with passive smoking in Hong Kong," *BMJ*, doi:10.1136/bmj.38342.706748.47, January 27, 2005.

This study identified 4838 never smoking cases (55% male) and 763 never smoking controls (55% male). All controls were used in the analysis for each specific cause of

death. The authors found significant dose dependent associations between passive smoking and mortality from lung cancer, chronic obstructive pulmonary disease, stroke, ischaemic heart disease, and from all cancers, all respiratory and circulatory diseases. The association between mortality and passive smoking did not differ between males and females.

Vineis, P.; Airoidi, L.; Veglia, F.; Olgiati, L.; Pastorelli, R.; Autrup, H.; Dunning, A.; Garte, S.; Gormally, E.; Hainaut, P.; Malaveille, C.; Matullo, G.; Peluso, M.; Overvad, K.; Tjonneland, A.; Clavel-Chapelon, F.; Boeing, H.; Krogh, V.; Palli, D.; Panico, S.; Tumino, R.; Bueno-De-Mesquita, B.; Peeters, P.; Berglund, G.; Hallmans, G.; Saracci, R.; Riboli, E., "Environmental tobacco smoke and risk of respiratory cancer and chronic obstructive pulmonary disease in former smokers and never smokers in the EPIC prospective study, " *BMJ* doi:10.1136/bmj.38327.648472.82, January 28, 2005.

This large prospective study, in which the smoking status was supported by cotinine measurements, confirms that environmental tobacco smoke is a risk factor for lung cancer and other respiratory diseases, particularly in ex-smokers.

Zhang, X.; Shu, X.O.; Yang, G.; Li, H.L.; Xiang, Y.B.; Gao, Y.; Li, Q.; Zheng, W., "Association of passive smoking by husbands with prevalence of stroke among Chinese women nonsmokers," *American Journal of Epidemiology* 161(3): 213-218, 2005.

This study examined the association between smoking by husbands and stroke prevalence among women nonsmokers in Shanghai, China, where two thirds of men but few women smoke. The study found that women nonsmokers who lived with husbands who smoked had an elevated prevalence of stroke, and prevalence increased with increasing intensity and duration of husbands' smoking.

Trimble, C.L.; Genkinger, J.M.; Burke, A.E.; Hoffman, S.C.; Helzlsouer, K.J.; Diener-West, M.; Comstock, G.W.; Alberg, A.J., "Active and Passive Cigarette Smoking and the Risk of Cervical Neoplasia" *Obstetrics & Gynecology* 105(1): 174-181, January 1, 2005.

This study found that exposure to secondhand smoke increases the risk of developing cervical cancer.

Yolton, K.; Dietrich, K.; Auinger, P.; Lanphear, B.P.; Hornung, R., "Exposure to Environmental Tobacco Smoke and Cognitive Abilities among U.S. Children and Adolescents," *Environmental Health Perspectives* 113(1), January 2005.

This study analyzed the relationship between secondhand smoke exposure and cognitive abilities among U.S. children and adolescents 6-16 years of age, using serum cotinine a biomarker of exposure. The study found an inverse association between secondhand smoke exposure and cognitive deficits among children even at extremely low levels of exposure, findings which the authors state, "support policy to further restrict children's exposure."

Bradley, J.P.; Bacharier, L.B.; Bonfiglio, J.; Schechtman, K.B.; Strunk, R.; Storch, G.; Castro, M., "Severity of respiratory syncytial virus bronchiolitis is affected by cigarette smoke exposure and atopy," *Pediatrics* 115: 7-14, 2005.

This study examined the effect of secondhand smoke exposure on respiratory syncytial virus (RSV) bronchiolitis, which is a common cause of hospitalizations in children and has been increasingly identified as a risk factor in the development of asthma. The study found that the severity of RSV bronchiolitis early in life seems modified by postnatal

maternal cigarette smoke exposure and atopy and age of the infant, not by levels of allergens in the home environment.

Shenassa, E.D.; Brown, M., "Maternal smoking and infantile gastrointestinal dysregulation: the case of colic," *Pediatrics* 114(4): e497-e505, October 2004.

This paper reviewed six studies on the impact of maternal smoking and secondhand smoke exposure on infant colic.

Repace, J.L., "Estimated mortality from secondhand smoke among club, pub, bar, and tavern workers in New South Wales, Australia," Repace Associates, Inc., April 7, 2004.

This paper examined the findings of a study of estimated mortality in New South Wales, Australia due to secondhand smoke exposure in bar venues.

RTI International, "First Annual Independent Evaluation of New York's Tobacco Control Program," New York State Department of Health, November 2004.

This analysis of New York's tobacco control program described the health benefits of a smokefree law.

Repace, J., "Respirable Particles and Carcinogens in the Air of Delaware Hospitality Venues Before and After a Smoking Ban," *Journal of Occupational & Environmental Medicine*. 46(9):887-905, September 2004.

This study was the first to examine the air quality of hospitality establishments before and after the implementation of a smokefree air law. The air in a sampling of Delaware hospitality venues was 90% cleaner after the state implemented its comprehensive Clean Indoor Air Act. The study, conducted by health physicist James Repace, measured the air quality in a pool hall, six bars, and a casino in Delaware before and after the law took effect. Secondhand smoke was the source of 90-95% of the respirable particulate air pollution and 85-95% of the particulate polycyclic aromatic hydrocarbons (PPAH), which are measures of secondhand smoke levels.

Significantly, the research found that employees working in smokefilled hospitality venues breathe air that is in violation of federal air quality standards. The pollution levels were 4.6 times higher than permissible standards and nearly 20 times greater than outdoor air. Employees in these establishments may have a greater risk of developing diseases caused by air pollution than people who work alongside freeways and at toll collection booths, making bartending one of the riskiest occupations in terms of respiratory health.

Invernizzi, G.; Ruprecht, A.; Mazza, R.; Rossetti, E.; Sasco, A.; Nardini, S.; Boffi, R., "Particulate matter from tobacco versus diesel car exhaust: an educational perspective," *Tobacco Control* 13(3): 219-221, September 2004.

This study asserted that secondhand smoke "causes fine particulate matter (PM) indoor pollution exceeding outdoor limits, while new engines and fuels have reduced particulate emissions by cars." The study measured PM emissions from secondhand smoke and a new model diesel car, and concluded that secondhand smoke "is a major source of PM pollution, contributing to indoor PM concentrations up to 10-fold those emitted from an idling ecodiesel engine. Besides its educational usefulness, this knowledge should also be considered from an ecological perspective."

Dobson, R., "Childhood exposure to smoke may increase risk of back pain in later life," *British Medical Journal (BMJ)* 329: 250, July 31, 2004.

A study conducted in Norway and published in the *European Journal of Public Health*, has found that, "adults who were exposed to tobacco smoke as children were more likely to take long term sick leave because of spinal pain."

Chen, R.; Tavendale, R.; Tunstall-Pedoe, H., "Environmental tobacco smoke and prevalent coronary heart disease among never smokers in the Scottish MONICA surveys," *Occupational & Environmental Medicine* 61: 790-792, 2004.

This study examined the effect of secondhand smoke exposure on coronary heart disease (CHD) among never smokers participating in the Scottish MONICA surveys, using both self-reports and serum cotinine levels, and concluded that, "For those in full time employment, the relation between ETS at work and CHD seemed to be greater compared to exposure at home and at other places. These findings, together with our previous investigations, strongly support current attempts to minimise passive exposure to tobacco smoke and limit smoking in public areas."

Ong, M.K.; Glantz, S.A., "Cardiovascular health and economic effects of smoke-free workplaces," *American Journal of Medicine* 117(1): 32-38, July 1, 2004.

This study estimated the number of U.S. indoor workers not covered by smoke-free workplace policies, and the effects of making all workplaces smoke free on smoking behavior and on the relative risks of acute myocardial infarctions and strokes and concluded that, "The first-year effect of making all workplaces smoke free would produce about 1.3 million new quitters and prevent over 950 million cigarette packs from being smoked annually, worth about \$2.3 billion in pretax sales to the tobacco industry. In 1 year, making all workplaces smoke free would prevent about 1500 myocardial infarctions and 350 strokes, and result in nearly \$49 million in savings in direct medical costs. At steady state, 6250 myocardial infarctions and 1270 strokes would be prevented, and \$224 million would be saved in direct medical costs annually. Reductions in passive smoking would account for 60% of effects among acute myocardial infarctions."

Whincup, P.H., Gilg, J.A., Emberson, J.R., Jarvis, M.J., Feyerabend, C., Bryant, A., Walker, M., Cook, D.G., "Passive smoking and risk of coronary heart disease and stroke: prospective study with cotinine measurement," *BMJ Online First*, June 30, 2004

This study found that exposure to secondhand smoke can increase the risk of coronary heart disease by 50-60%, twice the previous estimated risk.

Hyland, A.; Travers, M.; Repace J., "7 City Air Monitoring Study (7CAM), March-April 2004," *Roswell Park Cancer Institute*, May 2004

This study measured the levels of fine particulate air pollution in the bars and restaurants of seven major U.S. cities, three with smokefree laws and four without. The study found that air pollution levels were 82 percent lower on average in venues required by law to be smokefree compared to those where smoking was permitted. In cities without smokefree laws, full-time bar and restaurant employees are exposed on the job to more than four times the average annual limits of fine particulate air pollution recommended by the U.S. Environmental Protection Agency (EPA).

Nazaroff, W.W.; Singer, B.C., "Inhalation of hazardous air pollutants from environmental tobacco smoke in US residences," *Journal of Exposure Analysis and Environmental Epidemiology* 14(1): S71-S77, April 2004.

This study examined nonsmokers' private home exposure to sixteen hazardous air pollutants contained in secondhand smoke and concluded that, "The ratio of estimated average exposure concentrations to reference concentrations is close to or greater than one for acrolein, acetaldehyde, 1,3-butadiene, and formaldehyde, indicating potential for concern regarding noncancer health effects from chronic exposures. In addition, lifetime cancer risks from residential ETS exposure are estimated to be substantial (~2–500 per million) for each of five known or probable human carcinogens: acetaldehyde, formaldehyde, benzene, acrylonitrile, and 1,3-butadiene. Cumulative population intakes from residential ETS are compared for six key compounds against ambient sources of exposure. ETS is found to be a dominant source of environmental inhalation intake for acrylonitrile and 1,3-butadiene. It is an important cause of intake for acetaldehyde, acrolein, and formaldehyde, and a significant contributor to intake for benzene."

Iribarren, C.; Darbinian, J.; Klatsky, A.L.; Friedman, G.D., "Cohort study of exposure to environmental tobacco smoke and risk of first ischemic stroke and transient ischemic attack," *Neuroepidemiology* 23(102): 38-44, January-April, 2004.

This study examined the effect of secondhand smoke exposure on stroke risk and found that "...high-level ETS exposure at home was independently associated with increased risk of first ischemic stroke among never-smoking women."

Venners, S.A.; Wang, X.; Chen, C.; Wang, L.; Chen, D.; Guang, W.; Huang, A.; Ryan, L.; O'Connor, J.; Lasley, B.; Overstreet, J.; Wilcox, A.; Xu, X., "Paternal smoking and pregnancy loss: a prospective study using a biomarker of pregnancy," *American Journal of Epidemiology* 159(10): 993-1001, 2004.

This study examined the effect of paternal smoking on the risk of pregnancy loss in a population of women in China and found that heavy paternal smoking increased the risk of early miscarriage through maternal and/or paternal exposure; the authors noted, "In this study, we cannot distinguish whether the observed effect of paternal smoking on early pregnancy loss was mediated through exposure of women to passive smoke from the husband and/or through direct smoking effects on the men's sperm."

Villeneuve, P.J.; Johnson, K.C.; Mao, Y.; Hanley, A.J., "Environmental tobacco smoke and the risk of pancreatic cancer," *Canadian Journal of Public Health* 95(1): 32-37, January/February, 2004.

This study investigated the association between secondhand smoke and pancreatic cancer and concluded, "Overall, our results are suggestive of a weak association between pancreatic cancer and ETS."

Svanes, C.; Omenaas, E.; Jarvis, D.; Chinn, S.; Gulsvik, A.; Burney, P., "Parental smoking in childhood and adult obstructive lung disease: results from the European Community Respiratory Health Survey," *Thorax* 59(4): 295-302, April 1, 2004.

This study found that, "both mother's and father's smoking appears to cause permanent damage to the developing airways of the child, leading to more respiratory symptoms and impaired lung function in adult life."

Jo, W.; Oh, J.; Dong, J., "Evaluation of exposure to carbon monoxide associated with passive smoking," *Environmental Research* 94: 309–318, 2004.

This study from Korea measured exposure to carbon monoxide due to secondhand smoke and concluded that "passive smoking is the major contributor to the CO exposure of nonsmoking visitors in a recreation environment. In addition, workplace exposure to CO from passive smoking was found to be the most important contributor to the daily CO exposure of nonsmoking recreation workers."

Shopland, D.R.; Anderson, C.M.; Burns, D.M.; Gerlach, K.K., "Disparities in smoke-free workplace policies among food service workers," *Journal of Occupational and Environmental Medicine* 46(4): 347-356, April 2004.

This study found that "Although over three fourths of white collar workers are covered by smoke-free policies, including 90% of teachers, just 43% of the country's 6.6 million food preparation and service occupations workers benefit from this level of protection. Compliance with workplace restrictions is not a significant human resources issue because only 3.8% of workers reported that someone violated a smoke-free policy in 1999, down from 4.9% in 1996. Protection for workers is increasing, but those in food preparation and service occupations are significantly less protected than others."

Rizzi, M.; Sergi, M.; Andreoli, A.; Pecis, M.; Bruschi, C.; Fanfulla, F., "Environmental tobacco smoke may induce early lung damage in healthy male adolescents," *CHEST* 125: 1387-1393, 2004.

This study found that "Current exposure to ETS in healthy male adolescents is associated with lung function impairment independently of the effects of maternal smoking during pregnancy."

Nakata, A.; Tanigawa, T.; Araki, S.; Sakurai, S.; Hiroyasu, I., "Research letter: lymphocyte subpopulations among passive smokers," *Journal of the American Medical Association* 291(14): 1699-1700, April 14, 2004.

This research letter investigated the role of secondhand exposure in developing coronary heart disease (CHD) and stated, "Passive smoking may be related to an increase in a number of lymphocyte subpopulations. Such immune alteration may accelerate intravascular tissue damage and increase the long-term risk of CHD."

Johansson, A.; Hermansson, G.; Ludvigsson, J., "How should parents protect their children from environmental tobacco-smoke exposure in the home?," *Pediatrics* 113(4): e291-e295, April 2004.

This study examined secondhand smoke exposure in private homes in Sweden and found that, "Smoking outdoors with the door closed was not a total but the most effective way to protect children from environmental tobacco-smoke exposure. Other modes of action had a minor effect."

Sawnani, H.; Jackson, T.; Murphy, T.; Beckerman, R.; Simakajornboon, N., "The effect of maternal smoking on respiratory and arousal patterns in preterm infants during sleep," *American Journal of Respiratory and Critical Care Medicine* 169: 733-738, 2004.

This study examined the effect of prenatal smoking on the arousal patterns during sleep of preterm infants and found that these infants "have increased respiratory events during active sleep, predominantly due to obstructive apnea, and possibly a higher arousal threshold during apneic events. These alterations in respiratory and arousal patterns in preterm infants born to smoking mothers may lead to significant vulnerability in this population."

Sargent, R.P.; Shepard, R.M.; Glantz, S.A., "Reduced incidence of admissions for myocardial infarction associated with public smoking ban: before and after study," *BMJ Online First*, April 5, 2004.

This study examined whether there was a change in hospital admissions for acute myocardial infarction in Helena, Montana, while a smokefree ordinance was in effect, and concluded, "During the six months the law was enforced the number of admissions fell significantly (- 16 admissions, 95% confidence interval - 31.7 to - 0.3), from an average of 40 admissions during the same months in the years before and after the law to a total of 24 admissions during the six months the law was in effect."

Hill, S.E.; Blakely, T.A.; Kawachi, I.; Woodward, A., "Mortality among "never smokers" living with smokers: two cohort studies, 1981-4 and 1996-9," *BMJ Online First*, April 5, 2004.

This study found that, "Among adults who had never smoked we found a modest but consistent association between exposure to secondhand smoke in the home and mortality. This association persisted after adjustment for age, ethnicity, marital status, and socioeconomic position. The finding of about 15% excess mortality in never smokers exposed to secondhand smoke at home is consistent with the previous largest study in this area."

Kim, H.; Lim, Y.; Lee, S.; Park, S.; Kim, C.; Hong, C.; Shin, D., "Relationship between environmental tobacco smoke and urinary cotinine levels in passive smokers at their residence," *Journal of Exposure Analysis and Environmental Epidemiology 14(Supplement 1): S65-S70*, April 2004.

This study found a significant correlation between nicotine levels in indoor air and the urinary cotinine to creatinine ratio of the passive smokers in the study.

Wong, L.S.; Green, H.M.; Feugate, J.E.; Yadav, M.; Nothnagel, E.A.; Martins-Green, M., "Effects of "second-hand" smoke on structure and function of fibroblasts, cells that are critical for tissue repair and remodeling," *BMC Cell Biology 5: 13*, 2004.

This study concluded that exposure to secondhand smoke may delay the healing of wounds "because of the inability of the fibroblasts to migrate into the wounded area, leading to an accumulation of these cells at the edge of the wound, thus preventing the formation of the healing tissue," and that furthermore, "the increase in cell survival coupled to the decrease in cell migration can lead to a build-up of connective tissue, thereby causing fibrosis and excess scarring."

Aggarwal, A.N.; Gupta, D.; Sharma, C.P.; Jindal, S.K., "Effect of household exposure to environmental tobacco smoke on airflow mechanics in asymptomatic healthy women," *Indian Journal of Medical Research 119: 18-23*, January 2004.

This study found that "Exposure to household ETS resulted in subtle impairment of airflow mechanics in asymptomatic women, possibly attributed to small airway narrowing. Further investigations are required to study the progression of this impairment with time."

Hecht, S.S., "A metabolite of the lung carcinogen 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone in the urine of people exposed occupationally to environmental tobacco smoke," *University of Minnesota Cancer Center*, [n.d.].

This study quantified levels of NNAL-Gluc, a major urinary metabolite of the tobacco-specific lung carcinogen, NNK, in the urine of non-smoking hospital workers exposed to environmental tobacco smoke.

Repace, J.L.; Lowrey, A.H., "An estimate of nonsmokers' lung cancer risk from passive smoking," [n.s.], [n.d.].

The Repace, Lowrey preliminary research study on estimating the risk of secondary smoke.

Greenberg, R.A.; Strecher, V.J.; Bauman, K.E.; Boat, B.W.; Fowler, M.G.; Keyes, L.L.; Denny, F.W.; Chapman, R.S.; Stedman, H.C.; LaVange, L.M.; Glover, L.H.; Haley, N.J.; Loda, F.A., "Evaluation of a home-based intervention program to reduce infant passive smoking and lower respiratory illness," [n.s.], [n.d.].

This paper presents the results of a home-based intervention program designed to reduce infants exposure to secondhand smoke and to reduce lower respiratory illness; infants whose mothers participated in the intervention had lower rates of respiratory symptoms.

Repace, J.L., "Preliminary analysis of dose, exposure, and risk for 104 Hong Kong catering workers exposed to second hand smoke (SHS) at work only," [n.s.], [n.d.].

This paper describes the results of a study of the secondhand smoke exposure of catering workers in Hong Kong, based on levels of urinary cotinine, a nicotine metabolite.

YOltn, K.; Lanphear, B.P.; Dietrich, K.N.; Auinger, P., "Exposure to environmental tobacco smoke and cognitive ability among US children," *Cincinnati, OH: Cincinnati Children's Hospital Medical Center*, [n.d.].

This abstract describes a study of the effect of secondhand smoke exposure on cognitive function in children and youth; the study concluded that, "ETS is associated with cognitive deficits among children even at lower levels of exposure."

Brennan, P.; Buffler, P.A.; Reynolds, P.; Wu, A.H.; Wichmann, H.E.; Agudo, A.; Pershagen, G.; Jockel, K.; Benhamou, S.; Greenberg, R.S.; Merletti, F.; Winck, C.; Fontham, E.T.H.; Kreuzer, M.; Darby, S.C.; Forastiere, F.; Simonato, L.; Boffetta, P., "Secondhand smoke exposure in adulthood and risk of lung cancer among never smokers: a pooled analysis of two large studies," *International Journal of Cancer* 109(1): 125-141, March 10, 2004.

The objective of this study was to obtain precise and valid estimates of the risk of lung cancer in never smokers following exposure to secondhand smoke, including adjustment for potential confounders and exposure misclassification; the study found clear dose-response relationships consistent with a causal association between exposure to secondhand smoke from spousal, workplace and social sources and the development of lung cancer among never smokers.

Samet, J.M., "Adverse effects of smoke exposure on the upper airway," *Tobacco Control* 13(Suppl. 1): i57-i60, March 2004.

This study examined various studies on the adverse impact of secondhand smoke exposure on diseases of the upper airway, including sinuses, with an emphasis on

risks posed to flight attendants, and concluded that, "Evidence does not show a strong connection between active smoking and sinusitis, and active smokers have substantial exposures to SHS. However, extrapolation of these studies to cabin crews needs to be cautious, as other environmental conditions may increase risk for upper airway disease and symptoms. Surveys of cabin crews, while flawed, consistently indicate high rates of upper airway symptoms."

Hecht, S.S., "Carcinogen derived biomarkers: applications in studies of human exposure to secondhand tobacco smoke," *Tobacco Control 13(Suppl. 1): i48-i56*, March 2004.

This study reviewed the literature on carcinogen derived biomarkers of exposure to secondhand tobacco smoke (SHS) and concluded that "available carcinogen derived biomarker studies provide biochemical data which support the conclusion, based on epidemiologic investigations, that SHS causes lung cancer in nonsmokers." [Ed. note: the article includes a chart of carcinogens present in SHS.]

Matt, G.E.; Quintana, P.J.E.; Hovell, M.F.; Bernert, J.T.; Song, S.; Novianti, N.; Juarez, T.; Floro, J.; Gehrman, C.; Garcia, M.; Larson, S., "Households contaminated by environmental tobacco smoke: sources of infant exposures," *Tobacco Control 13(1): 29-37*, March 2004.

This research study examined whether dust and surfaces in households with smokers are contaminated by secondhand smoke and whether smoking parents can protect their babies by smoking outside. The study found that, "ETS contamination and ETS exposure were 5–7 times higher in households of smokers trying to protect their infants by smoking outdoors than in households of non-smokers. ETS contamination and exposure were 3–8 times higher in households of smokers who exposed their infants to ETS by smoking indoors than in households of smokers trying to protect their children by smoking outdoors. Dust and surfaces in homes of smokers are contaminated with ETS. Infants of smokers are at risk of ETS exposure in their homes through dust, surfaces, and air. Smoking outside the home and away from the infant reduces but does not completely protect a smoker's home from ETS contamination and a smoker's infant from ETS exposure."

Panagiotakos, D.B.; Pitsavos, C.; Chrysohoou, C.; Skoumas, J.; Masoura, C.; Toutouzias, P.; Stefanadis, C., "Effect of exposure to secondhand smoke on markers of inflammation: the ATTICA study," *American Journal of Medicine 116: 145-150*, February 1, 2004.

This study sought to investigate the effect of secondhand smoke exposure on inflammatory markers related to cardiovascular disease, and concluded, "Our results suggest that exposure to secondhand cigarette smoke leads to inflammation and oxidation. Even occasional exposure was related to increased levels of some inflammatory markers, and the effects of secondhand exposure were similar to the effects of active smoking."

de Andrade, M.; Ebbertt, J.O.; Wampfler, J.A.; Miller, D.L.; Marks, R.S.; Croghan, G.A.; Jatoi, A.; Finke, E.E.; Sellers, T.A.; Yang, P., "Environmental tobacco smoke exposure in women with lung cancer," *Lung Cancer 43(1): 123-134*, February 2004.

>From 1997 to 2001, 810 women with lung cancer were interviewed to obtain data including the source, intensity, and duration of ETS exposure; the study concluded "Over 95% of women with lung cancer in our study were exposed to tobacco smoke

through a personal smoking history or ETS. The cumulative amount of tobacco smoke exposure may be significantly underestimated if only personal smoking history is considered. Our results add to the public health implications of exposure to tobacco smoke and highlight the importance of eliminating tobacco smoking in public and private settings."

Siegel, M.; Albers, A.B.; Cheng, D.M.; Biener, L.; Rigotti, N.A., "Effect of local restaurant smoking regulations on environmental tobacco smoke exposure among youths," *American Journal of Public Health* 94(2): 321-325, February 2004.

This study examined the effect of local restaurant smoking regulations on restaurant environmental tobacco smoke exposure among youths, and found that compared with youths from towns with weak regulations, youths from towns with medium-strength regulations had 1.4 times the odds and youths from towns with strong regulations had twice the odds of reporting nonexposure.

Sturm, J.J., "Effects of tobacco smoke exposure on asthma prevalence and medical care use in North Carolina middle school children," *American Journal of Public Health* 94(2): 308-313, February 2004.

This study examined the role between secondhand smoke exposure and asthma among middle schools students in North Carolina and concluded that, "Children who currently smoked or reported any exposure to ETS were at increased risk of reporting active asthma symptoms. Exposure to ETS and childhood cigarette smoking was responsible for 15% of the asthma cases observed in the study population and \$1.34 million in excess medical expenditures."

Siegel, M.; Albers, A.B.; Cheng, D.M.; Biener, L.; Rigotti, N.A., "Effect of local restaurant smoking regulations on environmental tobacco smoke among youths," *American Journal of Public Health* 94(2): 321-325, February 2004.

This study examined the effect of local restaurant smoking regulations in Massachusetts on restaurant secondhand smoke exposure among youths and concluded that, "Strong local restaurant smoking regulations are associated with reduced environmental tobacco smoke exposure among youths."

Mahmud, A.; Feely, J., "Effects of passive smoking on blood pressure and aortic pressure waveform in healthy young adults – influence of gender," *British Journal of Clinical Pharmacology* 57(1): 37-43, January 2004.

This study examined the effect of passive smoking on wave reflection in the aorta, a marker of arterial stiffness, in healthy subjects. The study concluded that, "Acute exposure to passive smoking has a deleterious effect on the arterial pressure waveform in healthy young males but not in females, suggesting a possible protection of female gender from functional changes in arteries."

Upton, M.N.; Smith, G.D.; McConnachie, A.; Hart, C.L.; Watt, G.C.M., "Maternal and personal cigarette smoking synergize to increase airflow limitation in adults," *American Journal of Respiratory and Critical Care Medicine* 169: 479-487, 2004.

This study found that, "Maternal smoking impairs lung volume irrespective of personal smoking and appears to synergize with personal smoking to increase airflow limitation and COPD [chronic pulmonary obstructive disease]."

Sorahan, T.; Lancashire, R.J., "Parental cigarette smoking and childhood risks of hepatoblastoma: OSCC data," *British Journal of Cancer* 90: 1016-1018, 2004.

This paper examined smoking habits of parents of 43 UK children who died of hepatoblastoma in children, compared to parents of 5,777 health control children and concluded that "Hepatoblastoma risks were doubled if both parents smoked relative to neither parent smoking."

Anderson, C.S.; Feigin, V.; Bennett, D.; Lin, R.; Hankey, G.; Jamrozik, K., "Active and passive smoking and the risk of subarachnoid hemorrhage: an international population-based case-control study : abstract," *Stroke* 35: 633, 2004.

This study examined the risks associated with cigarette smoking and secondhand smoke exposure.

Jaakkola, M.S.; Piipari, R.; Jaakkola, N.; Jaakkola, J.J.K., "Environmental tobacco smoke and adult-onset asthma: a population-based incident case-control study," *American Journal of Public Health* 93(12): 2055-2060, December 2003.

This study assessed the effect of secondhand smoke (SHS) on the development of asthma in adults in South Finland and found that both cumulative lifetime and recent SHS exposures increase the risk of adult-onset asthma.

Anderson, K.E.; Kliris, J.; Murphy, L.; Carmella, S.G.; Han, S.; Link, C.; Bliss, R.L.; Puumala, S.; Murphy, S.E.; Hecht, S.S., "Metabolites of a tobacco-specific lung carcinogen in nonsmoking casino patrons," *Cancer Epidemiology, Biomarkers & Prevention* 12(12): 1544-1546, December 2003.

This study measured biomarkers in urine samples from nonsmokers before and after a 4-hour visit to a casino where smoking is allowed, and found that exposure of nonsmokers to secondhand smoke in a commercial setting results in uptake of a tobacco-specific lung carcinogen.

Sockrider, M.M.; Hudmon, K.S.; Addy, R.; Mullen, P.D., "An exploratory study of control of smoking in the home to reduce infant exposure to environmental tobacco smoke," *Nicotine & Tobacco Research* 5(6): 901-910, December 2003.

This study examined control of environmental tobacco smoke (ETS) exposure in the home by new mothers and identified factors related to the establishment of home smoking control rules; 63% had a home smoking policy in effect at 3 months, 60% at 6 months, and 64% at 12 months postpartum. Predictors of policy at 6 and 12 months included (a) having a policy in effect at the previous assessment, (b) confidence in limiting infant ETS exposure in the home, and (c) perceived difficulty in preventing exposure. Early establishment of a policy appears to be important for ensuring sustained infant ETS avoidance over time.

Siegel, M.; Skeer, M., "Exposure to secondhand smoke and excess lung cancer mortality

risk among workers in the "5 B's": bars, bowling alleys, billiard halls, betting establishments, and bingo parlours," *Tobacco Control* 12(3): 333-338, September 2003.

This study reviewed existing data on exposure to secondhand smoke in bars, bowling alleys, billiard halls, betting establishments, and bingo parlours; the study concluded that "Workers in the 5 B's have high levels of occupational exposure to secondhand smoke and must be included in workplace smoking regulations."

Zhu, B.; Heeschen, C.; Sievers, R.E.; Karliner, J.S.; Parmley, W.W.; Glantz, S.A.; Cooke, J.P., "Second hand smoke stimulates tumor angiogenesis and growth," *Cancer Cell* 4(3): 191-196, September 2003.

This study found that "second hand smoke stimulates tumor growth, in part by accelerating tumor angiogenesis, in a murine model of Lewis lung cancer."

Mack, W.J.; Islam, T.; Lee, Z.; Selzer, R.H.; Hodis, H.N., "Environmental tobacco smoke and carotid arterial stiffness," *Preventive Medicine* 37(2): 148-154, August 2003.

This study examined the effect of secondhand smoke exposure on carotid arterial stiffness and found that "arterial stiffness is adversely associated with ETS in a dose-dependent manner" especially among people with a higher body mass index and greater carotid artery intima-media thickness.

Ott, W. R.; Klepeis, N.E.; Switzer, P., "Analytical solutions to compartmental indoor air quality models with application to environmental tobacco smoke concentrations measured in a house," *Journal of the Air & Waste Management Association* 53: 918-936, August 2003.

This paper provides guidance on measuring levels of secondhand smoke in private homes.

McMillen, R.C.; Winickoff, J.P.; Klein, J.D.; Weitzman, M., "US adult attitudes and practices regarding smoking restrictions and child exposure to environmental tobacco smoke: changes in the social climate from 2000-2001," *Pediatrics* 112(1): e55-e-60, July 2003.

This study found that small improvements in adult attitudes and practices regarding children's secondhand smoke (SHS) exposure in homes and cars from 2000-2001, but stated that a significant number of adults remained unaware of the hazards of childhood SHS exposure.

Gilliland, F.D.; Berhane, K.; Islam, T.; Wenten, M.; Rappaport, E.; Avol, E.; Gauderman, W.J.; McConnell, R.; Peters, J.M., "Environmental tobacco smoke and absenteeism related to respiratory illness in schoolchildren," *American Journal of Epidemiology* 157(1): 861-869, May 15, 2003.

This study examined the relationships between secondhand smoke exposure, asthma status, and illness-related school absenteeism in 1,932 fourth-grade children from 12 southern California communities; the study concluded that, "ETS exposure is associated with increased respiratory-related school absenteeism among children, especially those with asthma."

Johnsson, T.; Tuomi, T.; Hyvarinen, M.; Svinhufvud, J.; Rothberg, M.; Reijula, K., "Occupational exposure of non-smoking restaurant personnel to environmental tobacco smoke in Finland," *Am. J. Ind. Med.* 43(5): 523-531, May 2003.

This abstract described a study which found that restaurant personnel in Finland were heavily exposed to secondhand smoke in a majority of cases.

Miller, D.P.; De Vivo, I.; Neuberger, D.; Wain, J.C.; Lynch, T.J.; Su, L.; Christiani, D.C., "Association between self-reported environmental tobacco smoke exposure and lung cancer: modification by GSTP1 polymorphism," *Int J Cancer* 104(6): 758-763, May 2003.

This is an abstract for a study into the association between self-reported environmental tobacco smoke exposure and lung cancer.

Aligne, C.A.; Moss, M.E.; Auinger, P.; Weitzman, M., "Association of pediatric dental caries with passive smoking," *Journal of the American Medical Association* 289(10): 1258-1264, March 12, 2003.

A study based on data from the Third National Health and Nutrition Examination Survey found a strong correlation between children exposed to secondhand smoke at home and high incidence of dental cavities.

Blizzard, L.; Ponsonby, A.; Dwyer, T.; Venn, A.; Cochrane, J.A., "Parental smoking and infant respiratory infection: how important is not smoking in the same room with the baby?," *American Journal of Public Health* 93(3): 482-488, March 2003.

This study on parental smoking finds that infants whose mothers smoke are 50 percent more likely to be hospitalized with a respiratory infection during their first year than infants of nonsmoking mothers; the study also finds that smoking mothers who do not smoke in the same room as their infant greatly reduce the risk of respiratory infection for their child.

Johansson, A.; Halling, A.; Goran, H., "Indoor and outdoor smoking: impact on children's health," *European Journal of Public Health* 13(1): 61-66, March 2003.

An abstract of a Swedish research study, which found that children of smoking parents are at significantly higher risk for upper respiratory infections and that even parents who smoke outside are still placing their children at risk.

Corbo, G.M.; Forastiere, F.; Agabiti, N.; Dell'Orco, V.; Pistelli, R.; Massi, G.; Perucci, C.A.; Valente, S., "Passive smoking and lung function in alpha(1)-antitrypsin heterozygote schoolchildren," *Thorax* 58(3): 237-241, March 2003.

This abstract briefly described the results of a research study on the effect of secondhand smoke on lung function in alpha(1)-antitrypsin heterozygote schoolchildren, and stated, "The detrimental effect of environmental tobacco smoke on lung function in schoolchildren is confirmed."

Alo, C.; Huang, P.; McCusker, M.E., "Secondhand smoke exposure among middle and high

school students — Texas, 2001," *Morbidity and Mortality Weekly Report* 52(8): 152-154, February 28, 2003.

This study found that half of middle school students and two-thirds of high school students surveyed were exposed to secondhand smoke within the week preceding the survey; those who considered secondhand smoke a health danger had lower rates of exposure.

Chang, A.B.; Wilson, S.J.; Masters, I.B.; Yuill, M.; Williams, J.; Williams, G.; Hubbard, M., "Altered arousal response in infants exposed to cigarette smoke," *Archives of Disease in Childhood* 88(1): 30-33, January 2003.

This study examined the role of maternal smoking while pregnant on the arousal mechanism of those infants after birth; the study found that at the age when the incidence of Sudden Infant Death Syndrome (SIDS) is at its peak, infants of smoking mothers are less rousable than those of non-smoking mothers in NREM sleep, which may partially explain why such infants are more at risk of SIDS.

Centers for Disease Control and Prevention (CDC), "Second national report on human exposure to environmental chemicals [excerpt]," *Atlanta, GA: Centers for Disease Control and Prevention (CDC)*, January 2003.

This excerpt from a larger report provides the findings regarding cotinine levels in nonsmokers; the data is broken out by age group, gender, and race/ethnicity.

Dietrich, M.; Block, G.; Norkus, E.P.; Hudes, M.; Traber, M.G.; Cross, C.E.; Packer, L., "Smoking and exposure to environmental tobacco smoke decrease some plasma antioxidants and increase -tocopherol in vivo after adjustment for dietary antioxidant intakes," *American Journal of Clinical Nutrition* 77(1): 160-166, January 2003.

This study found that nonsmokers exposed to secondhand smoke have significantly lower plasma antioxidant status than unexposed smokers, independent of differences in dietary antioxidant intakes.

West, D.C.; Romano, P.S.; Azari, R.; Rudominer, A.; Holman, M.; Sandhu, S., "Impact of environmental tobacco smoke on children with sickle cell disease," *Archives of Pediatrics and Adolescent Medicine* 157: 1197-1201, 2003.

This study examined the impact of secondhand smoke exposure on children with sickle cell disease (SCD) and found that, "Children with SCD who are exposed to ETS have a higher risk of sickle cell crises requiring hospitalization than do those not exposed, independent of other factors known to increase the frequency of sickle cell crises. Decreasing the exposure of these children to ETS could reduce morbidity and may provide cost savings."

Pizacani, B.A.; Martin, D.P.; Stark, M.J.; Koepsell, T.D.; Thompson, B.; Diehr, P., "Household smoking bans: which households have them and do they work?," *Preventive Medicine* 36: 99-107, 2003.

This study examined Oregon households to determine the type and degree of smoking restrictions and to determine if such restrictions are associated with a decreased

exposure to secondhand smoke; they study found that 50 percent of Oregon households with a smoker and a child present do not have a full ban on indoor smoking.

James, C.; Klenka, H.; Manning, D., "Sudden Infant Death Syndrome: bed-sharing with mothers who smoke," *[n.s.]*, [2003].

This study found that bed-sharing and smoking are both risk factors for Sudden Infant Death Syndrome (SIDS).

Taylor, M.; Murray, R.; Lertzman, M.; Hunter, K.; Dubenski, N.; Kutnikoff, T., "Effects of complete and partial smoking bans on the respiratory health of hospitality workers in Brandon and Winnipeg, Manitoba," *[University of Manitoba?]*, [2003].

This research study compared exposure to secondhand smoke among hospitality workers in Brandon and Winnipeg, Manitoba; the study found that workers in establishments not covered by a smokefree law suffered from more smoking related health problems than those working in smokefree environments.

Preston, A.; Rodriguez, C.; Rivera, C.; Sahai, H., "Influence of environmental tobacco smoke on vitamin C status in children," *Journal of The American Society for Clinical Nutrition* 77: 167-172, 2003.

This research study found that even minimal exposure to secondhand smoke reduces the concentration of vitamin C in children.

Berman, B.A.; Wong, G.C.; Bastani, R.; Hoang, T.; Jones, C.; Goldstein, D.R.; Bernert, J.T.; Hammond, K.S.; Tashkin, D.; Lewis, M.A., "Household smoking behavior and ETS exposure among children with asthma in low-income, minority households," *Addictive Behaviors* 28(1): 111-128, January-February, 2003.

This study measured secondhand smoke exposure among 242 children with asthma who lived in homes where at least one person smoked.

Soussan, D.; Liard, R.; Zureik, M.; Touron, D.; Rogeaux, Y.; Neukirch, F., "Treatment compliance, passive smoking, and asthma control: a three year cohort study," *Archives of Disease in Childhood* 88(3): 229-233, 2003.

This study examined the role of treatment compliance and parental smoking on asthma control in children, and concluded that, "to maximise the benefits of available asthma medication and to improve health outcomes, further efforts should be made to convince the parents of asthmatic children not to smoke in the house, and to improve compliance by increasing the patients' understanding of the disease and its treatment."

Drongowski, R.A.; Lee, D.; Reynolds, P.I.; Malviya, S.; Harmon, C.M.; Geiger, J.; Lelli, J.L.; Coran, A.G., "Increased respiratory symptoms following surgery in children exposed to environmental tobacco smoke," *Paediatric Anaesthesia* 13: 304-310, 2003.

This study examined whether children exposed to secondhand smoke by their parents

had more respiratory symptoms and longer recovery times following outpatient surgeries than non-exposed children; the study concluded that "in children undergoing general anaesthesia for inguinal hernia repair, ETS exposure was associated with an increased frequency of respiratory symptoms during emergence from anaesthesia and during postoperative recovery."

Gehrman, C.A.; Hovell, M.F., "Protecting children from environmental tobacco smoke (ETS) exposure: a critical review," *Nicotine & Tobacco Research* 5(3): 289-301, 2003.

This study examined the results of 19 studies on interventions to reduce children's secondhand smoke exposure and evaluated which strategies, e.g., physician-based, home-based, etc., were most effective.

Tamim, H.; Msuharrafieh, U.; Roueheb, Z.; Yunis, K.; Almawi, W.Y., "Exposure of children to environmental tobacco smoke (ETS) and its association with respiratory ailments," *Journal of Asthma* 40(5): 571-576, 2003.

This study assessed the impact of secondhand smoke exposure in the home on the development of respiratory illnesses in children aged 10-15 in Beirut, Lebanon, and found children exposed to smoke had higher odds of developing a respiratory problem.

National Toxicology Program (NTP), "10th Report on Carcinogens," *U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program (NTP)*, 2003.

This is the 10th Report on Carcinogens from the National Toxicology Program (NTP); like the 9th Report, it lists secondhand smoke as a human carcinogen and states, "Environmental tobacco smoke (ETS) is known to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in humans that indicate a causal relationship between passive exposure to tobacco smoke and human lung cancer (IARC 1986, EPA 1992, CEPA 1997). Studies also support an association of ETS with cancers of the nasal sinus (CEPA 1997)."

Eisner, M.D., "Environmental tobacco smoke and adult asthma," *Clinics in Chest Medicine* 23(4): 749-761, December 2002.

This article analyzed secondhand smoke exposure as a cause of adult asthma and its effect in exacerbating pre-existing adult asthma; the study found that "ETS exposure seems to be common among adults with asthma."

McQuaid, E.L.; Walders, N.; Borrelli, B., "Environmental tobacco smoke exposure in pediatric asthma: overview and recommendations for practice," *Clinical Pediatrics* 42: 775-787, November/December, 2003.

This study described the effect of secondhand smoke exposure on childhood asthma and made recommendations for medical practitioners to intervene with smoking parents to reduce this exposure.

Pitsavos, C.; Panagiotakos, D.B.; Chrysohoou, C.; Skoumas, J.; Tzioumis, K.; Stefanadis, C.; Toutouzas, P., "Association between exposure to environmental tobacco smoke and the development of acute coronary syndromes: the CARDIO2000 case-control study," *Tobacco*

Control 11(3): 220-225, September 2002.

This study assessed the exposure of patients with acute coronary syndromes to secondhand smoke (SHS); the study found that 86 percent of the patients and 56 percent of the control subjects reported current exposure of 30 minutes per day or more to SHS; among current nonsmokers, patients were 47 percent more likely to report regular exposure to SHS than controls.

Mendell, M.J.; Fisk, W.J.; Kreiss, K.; Levin, H.; Alexander, D.; Cain, W.S.; Girman, J.R.; Hines, C.J.; Jensen, P.A.; Milton, D.K.; Rexroat, L.P.; Wallingford, K.M., "Improving the health of workers in indoor environments: priority research needs for a national occupational research agenda," *American Journal of Public Health* 92(9): 1430-1440, September 2002.

This study examined the health impacts of contaminants in indoor work environments in the U.S., and the potential health and economic benefits of improving the environments (ventilation research needs were listed); the study estimated that 10-30 million workers are exposed to secondhand smoke, resulting in 2,000-11,000 deaths from cardiovascular disease and 100-600 cases of lung cancer; the economic costs of the exposure are between \$30 to 140 million in health care costs alone; costs of absence from work and other performance losses were not estimated.

Radon, K.; Büsching, K.; Heinrich, J.; Wichmann, H.E.; Jörres, R.A.; Magnussen, H.; Nowak, D., "Passive smoking exposure*: a risk factor for chronic bronchitis and asthma in adults?," *CHEST* 122(3): 1086-1090, September 2002.

This study examined data from the European Community Respiratory Health Survey on respiratory symptoms related to secondhand smoke exposure among German adults and found that the relative odds for chronic bronchitis were significantly higher in subjects reporting secondhand smoke exposure in the workplace, and the risk for asthma was slightly elevated.

Mannino, D.M.; Homa, D.M.; Redd, S.C., "Involuntary smoking and asthma severity in children: data from the Third National Health and Nutrition Examination Survey," *CHEST* 122(2): 409-415, August 2002.

This study sought to determine the indicators of asthma severity among children in the United States with high and low levels of secondhand smoke exposure and found that exposure to secondhand smoke is associated with increased asthma severity and worsened lung function in children with asthma.

Chang-Claude, J.; Kropp, S.; Jäger, B.; Bartsch, H.; Risch, A., "Differential effect of NAT2 on the association between active and passive smoke exposure and breast cancer risk," *Cancer Epidemiology, Biomarkers & Prevention* 11: 698-704, August 2002.

This study examined the differential effect of NAT2 on the association between active and passive smoke exposure and breast cancer risk.

Eisner, M.D., "Environmental tobacco smoke exposure and pulmonary function among adults in NHANES III: impact on the general population and adults with current asthma,"

Environmental Health Perspectives 110(8): 765-770, August 2002.

This study found that secondhand smoke exposure is associated with decreased pulmonary function in adult females, especially in those with asthma.

Besaratinia, A.; Maas, L.M.; Brouwer, E.M.C.; Moonen, E.J.C.; De Kok, T.M.C.M.; Wesseling, G.J.; Loft, S.; Kleinjans, J.C.S.; Van Schooten, F.J., "A molecular dosimetry approach to assess human exposure to environmental tobacco smoke in pubs," *Carcinogenesis* 23(7): 1171-1176, July 2002.

This study measured secondhand smoke exposure in bars and its effect on lung cancer; the study concluded "that real life exposure to ETS can give rise to pro-mutagenic lesions in the lower airway, and this can be best investigated in a relevant surrogate matrix such as induced sputum."

Bayer, R.; Colgrove, J., "Science, politics, and ideology in the campaign against environmental tobacco smoke," *American Journal of Public Health* 92(6): 949-954, June 2002.

This historical overview of the clean indoor air movement in the United States from the 1970s to the present day focuses on the politics and ideology of the movement; the paper reviews the public opinion shift regarding secondhand smoke, research studies of secondhand smoke's effects, and industry strategies to counter the growing trend toward clean indoor air ordinances.

Wortley, P.M.; Caraballo, R.S.; Pederson, L.L.; Pechacek, T., "Exposure to secondhand smoke in the workplace: serum cotinine by occupation," *Journal of Occupational and Environmental Medicine* 44(6): 503-509, June 2002.

This study examined workplace exposure of nonsmoking adults to secondhand smoke by occupation; the highest levels of cotinine were found in waiters and waitresses; the study concluded that overall exposure varied by occupation type and had decreased from the period 1988-1991 to 1991-1994.

Bates, M.N.; Fawcett, J.; Dickson, S.; Berezowski, R.; Garrett, N., "Exposure of hospitality workers to environmental tobacco smoke," *Tobacco Control* 11(2): 125-129, June 2002.

This study attempted to determine the extent of exposure of New Zealand hospitality workers to secondhand smoke during the course of the work shift, and to relate these results to the smoking policy of the workplace; hospitality workers in establishments that permitted smoking had significantly greater increases in salivary cotinine levels over the duration of the work shift than workers in smokefree premises.

Dejmek, J.; Solansky, I.; Podrazilova, K.; Sram, R., "The exposure of nonsmoking and smoking mothers to environmental tobacco smoke during different gestational phases and fetal growth," *Environmental Health Perspectives* 110(6): 601-606, June 2002.

This study examined the impact of maternal exposure to secondhand smoke on birth weight, low birth weight, and intrauterine growth retardation; the study found that exposure reduced the birth weight of infants of nonsmoking mothers, contributed to additional reductions in birth weight among babies of smoking mothers, and increased the risk of low birth weight among babies born to nonsmoking mothers.

Warner, J., "Secondhand smoke stalls young minds: exposure affects reading, math skills," *WebMD*, May 6, 2002.

A study conducted by Kimberly Yolton of the Cincinnati Children's Hospital Medical Center found that children who are exposed to secondhand smoke suffer from poorer math and reading comprehension skills; the greater the levels of cotinine - an indicator of exposure - the greater the impairment.

Lieu, J.E.C.; Feinstein, A.R., "Effect of gestational and passive smoke exposure on ear infections in children," *Arch Pediatr Adolesc Med* 156: 147-154, February 2002.

This study was intended to estimate the relative risk for ear infections in children due to secondhand smoke exposure, maternal smoking during pregnancy, or a combination of the two.

McMartin, K.I.; Platt, M.S.; Hackman, R.; Klein, J.; Smialek, J.E.; Vigorito, R.; Koren, G., "Lung tissue concentrations of nicotine in sudden infant death syndrome (SIDS)," *Journal of Pediatrics* 140(2): 205-209, February 2002.

This study measured the levels of nicotine and cotinine in the lung tissue of children that died of Sudden Infant Death Syndrome (SIDS) and found that they "tended to have higher concentrations of nicotine in their lungs than control children, regardless of whether smoking was reported."

Rachtan, J., "Smoking, passive smoking and lung cancer cell types among women in Poland [abstract]," *Lung Cancer* 35(2): 129-136, February 2002.

An abstract of a study conducted in Poland, which analyzed the risk of lung cancer posed by smoking and secondhand smoke exposure among a sample of 242 women with lung cancer and 352 healthy controls.

Okah, F.; Choi, W.S.; Okuyemi, K.S.; Ahluwalia, J.S., "Effects of children on home smoking restrictions by inner-city smokers," *Pediatrics* 109(2): 244-249, February 2002.

This study found that the presence of children and of nonsmoking adults is associated with smoking restrictions in the homes of inner-city smokers.

Slotkin, T.A.; Pinkerton, K.E.; Auman, J.T.; Qiao, D.; Seidler, F.J., "Perinatal exposure to environmental tobacco smoke upregulates nicotinic cholinergic receptors in monkey brain," *Brain Res Dev Brain Res* 133(2): 175-179, February 2002.

This study examined the effect of perinatal secondhand smoke exposure on neurotransmitters in monkey brains.

Zollinger, T.W.; Saywell, Jr., R.M.; Overgaard, A.D.; Holloway, A.M., "The economic impact of secondhand smoke on the health of residents and employee smoking on business costs in

Marion County, Indiana for 2000," *Marion County Health Department*, February 2002.

This study estimated the health costs of secondhand smoke exposure to residents as well as the economic impact of employee smoking on businesses in Marion County, Indiana; the combined costs of health care and premature loss of life among nonsmokers attributed to secondhand smoke exposure in the county were estimated to be at least \$56.2 million in 2000.

Wakefield, M.; Danham, D.; McCaul, K.; Martin, J.; Ruffin, R.; Badcock, N.; Roberts, L., "Effect of feedback regarding urinary cotinine and brief tailored advice on home smoking restrictions among low-income parents of children with asthma: a controlled trial," *Preventive Medicine* 34(1): 58-65, January 1, 2002.

An Australian study found that attempts to restrict secondhand smoke in low income homes with asthmatic children were not very effective; the researchers recommended more intensive interventions.

Yu, M.; Pinkerton, K.E.; Witschi, H., "Short-term exposure to aged and diluted sidestream cigarette smoke enhances ozone-induced lung injury in B6C3F1 mice," *Toxicological Sciences* 65(1): 99-106, January 2002.

This study examined the effects of aged and diluted sidestream cigarette smoke (ADSS) as a surrogate of environmental tobacco smoke on ozone-induced lung injury in mice.

de Groh, M.; Morrison, H.I., "Environmental tobacco smoke and deaths from coronary heart disease in Canada," *Chronic Diseases in Canada* 23(1), 2002.

This Canadian secondhand smoke study found that nonsmokers who live with smokers are at greater risk for coronary heart disease; it concluded that in 1997, at the very least, 800 Canadians died from secondhand smoke caused heart disease.

Bogen, K.T.; Witschi, H., "Lung tumors in A/J mice exposed to environmental tobacco smoke: estimated potency and implied human risk," *Carcinogenesis* 23(3): 511-519, 2002.

This study examined the effect of secondhand smoke exposure and the development of lung tumors in mice; and speculated on the possible relevance of this research as a biological model of ETS-induced human lung tumors.

Morabia, A., "Smoking (active and passive) and breast cancer: epidemiologic evidence up to June 2001," *Environmental and Molecular Mutagenesis* 39: 89-95, 2002.

This study provides a literature review of studies that examined the possible link between smoking, secondhand smoke exposure, and breast cancer.

Knight-Lozano, C.A.; Young, C.G.; Burow, D.L.; Hu, Z.Y.; Uyeminami, D.; Pinkerton, K.E.; Ischiropoulos, H.; Ballinger, S.W., "Cigarette smoke exposure and hypercholesterolemia increase mitochondrial damage in cardiovascular tissues," *Circulation* 105: 849-854, 2002.

This study examined the effects of secondhand smoke exposure on mitochondrial

proteins in
mice.

Bertone, E.R.; Snyder, L.A.; Moore, A.S., "Environmental tobacco smoke and risk of malignant lymphoma in pet cats," *American Journal of Epidemiology* 156(3): 268-273, 2002.

This study examined the effect of household exposure to secondhand smoke (SHS) on cats and the development of feline malignant lymphoma and found that "passive smoking may increase the risk of malignant lymphoma in cats and that further study of this relation in humans is warranted."

Apostol, G.G.; Jacobs, Jr., D.R.; Tsai, A.W.; Crow, R.S.; Williams, O.D.; Townsend, M.C.; Beckett, W.S., "Early life factors contribute to the decrease in lung function between ages 18 and 40: the Coronary Artery Risk Development in Young Adults Study," *American Journal of Respiratory and Critical Care Medicine* 166(2): 166-172, 2002.

This study found examined lung function in a group of black and white men and women aged 18-30 years and found that smoking by family members was related to early life asthma and may have encouraged behaviors resulting in decreased lung function "such as heavier smoking or earlier smoking initiation."

Samet, J.M., "Workshop summary: assessing exposure to environmental tobacco smoke in the workplace. Paper presented at Work, Smoking, and Health: A NIOSH Scientific Workshop," *Work, smoking, and health: a NIOSH scientific workshop, June 15-16, 2000 Washington Court Hotel, Washington, D.C. Centers for Disease Control (CDC)*, [2002].

This paper summarized the results of a workshop to determine the best methods for measuring secondhand smoke exposure in the workplace, and made recommendations for future areas of research.

Jaakkola, M.S.; Samet, J.M., "Summary workshop: health risks attributable to ETS exposure in the workplace. Paper presented at Work, Smoking, and Health: A NIOSH Scientific Workshop," *Work, smoking, and health: a NIOSH scientific workshop, June 15-16, 2000 Washington Court Hotel, Washington, D.C. Centers for Disease Control (CDC)*, [2002].

This paper summarized the results of a workshop that reviewed existing research and research methods to determine the health hazards attributable to secondhand smoke exposure.

Shopland, D.R., "Environmental tobacco smoke in the workplace: trends in protection of U.S. workers. Paper presented at Work, Smoking, and Health: A NIOSH Scientific Workshop," *Work, smoking, and health: a NIOSH scientific workshop, June 15-16, 2000 Washington Court Hotel, Washington, D.C. Centers for Disease Control (CDC)*, [2002].

This paper used data from the Current Population Survey (CPS) to determine the existence of workplace smoking policies in indoor workplaces in the U.S.; in 1995-1996, 63 percent of all U.S. indoor workers reported smokefree policies at their places of employment.

Dement, J.M., "Tobacco smoking and workplace hazards: cancer, heart disease, and other

occupational risks. Paper presented at Work, Smoking, and Health: A NIOSH Scientific Workshop," *Work, smoking, and health: a NIOSH scientific workshop, June 15-16, 2000 Washington Court Hotel, Washington, D.C. Centers for Disease Control (CDC)*, [2002].

This paper analyzed the health interaction between active and passive smoking and workplace exposures to physical, chemical, and biological agents.

Brownson, R.C.; Hopkins, D.P., "Policy-related approaches to reducing environmental tobacco smoke exposure in the workplace. Paper presented at Work, Smoking, and Health: A NIOSH Scientific Workshop," *Work, smoking, and health: a NIOSH scientific workshop, June 15-16, 2000 Washington Court Hotel, Washington, D.C. Centers for Disease Control (CDC)*, [2002].

This paper discussed the health reasons for smokefree workplaces; studies that measure workplace secondhand smoke exposure; policy options; and the effects and effectiveness of workplace clean indoor air policies.

Coker, A.L.; Bond, S.M.; Williams, A.; Gerasimova, T.; Pirisi, L., "Active and passive smoking, high-risk human papillomaviruses and cervical neoplasia," *Cancer Detection and Prevention* 26(2): 121-128, 2002.

This study found that active smoking and exposure to secondhand smoke might be co-factors in the development of high-grade cervical squamous intraepithelial lesions among at risk women.

Blum, M.; Harris, S.S.; Must, A.; Phillips, S.M.; Rand, W.M.; Dawson-Hughes, B., "Household tobacco smoke exposure is negatively associated with premenopausal bone mass," *Osteoporosis International* 13(8): 663-668, 2002.

This study examined whether secondhand smoke exposure in otherwise healthy premenopausal women could cause reduced bone mineral density (BMD) and concluded, "...household tobacco smoke exposure during adolescence and young adulthood was found to be negatively associated with BMD at the total hip and femoral neck, and duration of exposure was negatively associated with BMD at the total hip, femoral neck, lumbar spine and total body in premenopausal women."

Eisner, M.D.; Blanc, P.D., "Environmental tobacco smoke exposure during travel among adults with asthma," *CHEST* 122: 826-828, 2002.

This study interviewed 374 nonsmoking adults with asthma from California regarding their secondhand smoke exposure while travelling and found that such exposure was common while travelling and "For many subjects, travel is their principal source of exposure."

Kreuzer, M.; Heinrich, J.; Kreienbrock, L.; Rosario, A.S.; Gerken, M.; Wichmann, H.E., "Risk factors for lung cancer among nonsmoking women," *International Journal of Cancer* 100: 706-731, 2002.

This study evaluated the risk factors for lung cancer among nonsmoking women, using data from a German case-control study, and found that secondhand smoke exposure at work or at home, occupational hazards, and previous pneumonia may be risk factors, while a diet rich in fresh vegetables and cheese seems to be protective.

Bertone, E.R.; Snyder, L.A.; Moore, A.S., "Environmental tobacco smoke and risk of malignant lymphoma in pet cats," *American Journal of Epidemiology* 156(3): 268-273, 2002.

This study found that secondhand smoke exposure may increase the risk of malignant lymphoma in pet cats.

McGhee, S.M.; Hedley, A.J.; Ho, L.M., "Passive smoking and its impact on employers and employees in Hong Kong," *Occupational & Environmental Medicine* 59: 842-846, 2002.

This study examined the prevalence of secondhand smoke exposure in Hong Kong workplaces and analyzed the characteristics of nonsmokers exposed at their workplaces, including visits to doctors; the study estimated that secondhand smoke in the workplace costs Hong Kong employers US\$9 million per year and affected workers US\$20 million per year in health care costs.

Schuster, M.A.; Franke, T.; Pham, C.B., "Smoking patterns of household members and visitors in homes with children in the United States," *Archives of Pediatrics & Adolescent Medicine* 156: 1094-1100, 2002.

This study examined the prevalence and pattern of secondhand smoke exposure in U.S. homes with children under 18 years of age and found that 35 percent of U.S. children (21 million children) live in homes where regular smoking occurs.

Astrup, H.; Brockmoller, J.; Cascorbi, I.; Daly, A.K.; Golka, K.; Okkels, H.; Risch, A.; Rothman, N.; Sim, E.; Taioli, E.; Vineis, P.; Marinelli, D., "Current smoking, occupation, N-Acetyltransferase-2 and bladder cancer," *Cancer Epidemiology Biomarkers & Prevention* 10: 1249-1252, December 2001.

This abstract of a study indicates that the presence of the N-Acetyltransferase-2 genotype becomes a risk factor for bladder cancer when persons with the genotype smoke or are exposed to environmental carcinogens.

Woodward, A.; Laugesen, M., "How many deaths are caused by second hand cigarette smoke?," *Tobacco Control* 10(4): 383-388, December 2001.

This study estimated the number of deaths in New Zealand per year due to secondhand smoke exposure to be 347, with a "plausible range" of 174-490 avoidable deaths per year.

Bero, L.A.; Montini, T.; Bryan-Jones, K.; Mangurian, C., "Science in regulatory policy making: case studies in the development of workplace smoking restrictions," *Tobacco Control* 10(4): 329-336, December 2001.

This study examined the role of scientific arguments in the development of workplace clean indoor air laws in Maryland and Washington and found that "opposition to the regulations came primarily from the tobacco industry, small businesses, and business organizations and appeared to be coordinated; the study also found that scientific arguments were used more frequently by those opposed to the laws.

Wilson, S.R.; Yamada, E.G.; Sudhakar, R.; Roberto, L.; Mannino, D.; Mejia, C.; Huss, N.,

"A controlled trial of an environmental tobacco smoke reduction intervention in low-income children with asthma," *Chest* 120(5): 1709-1722, November 2001.

This study measured the effectiveness of "a cotinine-feedback, behaviorally based education intervention in reducing environmental tobacco smoke (ETS) exposure and health-care utilization of children with asthma."

[n.a.], "U.S. workers exposed to secondhand smoke," *Nation's Health* 31(9): 6, October 2001.

A study published in the August 2001 "Journal of Occupational and Environmental Medicine" found that almost one-third of American workers are exposed to secondhand smoke in the workplace; nationwide, 69 percent of all indoor workers reported a smokefree environment, compared to 46 percent in 1993.

Gergen, P.J., "Environmental tobacco smoke as a risk factor for respiratory disease in children," *Respiration Physiology* 128(1): 39-46, October 2001.

This paper is a review of available literature on the role that secondhand smoke plays in respiratory diseases, including asthma, among children.

Zhang, J.; Jiang, S.; Watson, R.R., "Antioxidant supplementation prevents oxidation and inflammatory responses induced by sidestream cigarette smoke in old mice," *Environmental Health Perspectives* 109(10): 1007-1009, October 2001.

This study examined the effect of portions of secondhand smoke on the bodies of mice, and the possible protective benefits of antioxidant supplements.

Junker, M.H.; Danuser, B.; Monn, C.; Koller, T., "Acute sensory responses of nonsmokers at very low environmental tobacco smoke concentrations in controlled laboratory settings," *Environmental Health Perspectives* 109(10): 1045-1052, October 2001.

This study examined the odor detection threshold and acute sensory responses of nonsmokers for low levels secondhand smoke, the authors concluded that the study "strongly supports the implementation and control of smoking policies such as segregating smoking areas from areas where smoking is not permitted or instituting smoking bans in public buildings," and that ventilation would be an impractical means of protecting nonsmokers.

Tunstall-Pedoe, R.C.; Tavendale, R., "Environmental tobacco smoke and lung function in employees who never smoked: the Scottish MONICA study," *Occupational & Environmental Medicine* 58(9): 563-568, September 2001.

This study examined the effect of secondhand smoke exposure in the workplace on the lung function of nonsmokers and found that both men and women experienced a reduction in lung function.

Heloma, A.; Jaakkola, M.S.; Kahkonen, E.; Reijula, K., "The short-term impact of national smoke-free workplace legislation on passive smoking and tobacco use," *American Journal of Public Health* 91(9): 1416-1418, September 2001.

This study examined the short-term impact of national smokefree workplace legislation in Finland on employee secondhand smoke exposure and employee tobacco use; the legislation was more effective than voluntary policies at reducing levels of secondhand smoke exposure and cigarette consumption rates.

Larsson, M.L.; Frisk, M.; Hallstrom, J.; Kiviloog, J.; Lundback, B., "Environmental tobacco smoke exposure during childhood is associated with increased prevalence of asthma in adults," *CHEST* 120(3): 711-717, September 2001.

This study conducted in Sweden found that childhood exposure to secondhand smoke is associated with an increased prevalence of asthma among adult never-smokers and that children exposed to secondhand smoke are also more likely to become smokers themselves..

Mannino, D.M.; Caraballo, R.; Benowitz, N.; Repace, J., "Predictors of cotinine levels in US children*: data from the Third National Health and Nutrition Examination Survey," *CHEST* 120(3): 718-724, September 2001.

This study examined what factors predict cotinine levels in U.S. children and concluded that, "While the reported number of cigarettes smoked in the home is the most important predictor of cotinine levels in children exposed to smoke and may provide an opportunity for clinical intervention, other demographic factors are important among children both with and without reported smoke exposure."

Venners, S.A.; Wang, X.; Chen, C.; Wang, B.; Nni, J.; Jin, Y.; Yang, J.; Fang, Z.; Weiss, S.T.; Xu, X., "Exposure-response relationship between paternal smoking and children's pulmonary function," *American Journal of Respiratory and Critical Care Medicine* 164(6): 973-976, September 2001.

This study from China examined the effect of paternal smoking on children's respiratory health.

Otsuka, R.; Watanabe, H.; Hirata, K.; Tokai, K.; Muro, T.; Yoshiyama, M.; Takeuchi, K.; Yoshikawa, J., "Acute effects of passive smoking on the coronary circulation in healthy young adults," *Journal of the American Medical Association* 286(4): 436-441, July 25, 2001.

This study, conducted in Japan, found that secondhand smoke exposure caused damage to the hearts of healthy nonsmokers after just 30 minutes.

Emmons, K.M.; Hammond, K.; Fava, J.L.; Velicer, W.F.; Evans, J.L.; Monroe, A.D., "A randomized trial to reduce passive smoke exposure in low-income households with young children," *Pediatrics* 108(1): 18-24, July 2001.

This study measured nicotine levels in children exposed to secondhand smoke before and after an educational intervention with parents, and found nicotine levels were lower in children whose parents had received motivational intervention.

Susman, E., "Frequent fumers: airport study shows smoke gets to your heart," *Environmental Health Perspectives* 109(7), July 2001.

This article reports on a study published in the journal "Environmental Health Perspectives," which found that secondhand smoke in airport smoking lounges adversely affected the heart rate variability of healthy nonsmokers.

Pope, III, C.A.; Eatough, D.J.; Gold, D.R.; Pang, Y.; Nielsen, K.R.; Nath, P.; Verrier, R.L.; Kanner, R.E., "Acute exposure to environmental tobacco smoke and heart rate variability," *Environmental Health Perspectives* 109(7): 711-716, July 2001.

This study evaluated acute ETS exposure in a commercial airport with changes in heart rate variability (HRV) in sixteen adult nonsmokers and found that ETS exposure was negatively associated with all measure of HRV; the study concludes that this may be part of the pathophysiologic mechanisms linking ETS exposure and increased risk of heart disease.

Hedley, A.J.; McGhee, S.M.; Repace, J.; Wong, T.W.; Yu, M.Y.S.; Chan, A.Y.W.; Lam, T.H.; Lo, P.C.K.; Tsang, M.; Wong, L.C.; Chan, A.L.N.; Ng, E.S.L.; Janghorbani, M., "Second-hand smoke exposures and passive smoking in non-smoking catering workers in Hong Kong: the combined risks for heart disease and cancer. Report No. 8," *Hong Kong Council on Smoking and Health (COSH)*, May 2001.

This study measured urinary cotinine in nonsmoking restaurant workers in Hong Kong and estimated their lifetime combined risk of suffering from fatal heart disease and lung cancer.

Ontario Tobacco Research Unit, "Protection from second-hand tobacco smoke in Ontario: a review of the evidence regarding best practices," *Toronto, Ontario: University of Toronto, Ontario Tobacco Research Unit*, May 2001.

This report presents evidence for the best practices to protect nonsmokers in Ontario, Canada, from secondhand smoke exposure; the report concludes that ventilation provides no solution to the problem and recommends that all workplaces be made smokefree.

National Center for Environmental Health, "National report on human exposure to environmental chemicals," *Centers for Disease Control (CDC) Web Site*: <http://www.cdc.gov/nceh/dls/report/highlights.htm>, March 21, 2001.

This report found that the median level of cotinine, a nicotine metabolite, measured in nonsmokers in the U.S. has dropped by over 75 percent.

Al-Delaimy, W., "Nicotine in hair of bar and restaurant workers," *New Zealand Medical Journal* 114: 80-83, March 9, 2001.

This study examined the level of nicotine in hair samples from nonsmoking bar and restaurant workers in New Zealand; the study found that nicotine levels in the hair of those employed in workplaces that permit smoking were similar to hair nicotine levels in active smokers.

Anderson, K.E.; Carmella, S.G.; Ye, M.; Bliss, R.L.; Le, C.; Murphy, L.; Hecht, S.S., "Metabolites of a tobacco-specific lung carcinogen in nonsmoking women exposed to environmental tobacco smoke," *Journal of the National Cancer Institute* 93(5): 378-381,

March 7, 2001.

This study found that urinary levels of metabolites of a tobacco-specific lung carcinogen were statistically significantly higher in women exposed to secondhand smoke at home than women not exposed.

Lanphear, B.P.; Aligne, C.A.; Auinger, P.; Weitzman, M.; Byrd, R.S., "Residential exposures associated with asthma in US children: abstract," *Pediatrics* 107(3): 505-511, March 3, 2001.

This abstract described a study published in the journal "Pediatrics" that found the elimination of residential risk factors causally associated with asthma in children (including secondhand smoke exposure) would result in a 39 percent decline in doctor-diagnosed asthma among U.S. children less than six years old.

Ye, M.; Carmella, S.G.; Hecht, S.S.; Fredrickson, A.; Adgate, J.L.; Greavers, I.A.; Sexton, K., "Metabolites of a tobacco-specific lung carcinogen in the urine of school children: abstract," *Proceedings of the American Association for Cancer Research*: 42, March 2001.

This abstract describes a study which measured the level of various metabolites of tobacco smoke found in the urine of elementary school children; the study found "considerable uptake of the lung carcinogen NNK by schoolchildren, independent of whether or not exposure to tobacco smoke was reported, and underline the need for objective biomarkers in epidemiologic studies of environmental tobacco smoke exposure and lung cancer."

Thomas, J., "Maternal smoking during pregnancy associated with negative toddler behavior and early smoking experimentation," *NIDA Notes* 16(1): 1+, March 2001.

Two studies funded by the National Institute on Drug Abuse (NIDA) have found a link between maternal smoking during pregnancy, and negative behavior in toddlers and smoking experimentation by pre-adolescents.

Toma, T., "Exposure in utero to maternal smoking increases risk of asthma," *British Medical Journal* 322: 450, February 24, 2001.

Research has found that children who were exposed in utero to maternal smoking are more likely to have asthma than children exposed to secondhand smoke only after birth.

Jones, S.; Love, C.; Thomson, G.; Green, R.; Howden-Chapman, P., "Second-hand smoke at work: the exposure, perceptions and attitudes of bar and restaurant workers to environmental tobacco smoke - abstract," *Australian and New Zealand Journal of Public Health* 25(1): 90-93, February 2001.

This study found that workers in New Zealand bars and restaurants were at risk of premature death and disease because of exposure to secondhand smoke and had an incomplete knowledge of the dangers to which they were exposed.

Arbes, jr., S.J.; Agustsdottir, H.; Slade, G.D., "Environmental tobacco smoke and periodontal disease in the United States," *American Journal of Public Health* 91(2): 253-257, February 2001.

This study examined the effect of secondhand smoke exposure on the development of periodontal disease and found that, among persons who had never used tobacco, those exposed to secondhand smoke were more likely to have periodontal disease.

Mannino, D.M.; Moorman, J.E.; Kingsley, B.; Rose, D.; Repace, J., "Health effects related to environmental tobacco smoke exposure in children in the United States: abstract," *Archives of Pediatrics & Adolescent Medicine* 155(1), January 2001.

This abstract describes a study which investigated recent ETS exposure as important predictors of respiratory health outcomes in children 4 years and older.

Mannino, D.M.; Moorman, J.E.; Kingsley, B.; Rose, D.; Repace, J., "Health effects related to environmental tobacco smoke exposure in children in the United States: data from the Third National Health and Nutrition Examination Survey," *Archives of Pediatrics & Adolescent Medicine* 155(1): 36-41, January 2001.

This study assessed the effects of pre- and post-natal exposure to secondhand smoke in a population of children aged 4 to 16 and found that exposure in younger children was associated with increased risk for current asthma and wheezing, and was associated in older children with increased school absence and low lung function.

Hopkins, D.P.; Husten, C.G.; Fielding, J.E.; Rosenquist, J.N.; Westphal, L.L., "Evidence reviews and recommendations on interventions to reduce tobacco use and exposure to environmental tobacco smoke: a summary of selected guidelines," *American Journal of Preventive Medicine* 20(2S): 67-87, 2001.

This paper describes research and evidence on the most effective means of reducing secondhand smoke exposure and tobacco use in general.

Johnson, K.C.; Hu, J.; Mao, Y., "Lifetime residential and workplace exposure to environmental tobacco smoke and lung cancer in never-smoking women, Canada 1994-97," *International Journal of Cancer* 93: 902-906, 2001.

The results of this study "are consistent with the literature suggesting that long-term, regular exposure to either residential or occupational environmental tobacco smoke is associated with increased lung cancer risk in never-smoking women."

Iribarren, C.; Friedman, G.D.; Klatsky, A.L.; Eisner, M.D., "Exposure to environmental tobacco smoke: association with personal characteristics and self reported health conditions," *Journal of Epidemiology & Community Health* 55: 721-728, 2001.

This study examined the association between secondhand smoke exposure and demographic, lifestyle, and occupational characteristics and self-reported health conditions; 68 percent of men and 64 percent of women reported any current ETS exposure and the study found that ETS exposure correlated with several personal characteristics potentially associated with adverse health outcomes.

[n.a.], "Maternal smoking increases the risk of Sudden Infant Death Syndrome," *Advances, Issue 3: 8*, 2001.

A recent study examined the effect of maternal smoking on the incidence of Sudden Infant Death Syndrome (SIDS), and concluded that nearly 24 percent of SIDS deaths during 1995 were linked to maternal smoking during pregnancy, and that even light smoking (1-10 cigarettes per day) doubles the risk of SIDS.

Mizoue, T.; Reijula, K.; Andersson, K., "Environmental tobacco smoke exposure and overtime work as risk factors for sick building syndrome in Japan," *American Journal of Epidemiology 154(9)*: 803-808, 2001.

This study examined the relationship between exposure to secondhand smoke in the workplace, overtime worked, and Sick Building Syndrome (SBS) and concluded that both ETS exposure and overtime contribute to the development of symptoms associated with SBS.

Helgason, A.R.; Lund, K.E., "Environmental tobacco smoke exposure of young children - attitudes and health-risk awareness in the Nordic countries," *Nicotine & Tobacco Research 3(4)*: 341-345, 2001.

This study assessed attitudes towards secondhand smoke and health-risk awareness regarding potential hazards of exposure for children among parents of young children in the Nordic countries; the study found that awareness of health hazards associated with secondhand smoke may significantly reduce children's exposure.

Jarvis, M.J.; Feyerabend, C.; Bryant, A.; Hedges, B.; Primates, P., "Passive smoking in the home: plasma cotinine concentrations in non-smokers with smoking partners," *Tobacco Control 10*: 368-374, 2001.

This study examined plasma cotinine concentrations in non-smoking English adults and related this to the smoking behavior of their partners and to demographic and other factors.

Janson, C.; Chinn, S.; Jarvis, D.; Zock, J.; Toren, K.; Burney, P., "Effect of passive smoking on respiratory symptoms, bronchial responsiveness, lung function, and total serum IgE in the European Community Respiratory Health Survey: a cross-sectional study," *Lancet 358(9299)*: 2103-2109, December 22/29, 2001.

This article presents the results of the European Community Respiratory Health Survey into the respiratory effects of secondhand smoke exposure among adult never-smokers; the study found that, "Passive smoking increased the likelihood of experiencing respiratory symptoms and was associated with increased bronchial responsiveness."

Hutchison, S.J.; Sievers, R.E.; Zhu, B.; Sun, Y.; Stewart, D.J.; Parmley, W.W.; Chatterjee, K., "Secondhand tobacco smoke impairs rabbit pulmonary artery endothelium-dependent relaxation," *CHEST 120: 2004-2012*, 2001.

This study concluded that secondhand smoke exposure reduced pulmonary artery endothelium-dependent relaxation in rabbits and explained the mechanism for this effect.

Iles, K.; Poplawski, N.K.; Couper, R.T.L., "Passive exposure to tobacco smoke and bacterial meningitis in children," *J Paediatr. Child Health* 37: 388-391, 2001.

This study found that "there may be an association between high levels of passive exposure to tobacco smoke and bacterial meningitis in Australian children;" the authors called for a larger study "to determine the strength of this association."

HAMPL, J.S.; Taylor, C.A.; Booth, C.L., "Differences in dietary patterns of nonsmoking adults married to smokers vs. nonsmokers," *American Journal of Health Promotion* 16(1): 1-6, September/October, 2001.

This study concluded that, "Nonsmoking men and women who were married to smokers had compromised dietary intakes."

U.S. Surgeon General's Office, "Women and smoking: a report of the Surgeon General," Washington, D.C.: U.S. Department of Health and Human Services (DHHS), Centers for Disease Control (CDC), Office on Smoking and Health (OSH), 2001.

This U.S. Surgeon General's report on women and smoking covers numerous aspects of smoking among women of all ages, and includes a section on exposure to secondhand smoke.

Alberg, A.J.; Chen, J.C.; Zhao, H.; Hoffman, S.C.; Comstock, G.W.; Helzlsouer, K.J., "Household exposure to passive cigarette smoking and serum micronutrient concentrations: abstract," *American Journal of Clinical Nutrition* 27(6): 1576-1582, December 2000.

Among persons who were not current smokers, those who lived with smokers tended to have lower serum total carotenoid and other micronutrient concentrations than those who lived in households with no smokers.

Li, Y.; Gilliland, F.D.; Berhane, K.; McConnell, R.; Gauderman, W.J.; Rappaport, E.B.; Peters, J.M., "Effects of in utero and environmental tobacco smoke exposure on lung function in boys and girls with and without asthma: abstract," *American Journal of Respiratory and Critical Care Medicine* 162(6): 2097-2104, December 2000.

The study found that both in utero exposure to maternal smoking and ETS exposure following birth were associated with persistent deficits in lung function, the effect of in utero exposure being greatest among children with asthma.

Glantz, S.A.; Jamieson, P., "Attitudes toward secondhand smoke, smoking, and quitting among young people," *Pediatrics* 106(6), December 2000.

This study of 600 youth assessed the impact of attitudes regarding secondhand smoke among youth and found that the only statistically significant predictor of planning to

stop smoking or having actually stopped was believing that secondhand smoke harmed nonsmokers; youth smokers who believe that secondhand smoke is harmful to nonsmokers are twice as likely to plan to stop or have stopped smoking.

Bartholomew, A., "What you don't know about secondhand smoke: and why kids are especially vulnerable," *Reader's Digest*, November 20, 2000.

This article describes the respiratory and other health problems, such as ear infections and Sudden Infant Death Syndrome (SIDS), caused by secondhand smoke exposure in children; the article also discusses the research of Dr. Joseph DiFranza.

Centers for Disease Control (CDC), "State-specific prevalence of current cigarette smoking among adults and the proportion of adults who work in a smoke-free environment: United States, 1999," *Morbidity and Mortality Weekly Report* 49(43): 978-982, November 3, 2000.

This paper estimates that 3,000 nonsmokers die each year from lung cancer caused by secondhand smoke exposure, and another 62,000 nonsmokers die each year from coronary heart disease caused by ETS; the proportion of employees in 17 states and the District of Columbia reporting an official smokefree policy in their workplace ranged from 61.3% to 82.1%.

Wartenberg, D.; Calle, E.E.; Thun, M.J.; Heath, Jr., C.W.; Lally, C.; Woodruff, T., "Passive smoking exposure and female breast cancer," *Journal of the National Cancer Institute* 92(20): 1666-1673, October 18, 2000.

This study examined the association between breast cancer mortality and potential secondhand smoke exposure from spousal smoking and found no association.

Wakefield, M.; Banham, D.; Martin, J.; Ruffing, R.; McCaul, K.; Badcock, N., "Restrictions on smoking at home and urinary cotinine levels among children with asthma: abstract," *American Journal of Preventive Medicine* 19(3): 188-192, October 2000.

This study sought to determine the extent to which various levels of restrictions on smoking in the home affected the urinary cotinine levels of children with asthma.

Hull, M.G.R.; North, K.; Taylor, H.; Farrow, A.; Ford, W.C.L., "Delayed conception and active and passive smoking: abstract," *Fertility and Sterility* 74(4): 725-733, October 2000.

This study found that active smoking by men, and both passive and active smoking by women, were associated with delayed conception.

McGhee, S.M.; Adab, P.; Hedley, A.J.; Lam, T.H.; Ho, L.M.; Fielding, R.; Wong, C.M., "Passive smoking at work: the short-term cost," *Journal of Epidemiology and Community Health* 54: 673-676, September 2000.

This is the abstract of a study which estimated the impact of secondhand smoke exposure at work on the use of health care services and absenteeism; the participants were nonsmoking Hong Kong police officers.

Dollberg, S.; Fainaru, O.; Mimouni, F.B.; Shenhav, M.; Lessing, J.B.; Kupferminc, M., "Effect of passive smoking in pregnancy on neonatal nucleated red blood cells," *Pediatrics* 106(3), September 2000.

This study evaluated whether the absolute nucleated red blood cell (RBC) count is elevated in term, appropriate for gestational age infants born to women exposed to passive smoking in pregnancy and found that it was increased; the authors speculate that it would be wise to avoid exposure to secondhand smoke during pregnancy due to the risk that it may have "subtle negative effects on fetal oxygenation."

Hovell, M.F.; Zakarian, J.M.; Matt, G.E.; Hofstetter, C.R.; Bernert, J.T.; Pirkle, J., "Effect of counselling mothers on their children's exposure to environmental tobacco smoke: randomised controlled trial," *British Medical Journal* 321(7257): 337-342, August 5, 2000.

This study found that counseling mothers regarding the impact of secondhand smoke on their children's health reduced reported exposure to smoke in the home and from other sources.

Jarvis, M.J.; Goddard, E.; Higgins, V.; Feyerabend, C.; Bryant, A.; Cook, D.G., "Children's exposure to passive smoking in England since the 1980s: cotinine evidence from population surveys," *British Medical Journal* 321(7257): 343-345, August 5, 2000.

This study measured salivary cotinine levels in a sample of children in England and determined that exposure to secondhand smoke among English children has been approximately halved since the late 1980s, reflecting a decrease in smoking parents and reductions of smoking in public places.

Al-Delaimy, W.K.; Crane, J.; Woodward, A., "Questionnaire and hair measurement of exposure to tobacco smoke," *Journal of Exposure Analysis and Environmental Epidemiology* 10(4): 378-384, August 2000.

This study examined whether hair levels of nicotine or of cotinine were a better measure of secondhand smoke exposure in nonsmoking children.

Filippini, G.; Farinotti, M.; Ferrarini, M., "Active and passive smoking during pregnancy and risk of central nervous system tumours in children," *Paediatric & Perinatal Epidemiology* 14: 78-84, April 2000.

The abstract of a research study which examined the effect of maternal active and passive smoking during pregnancy on childhood central nervous system tumors; the results suggest an association between the risk of developing CNS tumors in children and regular passive smoking by the mother during pregnancy.

Grimmer, G.; Dettbarn, G.; Seidel, A.; Jacob, J., "Detection of carcinogenic aromatic amines in the urine of non-smokers," *Sci. Total Environ* 247(1): 81-90, February 28, 2000.

This German research study examined possible causes of carcinogenic aromatic amines found in the urine of nonsmokers, and stated that they could not be due to secondhand smoke, and no other possible causes had been found.

Harper, D.S.; Cox, R.; Hagan, L., "Tobacco hypersensitivity and passive smoke exposure," *AAAAI 56th Annual Meeting*, 2000.

Abstract of a paper presented at the AAAAI 56th Annual Meeting regarding patients who are hypersensitive to secondhand smoke.

Committee on the Assessment of Asthma and Indoor Air, Institute of Medicine (IOM), "Clearing the air: asthma and indoor air exposures," *Washington, D.C.: National Academy Press*, 2000.

This research study found that exposure to secondhand smoke exacerbates asthma in children.

Schwartz, J.; Timonen, K.L.; Pekkanen, J., "Respiratory effects of environmental tobacco smoke in a panel study of asthmatic and symptomatic children," *American Journal of Respiratory and Critical Care Medicine* 161(3): 802-806, 2000.

This study examined asthmatic children to see if exposure to secondhand smoke adversely affected their symptoms and found that "exposure to ETS was associated with a decline in peak flow and increases in respiratory symptoms and use of bronchodilator drugs among asthmatic children."

Johnson, K.C.; Hu, J.; Mao, Y., "Passive and active smoking and breast cancer risk in Canada, 1994-97," *Cancer Causes and Control* 11: 211-221, 2000.

This study examined the effect of active and passive smoking on breast cancer risk and concluded that both may be associated with increased breast cancer risk, particularly premenopausal risk.

Etter, J.; Vu Duc, T.; Perneger, T.V., "Saliva cotinine levels in smokers and nonsmokers," *American Journal of Epidemiology* 151(3): 251-258, 2000.

This study examined self-reports of smoking and exposure to secondhand smoke and compared the reports to salivary cotinine levels in the subjects and concluded that both questionnaires and saliva cotinine are valid assessments of active and passive exposure to tobacco smoke.

Kreuzer, M.; Krauss, M.; Kreienbrock, L.; Jockel, K.; Wichmann, H., "Environmental tobacco smoke and lung cancer: a case-control study in Germany," *American Journal of Epidemiology* 151(3): 241-250, 2000.

This study examined 292 nonsmokers with lung cancer and 1,338 nonsmoking controls in order to assess their exposure to secondhand smoke; the authors concluded that exposures to high levels to ETS at the workplace and in other public indoor settings appear to be important risk factors for lung cancer risk in nonsmokers.

Khuder, S.A.; Simon, Jr., V.J., "Is there an association between passive smoking and breast cancer?," *European Journal of Epidemiology* 16(12): 1117-1121, 2000.

This study was a meta-analysis of the risk of breast cancer associated with

secondhand smoke exposure; the analysis suggested a "possible weak association between passive smoking and breast cancer," and the authors stated "More studies are needed to establish whether the observed association is causal."

[Environmental Health Information Service (EHIS)], "Environmental tobacco smoke: first listed in the Ninth Report on Carcinogens," *U.S. Department of Health and Human Services (DHHS), Public Health Service, National Toxicology Program, 2000.*

This excerpt from the Environmental Health Information Service's (EHIS) Ninth Report on Carcinogens lists secondhand smoke as a known human carcinogen.

[n.a.], "U.S. government declares secondhand tobacco smoke a "known human carcinogen"," *GASP of Colorado, 2000.*

The U.S. government released a new list of known human carcinogens on May 16, 2000; secondhand smoke was listed.

[n.a.], "National Cancer Institute releases report on secondhand smoke," *GASP of Colorado, 2000.*

The National Cancer Institute (NCI) has released a monograph by the California Environmental Protection Agency regarding the health hazards of secondhand smoke exposure.

Visioli, F.; Galli, C.; Plasmati, E.; Vaippiani, S.; Hernandez, A.; Colombo, C.; Sala, A., "Olive phenol hydroxytyrosol prevents passive smoking-induced oxidative stress: abstract," *Circulation 102: 1069, 2000.*

This is the abstract of a study which purported to find that a byproduct of olive oil could ameliorate some of the hazardous health effects of secondhand smoke exposure in rats.

Bennett, W.P.; Alavanja, R.C.R.; Blomeke, B.; Vahakangas, K.H.; Castren, K.; Welsh, J.A.; Bowman, E.D.; Khan, M.A.; Flieder, D.B.; Harris, C.C., "Environmental tobacco smoke, genetic susceptibility, and risk of lung cancer in never-smoking women," *Journal of the National Cancer Institute 91(23): 2009-2014, December 1, 1999.*

This study examined the role that genetics play in the susceptibility of never-smoking women in developing lung cancer.

Jaakkola, M.S.; Samet, J.M., "Summary: workshop on health risks attributable to ETS exposure," *Environmental Health Perspectives 107(6): 823-827, December 1999.*

This article describes two workshops which were convened to "address the health risks of exposure to environmental tobacco smoke (ETS) in the workplace," and the workshops focused on how to measure or assess health risk of exposure.

Jaakkola, M.S.; Samet, J.M., "Occupational exposure to environmental tobacco smoke and

health risk assessment," *Environmental Health Perspectives* 107(6): 829-835, December 1999.

This article discusses assessment techniques useful for studying the health risks of secondhand smoke exposure and recommends research methods.

Howard, G.; Wagenknecht, L.E., "Environmental tobacco smoke and measures of subclinical vascular disease," *Environmental Health Perspectives* 107(6): 837-840, December 1999.

This article reviews existing literature on the relationship between secondhand smoke exposure and subclinical atherosclerosis and found that ETS exposure is associated with increased subclinical vascular disease.

Thun, M.; Henley, J.; Apicella, L., "Epidemiologic studies of fatal and nonfatal cardiovascular disease and ETS exposure from spousal smoking," *Environmental Health Perspectives* 107(6): 841-846, December 1999.

This article reviews existing epidemiological literature on the relationship between spousal secondhand smoke exposure and heart disease; the authors note that the evidence linking heart disease and ETS exposure from a spouse has become substantially stronger since the Occupational Safety and Health Administration (OSHA) first proposed including heart disease in its 1994 ETS risk assessment.

Kawachi, I.; Colditz, G.A., "Workplace exposure to passive smoking and risk of cardiovascular disease: summary of epidemiologic studies," *Environmental Health Perspectives* 107(6): 847-851, December 1999.

This article reviews existing epidemiological literature on the relationship between workplace secondhand smoke exposure and heart disease; the authors note that "in contrast to the evidence on increased cardiovascular disease risk from exposure to spousal ETS, studies of ETS exposure in the workplace are still sparse and inconclusive. Conversely, there is no biologically plausible reason to believe that the hazards of ETS exposure that have been demonstrated in the home should not also apply to the workplace."

Howard, G.; Thun, M.J., "Why is environmental tobacco smoke more strongly associated with coronary heart disease than expected? A review of potential biases and experimental data," *Environmental Health Perspectives* 107(6): 853-858, December 1999.

This article states that a slight secondhand smoke exposure appears to be responsible for large increased risk of developing heart disease and examines various possible research biases or factors which could account for the findings; the authors conclude that "none of the identified factors that has been proposed to introduce a spurious association between ETS and heart disease seem to invalidate the epidemiologic findings, either separately or in combination.... it appears biologically plausible that ETS could cause the substantial increase in CHD risk that has been observed in epidemiologic studies."

Steenland, K., "Risk assessment for heart disease and workplace ETS exposure among

nonsmokers," *Environmental Health Perspectives* 107(6): 859-863, December 1999.

This article proposed a research method for risk assessment of secondhand smoke exposure and heart disease, and uses this method to predict the relative risk of nonsmokers exposed to ETS in the workplace, and the number of heart disease deaths per year which could be attributed to workplace exposure.

Reynolds, P., "Epidemiologic evidence for workplace ETS as a risk factor for lung cancer among nonsmokers: specific risk estimates," *Environmental Health Perspectives* 107(6): 865-872, December 1999.

This article examines existing research into the topic of workplace secondhand smoke exposure and increased lung cancer risk among nonsmokers; the author states that, "...risk estimates tend to be consistent with those for exposure from a smoking spouse."

Wu, A.H., "Exposure misclassification bias in studies of environmental tobacco smoke and lung cancer," *Environmental Health Perspectives* 107(6): 873-877, December 1999.

This article examines the possible impact of misclassification in studies of secondhand smoke exposure and risk of lung cancer, and concludes that "the potential bias from the misclassification of smokers is unlikely to explain the observed increased risk of lung cancer associated with ETS exposure."

Lubin, J.H., "Estimating lung cancer risk with exposure to environmental tobacco smoke," *Environmental Health Perspectives* 107(6): 879-883, December 1999.

This article describes the research methods which may be used to estimate lung cancer risk with exposure to secondhand smoke in the home or at work.

Brown, K.G., "Lung cancer and environmental tobacco smoke: occupational risk to nonsmokers," *Environmental Health Perspectives* 107(6): 885-890, December 1999.

This article examined existing research on spousal secondhand smoke exposure and risk of lung cancer, and extrapolated the data to apply to the workplace.

Weiss, S.T.; Utell, M.J.; Samet, J.M., "Environmental tobacco smoke exposure and asthma in adults," *Environmental Health Perspectives* 107(6): 891-895, December 1999.

This article examines the limited body of existing research into the risk of asthma associated with secondhand smoke exposure and describes the methodological difficulties that limit the available data and evaluates the data's adequacy for risk assessment..

Misra, D.P.; Nguyen, R.H.N., "Environmental tobacco smoke and low birth weight: a hazard in the workplace?," *Environmental Health Perspectives* 107(6): 897-904, December 1999.

This article reviews epidemiologic literature on the topic of secondhand smoke

exposure of nonsmoking pregnant women and risk of low birth weight infants.

Leach, C.E.A.; Blair, P.S.; Fleming, P.J.; Smith, I.J.; Platt, M.W.; Berry, P.J.; Golding, J., "Epidemiology of SIDS and explained sudden infant deaths," *Pediatrics* 104(4), October 1999.

This study took place following a campaign in England which urged parents to place their infants on their backs to sleep, and examined changes in the epidemiology of Sudden Infant Death Syndrome (SIDS); "the particular finding that the incidence of maternal smoking during pregnancy, although high among mothers of explained SUDI infants, was significantly higher among SIDS mothers, lends weight to the mounting evidence that the association between smoking and SIDS may be part of a causal mechanism."

Lindgren, T.; Willers, S.; Skarping, G.; Norback, D., "Urinary cotinine concentration in flight attendants, in relation to exposure to environmental tobacco smoke during intercontinental flights," *International Archives of Occupational and Environmental Health* 72(7): 475-479, September 28, 1999.

The abstract of a research study which found that tobacco smoking in commercial aircraft may cause significant exposure to environmental tobacco smoke among non-smoking flight attendants who work in the smoking section of the aircraft, despite existing ventilation.

Raza, M.W.; Essery, S.D.; Elton, R.A.; Weir, D.M.; Busuttill, A.; Blackwell, C., "Exposure to cigarette smoke, a major risk factor for sudden infant death syndrome: effects of cigarette smoke on inflammatory responses to viral infection and bacterial toxins," *FEMS Immunology and Medical Microbiology* 25(1-2), August 1, 1999.

This study examined the effect of secondhand smoke exposure on viral infection and bacterial toxins in the body.

National Cancer Institute (NCI), "Table 1.1 Estimated annual morbidity and mortality in nonsmokers associated with ETS exposure. In: Health effects of exposure to environmental tobacco smoke: the report of the California Environmental Protection Agency. Smoking and Tobacco Control Monograph 10," *Bethesda, MD: National Institutes of Health, National Cancer Institute (NCI)*, August 1999.

This table showed rates of morbidity and mortality among nonsmokers due to secondhand smoke exposure for low birth weight, Sudden Infant Death Syndrome (SIDS), respiratory illness, asthma, lung cancer, and heart disease, both nationally and in California.

World Health Organization (WHO), "Tobacco free initiative," *ASH UK Web Site*: <http://www.ash.org.uk>, June 16, 1999.

A transcript of a report from the World Health Organization (WHO) on rates of secondhand smoke exposure and related illnesses among the world's children; the study makes recommendations and cites other research on the topic.

Moskowitz, W.B.; Schwartz, P.F.; Schieken, R.M., "Childhood passive smoking, race, and coronary artery disease risk," *Archives of Pediatric and Adolescent Medicine* 153: 446-453, May 1999.

This study measured the levels of cholesterol in children with long-term secondhand smoke exposure to determine their degree of risk for developing coronary artery disease.

Samet, J.M., "Workshop summary: assessing exposure to environmental tobacco smoke in the workplace," *Environmental Health Perspectives Supplements* 107(Supplement 2): 309-312, May 1999.

This article is a summary of the Workshop on Environmental Tobacco Smoke Exposure Assessment, and describes key issues related to ETS exposure and measurement of that exposure in the workplace.

Spengler, J.D., "Building operations and ETS exposure," *Environmental Health Perspectives Supplements* 107(Supplement 2): 313-317, May 1999.

This review describes the general features of building ventilation systems and the efficacy of ventilation for controlling contaminant concentrations and for protecting workers from secondhand smoke exposure; the author also discusses ASHRAE Standard 62 and states that, "The goal of ASHRAE Standard 62—providing air of quality that satisfies 80% of occupants—seemingly cannot be met for ETS at the current specifications of the standard."

Daisey, J.M., "Tracers for assessing exposure to environmental tobacco smoke: what are they tracing?," *Environmental Health Perspectives Supplements* 107(Supplement 2): 319-327, May 1999.

This paper describes the various types of "tracers" used to measure exposure to secondhand smoke, and their individual characteristics and effectiveness as a measure.

Hammond, S.K., "Exposure of U.S. workers to environmental tobacco smoke," *Environmental Health Perspectives Supplements* 107(Supplement 2): 329-340, May 1999.

This paper describes the exposure of workers in the U.S. to secondhand smoke and breaks out workers by type of workplace, e.g., railroad, restaurants, etc.; the article also describes various smoking policies and their effect on exposure.

Benowitz, N.L., "Biomarkers of environmental tobacco smoke exposure," *Environmental Health Perspectives Supplements* 107(Supplement 2): 349-355, May 1999.

This paper describes biomarkers, such as cotinine, that can be used to measure secondhand smoke exposure in nonsmokers.

Klepeis, N.E., "Validity of the uniform mixing assumption: determining human exposure to environmental tobacco smoke," *Environmental Health Perspectives Supplements 107(Supplement 2): 357-363*, May 1999.

This paper describes research methods for measuring secondhand smoke exposure.

Klepeis, N.E., "An introduction to the indirect exposure assessment approach: modeling human exposure using microenvironmental measurements and the recent national human activity pattern survey," *Environmental Health Perspectives Supplements 107(Supplement 2): 365-374*, May 1999.

This paper used an indirect exposure method, combined with a national survey on human activity patterns, to estimate the average 24 hour exposure level to secondhand smoke in the workplace.

Ott, W.R., "Mathematical models for predicting indoor air quality from smoking activity," *Environmental Health Perspectives Supplements 107(Supplement 2): 375-381*, May 1999.

This paper reviewed the development of the mass balance model and its application to predicting indoor pollutant concentrations from cigarette smoke and derives the time-averaged version of the model from the basic laws of conservation of mass.

Raitakari, O.T.; Adams, M.R.; McCredie, R.J.; Griffiths, K.A.; Celermajer, D.S., "Arterial endothelial dysfunction related to passive smoking is potentially reversible in healthy young adults," *Annals of Internal Medicine 130: 578-581*, April 6, 1999.

This study examined the effect of secondhand smoke exposure on arteries, and found that, in healthy young adults who eliminate exposure, arterial endothelial dysfunction is partially reversible.

Lash, T.L.; Aschengrau, A., "Active and passive cigarette smoking and the occurrence of breast cancer," *American Journal of Epidemiology 149(1): 5-12*, January 1, 1999.

This study measured the associations between breast cancer and exposure to active and passive cigarette smoke; women exposed to secondhand smoke had an odds ratio of 2.0 when compared to nonsmokers never exposed to passive smoke; women who were first exposed before age 12 had an odds ratio of 4.5.

Hyland, A.; Cummings, K.M.; Nauenberg, E., "Analysis of taxable sales receipts: was New York City's Smoke-Free Air Act bad for restaurant business?," *Journal of Public Health Management and Practice 5(1): 14-21*, January 1999.

This research study analyzed taxable sales receipts from the city's restaurant and hotel industries to determine if New York City's Smoke-Free Air Act had harmed business; real taxable sales from eating and drinking establishments and hotels increased by 2.1% and 36.9% respectively, compared with levels two years before the smokefree law took effect.

Hyland, A.; Cummings, K.M., "Restaurant employment before and after the New York City

Smoke-free Air Act," *Journal of Public Health Management and Practice* 5(1): 22-27, January 1999.

This research study analyzed trends in the number of restaurants and restaurant employees two years before and two years after New York City's Smoke-Free Air Act took effect in April 1995; between April 1993 and April 1997 new restaurant jobs increased by 18%, suggesting that the law did not result in job losses.

Hyland, A.; Cummings, K.M.; Wilson, M.P., "Compliance with the New York City Smoke-Free Air Act," *Journal of Public Health Management and Practice* 5(1): 43-52, January 1999.

Results from this study indicate that 90% of owners/managers reported a smokefree indoor dining area in compliance with New York City's Smoke-Free Air Act, and 77% of restaurants examined in independent inspections were compliant.

Bartosch, W.J.; Pope, G.C., "The economic effect of smoke-free restaurant policies on restaurant business in Massachusetts," *Journal of Public Health Management and Practice* 5(1): 53-62, January 1999.

This study examined meals tax data before and after enactment of local smokefree restaurant ordinances in Massachusetts and failed to find a statistically significant effect of local clean indoor air ordinances on restaurant business.

Bartosch, W.J.; Pope, G.C., "Local restaurant smoking policy enactment in Massachusetts," *Journal of Public Health Management and Practice* 5(1): 63-73, January 1999.

This study attempted to identify the differences between Massachusetts communities that enacted clean indoor air ordinances and those that did not; communities with restaurant policies were medium-sized and had a lower proportion of blue collar workers.

Helms, P.J.; Christie, G., "Prospects for preventing asthma," *Archives of Disease in Childhood* 80: 401-404, 1999.

This paper examines the causes of the growing rates of asthma and examines prevention strategies; a brief section is included on the effect of secondhand smoke on asthma.

Moskowitz, J.; Lin, Z.; Hudes, E.S., "The impact of California's smoking ordinances on worksite smoking policy and exposure to environmental tobacco smoke," *American Journal of Health Promotion* 13(5): 278-281, May/June, 1999.

This study examined the effects of California clean indoor air ordinances on the existence of workplace smoking policies and on secondhand smoke exposure in the workplace; findings suggest that local smoking laws increase voluntary workplace smoking policies and result in fewer workers exposed to secondhand smoke.

Bonita, R.; Duncan, J.; Truelsen, T.; Jackson, R.T.; Beaglehole, R., "Passive smoking as

well as active smoking increases the risk of acute stroke," *Tobacco Control* 8: 156-160, 1999.

This study examined the risk of stroke associated with secondhand smoke exposure and concluded that exposure to ETS among nonsmokers and long-term ex-smokers was associated with a significantly increased risk of stroke in both men and women.

Stein, R.T.; Holberg, C.J.; Sherrill, D.; Wright, A.L.; Morgan, W.J.; Taussig, L.; Martinez, F.D., "Influence of parental smoking on respiratory symptoms during the first decade of life: the Tucson Children's Respiratory Study," *American Journal of Epidemiology* 149(11): 1030-1037, 1999.

This study found that maternal prenatal smoking is a major risk factor for wheezing in early life.

Kennedy, G.E.; Bero, L.A., "Print media coverage of research on passive smoking," *Tobacco Control* 8(3): 254-260, Autumn, 1999.

This study assessed the extent and content of newspaper and magazine coverage of secondhand smoke research and found that, although research into the harmful effects of exposure increased between 1981 and 1994, lay press coverage continued to maintain that the science was controversial and that tobacco industry representatives were frequently quoted on the issue.

Benninger, M.S., "The impact of cigarette smoking and environmental tobacco smoke on nasal and sinus disease: a review of the literature," *American Journal of Rhinology* 13(6): 435-438, November-December, 1999.

This study examined existing literature to determine the effect of secondhand smoke exposure on nasal and sinus disease, and found exposure increases the risk of nasal and sinus cancer, and may increase the risk of acute, chronic rhinitis.

Hamilton, W.L.; diStefano Norton, G.; Abt Associates Inc., "Independent evaluation of the Massachusetts Tobacco Control Program: fifth annual report, January 1994 to June 1998," *Massachusetts Department of Public Health*, [1999?].

This report examines the impact of the Massachusetts tobacco control program on smoking and exposure to secondhand smoke; an appendix lists which towns have enacted clean indoor air and youth access ordinances.

Boffetta, P.; Ahrens, W.; Nyberg, F.; Mukeria, A.; Bruske-Hohlfeld, I.; Fortes, C.; Constantinescu, V.; Simonato, L.; Batura-Gabryel, H.; Lea, S.; Gaborieau, V.; Benhamou, S., "Exposure to environmental tobacco smoke and risk of adenocarcinoma of the lung," *International Journal of Cancer* 83: 635-639, 1999.

The authors of this study state that its results "confirm previous reports of a weak effect of adult ETS exposure on risk of adenocarcinoma of the lung."

Samet, J.M.; Wang, S.S., "Environmental tobacco smoke. In: Environmental Toxicants, 2nd ed., Lippman M. ed.," *Institute for Global Tobacco Control, Johns Hopkins School of Public Health*, 1999.

This chapter is a literature review that summarizes the "converging and now extensive evidence on the health effects of involuntary exposure to tobacco smoke."

Davis, R.M., "Exposure to environmental tobacco smoke: identifying and protecting those at risk," *Journal of the American Medical Association* 280(22): 1947-1949, December 9, 1998.

This editorial briefly reviews the risks of exposure to secondhand smoke among various population groups such as flight attendants, casino workers, etc.

Eisner, M.D.; Smith, A.K.; Blanc, P.D., "Bartenders' respiratory health after establishment of smoke-free bars and taverns," *Journal of the American Medical Association* 280(22): 1909-1914, December 9, 1998.

This study examined the respiratory health of bartenders in California before and after implementation of the state's smokefree bar law; working in smokefree bars was associated with a rapid improvement in respiratory health among the bartenders studied.

Brauer, M.; 't Mannetje, A., "Restaurant smoking restrictions and environmental tobacco smoke exposure," *American Journal of Public Health* 88(12): 1834-1836, December 1998.

This study evaluated the effectiveness of restaurant smoking restrictions and found that partial smoking restrictions substantially reduce, but do not eliminate, secondhand smoke exposure.

Boffetta, P.; Agudo, A.; Ahrens, W.; Benhamou, E.; Benhamou, S.; Darby, S.C.; Ferro, G.; Fortes, C.; Gonzales, C.A.; Jockel, K.; Krauss, M.; Kreienbrock, L.; Kreuzer, M.; Mendes, A.; Merletti, F.; Nyberg, F.; Pershagen, G.; Pohlman, H.; Riboli, E.; Schmid, G.; Simonato, L.; Tredaniel, J.; Whitley, E.; Wichmann, H.; Winck, C.; Zambon, P.; Saracci, R., "Multicenter case-control study of exposure to environmental tobacco smoke and lung cancer in Europe," *Journal of the National Cancer Institute* 90(19): 1440-1450, October 7, 1998.

This study, coordinated by the International Agency for Research on Cancer (IARC) of lung cancer and secondhand smoke exposure, covered 12 centers in 7 countries.

Withers, N.J.; Low, L.; Holgate, S.T.; Clough, J.B., "The natural history of respiratory symptoms in a cohort of adolescents," *American Journal of Respiratory and Critical Care Medicine* 158(2): 352-357, August 1998.

Smoking, either active or passive, was shown to be significantly associated with current, persistent, and late-onset symptoms of respiratory illness in children and youth.

Eisner, M.D.; Yelin, E.H.; Henke, J.; Shiboski, S.C.; Blanc, P.D., "Environmental tobacco smoke and adult asthma: the impact of changing exposure status on health outcomes," *American Journal of Respiratory and Critical Care Medicine* 158(1): 170-175, July 1998.

This study followed nonsmoking, adult asthmatics over an 18 month period and found

that self-reported secondhand smoke exposure was associated with greater asthma severity, worse health status, and increased health care utilization.

Pierce, J.P.; Gilpin, E.A.; Emery, S.L.; Farkas, A.J.; Zhu, S.H.; Choi, W.S.; Berry, C.C.; Distefan, J.M.; White, M.M.; Soroko, S.; Navarro, A., "Tobacco control in California: who's winning the war? An evaluation of the tobacco control program, 1989-1996.," *La Jolla: University of California, San Diego*, June 30, 1998.

Report to the California Department of Health Services which reviews all aspects of the tobacco control program in California from 1989-1996.

Mascola, M.A.; Van Vunakis, H.; Tager, I.B.; Speizer, F.E.; Hanrahan, J.P., "Exposure of young infants to environmental tobacco smoke: breast-feeding among smoking mothers," *American Journal of Public Health 88(6): 893-896*, June 1998.

This study examined the degree to which breast-feeding and cigarette smoking by mothers and smoking by other household members contribute to the exposure of infants to the products of tobacco smoke and found that breast-fed infants of smoking mothers have urine cotinine levels ten times higher than bottle-fed infants of smoking mothers.

Valkonen, M.; Kuusi, T., "Passive smoking induces atherogenic changes in low-density lipoprotein," *Circulation 97(20): 2012-2016*, May 26, 1998.

This study examined the effect of secondhand smoke exposure on low-density lipoprotein to explain why secondhand smoke contributes to heart disease.

White, C., "Tobacco industry tries to discredit data on passive smoking," *British Medical Journal 7135(316)*, March 21, 1998.

The World Health Organization (WHO) and International Agency for Research on Cancer (IARC) deny allegations that they attempted to suppress research on secondhand smoke and state that, contrary to reports, the research shows an increased risk of lung cancer of 16% for nonsmoking spouses of smokers and an increased risk of 17% for nonsmokers exposed in the workplace.

White, C., "Passive smoking does cause lung cancer," *British Medical Journal 7135(316)*, March 21, 1998.

A new study from Britain's Scientific Committee on Tobacco and Health has found a 20-30% increased risk of developing lung cancer and heart disease among nonsmokers exposed long term to secondhand smoke.

Stefanadis, C.; Vlachopoulos, C.; Tsiamis, E.; Diamantopoulos, L.; Toutouzas, K.; Giatrakos, N.; Vaina, S.; Tsekoura, D.; Toutouzas, P., "Unfavorable effects of passive smoking on aortic function in men," *Annals of Internal Medicine 128: 426-434*, March 15, 1998.

Both passive and active smoking are associated with an acute deterioration in the elastic properties of the aorta.

Ciruzzi, M.; Pramparo, P.; Esteban, O.; Rozlosnik, J.; Tartaglione, J.; Abecasis, B.; Cesar, J.; De Rosa, J.; Paterno, C.; Schargrodsky, H., "Case-control study of passive smoking at home and risk of acute myocardial infarction," *Journal of the American College of Cardiology* 31(4): 797-803, March 15, 1998.

This study found that secondhand smoke exposure at home for never-smokers was associated with risk of acute myocardial infarction and attributed 14% of the cases in men and 18% of the cases of women in this cohort to passive smoking.

Trout, D.; Decker, J.; Mueller, C.; Bernert, J.T.; Pirkle, J., "Exposure of casino employees to environmental tobacco smoke," *Journal of Occupational and Environmental Medicine* 40(3): 270-276, March 1998.

This research study found that employees working in a casino gambling area were exposed to secondhand smoke in greater levels than those studied in a sample of the general population, and that their serum and urine cotinine levels increased during their workshifts.

Ott, W.R.; Roberts, J.W., "Everyday exposure to toxic pollutants," *Scientific American*, February 1998.

This article asserts that Americans' greatest exposure to toxic pollutants occurs indoors, from cigarette smoke, household dust, gasoline, and ordinary consumer products such as cleaners and glue.

Gergen, P.J.; Fowler, J.A.; Maurer, K.R.; Davis, W.W.; Overpeck, M.D., "The burden of environmental tobacco smoke exposure on the respiratory health of children 2 months through 5 years of age in the United States: Third National Health and Nutrition Examination Survey, 1988 to 1994," *Pediatrics* 101(2), February 1998.

This study found that, among children 2 months to 2 years of age exposed to ETS, 40% to 60% of the cases of asthma, chronic bronchitis, and three or more episodes of wheezing were attributable to ETS exposure.

Adair-Bischoff, C.E.; Sauve, R.S., "Environmental tobacco smoke and middle ear disease in pre-school age children," *Archives of Pediatrics & Adolescent Medicine* 152: 127-133, February 1998.

This research study was conducted to determine the association between secondhand smoke exposure and middle ear disease among pre-schoolers; the study found that such exposure is an important risk factor for middle ear disease among urban pre-school aged children.

Seppa, N., "Secondary smoke carries high price," *Science News Online*, January 17, 1998.

This article discusses research into risks of developing heart disease among smokers and among nonsmokers who are exposed to secondhand smoke.

Nafstad, P.; Fugelseth, D.; Qvigstad, E.; Zahlsen, K.; Magnus, P.; Lindemann, R., "Nicotine concentration in the hair of nonsmoking mothers and size of offspring," *American Journal of Public Health* 88(1): 120-124, January 1998.

This research study measured nicotine levels in the hair of nonsmoking mothers and their infants, and determined that secondhand smoke exposure during pregnancy increases the risk for low birth weight babies.

Repace, J.L.; Jinot, J.; Bayard, S.; Emmons, K.; Hammond, S.K., "Air nicotine and saliva cotinine as indicators of workplace passive smoking exposure and risk," *Risk Analysis* 18(1): 71-83, 1998.

This study developed models for estimating secondhand smoke air nicotine concentrations in office workplaces and nonsmoking workers' salivary cotinine doses; the results suggest that at current levels of workplace exposure, secondhand smoke causes 4,000 heart disease deaths and 400 lung cancer deaths annually among nonsmoking office workers.

Ashley, M.J.; Ferrence, R., "Reducing children's exposure to environmental tobacco smoke in homes: issues and strategies," *Tobacco Control* 7(1): 61-65, Spring, 1998.

This paper estimates that 21.9% of children under 18 years of age are exposed to secondhand smoke in the home by their parents, and outlines prevention program and tobacco policy options and strategies to reduce this exposure.

Elliot, J.; Vullermin, P.; Robinson, P., "Maternal cigarette smoking is associated with increased inner airway wall thickness in children who die from sudden infant death syndrome," *American Journal of Respiratory and Critical Care Medicine* 158: 802-806, 1998.

The findings from this study suggest that infants exposed to a high level of secondhand smoke develop significant structural changes in their airways.

Lund, K.E.; Skrondal, A.; Vertio, H.; Helgason, A.R., "To what extent do parents strive to protect their children from environmental tobacco smoke in the Nordic countries? A population based study," *Tobacco Control* 7: 56-60, 1998.

This study examined whether parents of children in the Nordic countries took measures to protect their children from secondhand smoke and found that while a large percentage attempted to modify their smoking behavior for the sake of their children, household exposure to ETS was still a significant health risk for children in Nordic countries.

Stoney, C.M.; Lentino, L.M.; Emmons, K.M., "Environmental tobacco smoke: association with cardiovascular function at rest and during stress," *International Journal of Behavioral Medicine* 5(3): 230-244, 1998.

This study examined the effects of secondhand smoke on blood pressure and heart

rate, and found that although secondhand smoke exposure increases the at rest rates, it does not seem to affect rates when the subjects were under psychological stress.

Brooks, T.E.; Warnick, T.A., "Federal anti-discrimination laws and the sensitive nonsmoker: eliminating discriminatory barriers of environmental tobacco smoke in public places, a presentation," *Louisville, KY: Kentucky ACTION, Kentuckians for Freedom to Breathe*, 1998.

This presentation, which includes fact sheets and research studies from various sources, argues that the Americans with Disabilities Act (ADA) can be used to remove secondhand smoke from public places.

[n.a.], "Study links ETS to lowering protective cholesterol levels," *Indoor Environment Review* 7(9): 3, November 1997.

A new study has shown that children exposed to secondhand smoke are more likely to have lower levels of high-density lipoprotein cholesterol, which is known as a "protective" cholesterol.

Skolnick, A., "Draft of report on secondhand smoke released," *Journal of the American Medical Association* 277(13): 1026-27, April 2, 1997.

The California Environmental Protection Agency has released a final draft of its report on the health impact of secondhand smoke exposure.

Balbach, E.D.; Glantz, S.A., "Tobacco: scientific status. In: Modern Scientific Evidence.," *St. Paul: West Publishing*, 1997.

Section B of Chapter 32 from "Modern Scientific Evidence" describes the scientific issues relating to tobacco litigation including: nicotine and addiction; health hazards of smoking and secondhand smoke; and the health effects of smokeless tobacco use.

Mannino, D.M.; Siegel, M.; Rose, D.; Nkuchia, J.; Etzel, R., "Environmental tobacco smoke exposure in the home and worksite and health effects in adults: results from the 1991 National Health Interview Survey," *Tobacco Control* 6(4): 296-305, Winter, 1997.

This study examined the results of the 1991 National Health Interview Survey and found that adults who have never smoked, but are exposed to secondhand smoke in the workplace or at home, reported more acute health effects than adults who had never smoked and had no exposure.

California Environmental Protection Agency (CalEPA), "Health effects of exposure to environmental tobacco smoke," *Tobacco Control* 6(4): 346-353, Winter, 1997.

This article describes research conducted by the California Environmental Protection Agency (CalEPA) and Office of Environmental Health Hazard Assessment (OEHHA) into the hazards posed by secondhand smoke exposure, which concluded that it is a "toxic air contaminant."

Stoddard, J.J.; Gray, B., "Maternal smoking and medical expenditures for childhood

respiratory illness," *American Journal of Public Health* 87(2): 205-209, 1997.

This study found that secondhand smoke exposure in children was associated with \$661 million in annual medical expenditures in 1987, representing 19 percent of all expenditures for childhood respiratory conditions.

Walker, J.C.; Nelson, P.R.; Cain, W.S.; Utell, M.J.; Joyce, M.B.; Morgan, W.T.; STEichen, T.J.; Pritchard, W.S.; Stancill, M.W., "Perceptual and psychophysiological responses of non-smokers to a range of environmental tobacco smoke concentrations," *Indoor Air* 7: 173-188, 1997.

This study estimated the perceptual, psychophysiological and cognitive impact of secondhand smoke on nonsmokers.

Ott, W.; Switzer, P.; Robinson, J., "Particle concentrations inside a tavern before and after prohibition of smoking: evaluating the performance of an indoor air quality model," *Journal of the Air & Waste Management Association* 46(12): 1120-1134, December 1996.

A study of respirable suspended particles (RSP) in a large sports tavern before and after implementation of a smoking ban found that tavern air quality improved after the nonsmoking policy took effect, but that tavern attendance was not reduced.

Gallo, N., "Secondhand smoke: clearing the air about risks," *Better Homes and Gardens*: 66-71, February 1996.

A four page article provided an overview of research about the health effects of secondhand smoke, the Tobacco Institute's denial of the risks, and recommendations for women to reduce risks in the home and the workplace.

Redhead, C.S.; Rowberg, R.E., "CRS Report for Congress: environmental tobacco smoke and lung cancer risk," *Washington, D.C.: Congressional Research Service (CRS), The Library of Congress*, November 14, 1995.

This report presents an analysis of the potential health effects of secondhand smoke exposure and concentrates primarily on possible lung cancer risk.

Hammond, S.K.; Sorensen, G.; Youngstrom, R.; Ockene, J.K., "Occupational exposure to environmental tobacco smoke," *Journal of the American Medical Association* 274(12): 956-960, September 27, 1995.

This research study used three methods to evaluate occupational exposure to secondhand smoke in a variety of workplaces and found that "...occupational exposure to environmental tobacco smoke presents a substantial risk to workers in the absence of a policy restricting or banning smoking."

Reynolds, P.; Fontham, E., "Passive smoking and lung cancer," *Annals of Medicine* 27: 633-640, 1995.

A review of the scientific issues raised and new epidemiological evidence presented since the publication of the Environmental Protection Agency (EPA) report on secondhand smoke and health effects.

Patten, C.A.; Pierce, J.P.; Cavin, S.W.; Berry, C.C.; Kaplan, R.M., "Progress in protecting non-smokers from environmental tobacco smoke in California workplaces," *Tobacco Control* 4: 139-144, 1995.

An increase in smokefree workplace policies has greatly reduced the number of nonsmokers exposed to secondhand smoke in California.

Gibson, B., "Psychological aspects of smoker-nonsmoker interaction: implications for public policy," *American Psychologist*: 1081-1083, December 1994.

Assesses psychological research on nonsmokers' attitudes and behavior toward smokers and recommends clearly marking the boundaries between smoking and nonsmoking areas to avoid conflict.

Fiore, M.; Shi, F.Y.; Hershman, S.J.; Henningfield, J.E., "Effect of smoking and smoking withdrawal on flight performance: a 1994 update," *Centers for Disease Control (CDC), Office on Smoking and Health (OSH)*, December 1994.

This report describes the discomfort of smoke and the minimal risks of smoking withdrawal for airline cockpit crew.

Bero, L.A.; Glantz, S.A.; Rennie, D., "Publication bias and public health policy on environmental tobacco smoke," *Journal of the American Medical Association* 272(2): 133-136, July 13, 1994.

This study examined the tobacco industry claim that publication bias against negative studies invalidates the risk assessment of environmental tobacco smoke (ETS) conducted by the Environmental Protection Agency (EPA) and other reviews; the study found no publication bias against statistically nonsignificant results on ETS in the peer-reviewed literature.

Americans for Nonsmokers' Rights; Prospect Associates, "Clean indoor air: a guide to developing policy," *American Stop Smoking Intervention Study (ASSIST) National Cancer Institute (NCI)*, June 1994.

A review of policy issues about clean indoor air with suggested options, extensive footnotes, lists of places with smokefree ordinances, and sample legislation.

Brownlee, S.; Roberts, S.V.; Cooper, M.; Goode, E.; Hetter, K.; Wright, A., "Should cigarettes be outlawed?," *U.S. News & World Report*: 33-38, April 18, 1994.

An analysis of the options open to David Kessler and the Food and Drug Administration (FDA) to regulate or ban tobacco.

Pierce, J.P.; Shanks, T.G.; Pertschuk, M.; Gilpin, E.; Shopland, D.; Johnson, M.; Bal, D.,

"Do smoking ordinances protect non-smokers from environmental tobacco smoke at work?," *Tobacco Control* 3: 15-20, 1994.

This survey concluded that clean indoor air, or smoking, ordinances play an important role in reducing workplace exposure to secondhand smoke, but that lack of employer compliance prevents them from reaching their full protective potential.

Samet, J.M.; Lewit, E.M.; Warner, K.E., "Involuntary smoking and children's health," *Critical Health Issues for Children and Youth* 4(3): 94-114, Winter, 1994.

This article summarizes the health hazards for children of secondhand smoke exposure and recommends that clean indoor air policies be initiated in child care centers, public libraries, restaurants, and sports arenas.

Axelrad, R.; Bayard, S.P.; Jinot, J., "Setting the record straight: secondhand smoke is a preventable health risk," *Tobacco Control* 3: 263-267, 1994.

An in-depth defense of the Environmental Protection Agency's 1993 report on secondhand smoking against criticisms made by the tobacco industry.

Coble, Y.D., Jr., "Informational report of the Council on Scientific Affairs (I-93). Environmental tobacco smoke: health effects and prevention policies," *American Medical Association, Council on Scientific Affairs*, December 1993.

Discussion of the major research studies about secondhand smoke and recommendations for public policy.

Hecht, S.S.; Carmella, S.G.; Murphy, S.E.; Akerkar, S.; Brunnemann, K.D.; Hoffmann, D., "A tobacco-specific lung carcinogen in the urine of men exposed to cigarette smoke," *New England Journal of Medicine* 329(21): 1543-1546, November 18, 1993.

This study concluded that nonsmokers exposed to secondhand smoke take up and metabolize a lung carcinogen, providing experimental support for the proposal that secondhand smoke can cause lung cancer.

Lambert, W.E.; Samet, J.M.; Spengler, J.D., "Environmental tobacco smoke concentrations in no-smoking and smoking sections of restaurants," *American Journal of Public Health* 83(9): 1339-1341, September 1993.

This study measured two markers of secondhand smoke in the smoking and no-smoking sections of seven restaurants, and concluded that the mean measurements in the no-smoking sections were 40% and 65% lower than in the smoking sections.

[n.a.], "Preliminary data: exposure of persons ages \geq 4 years to promote tobacco smoke: United States, 1988-1991," *Morbidity and Mortality Weekly Report* 42(2): 37-39, January 22, 1993.

The Third National Health and Nutrition Examination Survey (NHANES III) measured serum cotinine levels (a metabolite of nicotine) of survey participants in an attempt to determine secondhand smoke exposure among people aged four and older;

preliminary data for 800 persons age 4-91 found that 100 percent had measurable levels of cotinine.

Lofroth, G., "Environmental tobacco smoke: multicomponent analysis and room-to-room distribution in homes," *Tobacco Control* 2: 222-225, 1993.

This study evaluated room-to-room distribution of secondhand smoke in homes with low ventilation rates and found that nonsmoking occupants in typical smoking homes will be exposed to ETS in whichever room they stay.

Smoke Free Marin Coalition, ed., "Findings in support of regulation of secondhand smoke," *Marin County, CA: Tobacco Education Project*, August 21, 1992.

A compilation of newspaper articles, fact sheets (including ones from Americans for Nonsmokers' Rights), action alerts, and letters in support of the issues covered in this report: health issues, youth access issues, economic impact of smoking bans, support for clean air ordinances, and tactics of the tobacco industry.

Glantz, S., "Summary of EPA report," *Glantz, Stanton*, July 25, 1992.

Details industry tactics used to try to undermine the Environmental Protection Agency (EPA)'s report on secondhand smoke.

Cowley, G., "Poison at home and at work: a new report calls secondhand smoke a killer," *Newsweek*: 55, June 29, 1992.

While other government agencies sounded warnings about secondhand smoke in the past, the report by the Environmental Protection Agency (EPA) on the health hazards of secondhand smoke is more detailed and thus more likely to be taken seriously, says this summary of the main provisions of the EPA study.

McCarley, W.R., "Report of the Chief Legislative Analyst: proposal to prohibit smoking in restaurants," *Los Angeles: Chief Legislative Analyst*, March 20, 1992.

Extensive tables of information and review of studies about the hazardous health effects of smoking on minorities and the effects of clean indoor air ordinances and their impact on the finances of restaurants and cities.

Steenland, K., "Passive smoking and the risk of heart disease," *Journal of the American Medical Association* 267(1): 94-99, January 1, 1992.

This study examined nine epidemiologic studies and numerous experimental studies regarding the risk of ETS exposure in developing heart disease, and estimated the annual number of heart disease deaths in the United States attributable to secondhand smoke exposure at between 35,000 to 40,000.

Emmons, K.M.; Abrams, D.B.; Marshall, R.J.; Etzel, R.A.; Novotny, T.E.; Marcus, B.H.;

Kane, M.E., "Exposure to environmental tobacco smoke in naturalistic settings," *American Journal of Public Health* 82(1): 24-28, January 1992.

This survey questioned nonsmokers to determine where they were being exposed to secondhand smoke and found that the workplace was the primary source of exposure, except when the nonsmokers lived with smokers, when exposure at home became the primary source.

Martinez, F.D.; Cline, M.; Burrows, B., "Increased incidence of asthma in children of smoking mothers," *Pediatrics* 89(1): 21-26, January 1992.

This study examined the relationship between parental smoking and asthma in children and speculates that recent increases in rates of childhood asthma might be related to increased prevalence of smoking among less educated women.

Marcus, B.H.; Emmons, K.M.; Abrams, D.B.; Marshall, R.J.; Kane, M.; Novotny, T.E.; Etzel, R.A., "Restrictive workplace smoking policies: impact on nonsmokers' tobacco exposure," *Journal of Public Health Policy*: 42-51, Spring, 1992.

The results of two studies which examined the relationship between smoking policy, self-reported secondhand smoke exposure, and salivary cotinine concentrations; in both studies, more restrictive workplace smoking policies were associated with a lower proportion of nonsmoking volunteers with detectable salivary cotinine.

National Cancer Institute (NCI), "Strategies to control tobacco use in the United States: a blueprint for public health action in the 1990s. Smoking and Tobacco Control Monographs, Monograph 1," *Bethesda, MD: National Cancer Institute (NCI)*, November 1991.

This book discusses tobacco policies, with chapters on: the scientific rationale for smoking control strategies; evolution of smoking control strategies; smoking prevalence and lung cancer rates; approaches directed to the individual and the social environment; interdependence and synergy among smoking control activities.

[n.a.], "Other people's smoke," *University of California Wellness Letter*: 7, October 1991.

This "Wellness Letter" article described how nonsmokers are physically impaired by secondhand smoke and provided recommendations to limit exposure to secondhand smoke; secondhand smoke was ranked the third leading cause of preventable death in the U.S. and it caused the deaths of between 46,000 and 54,500 nonsmokers each year.

Greenberg, R.A.; Bauman, K.E.; Strecher, V.J.; Keyes, L.L.; Glover, L.H.; Haley, N.J.; Stedman, H.C.; Loda, F.A., "Passive smoking during the first year of life," *American Journal of Public Health* 81(7): 850-853, July 1991.

This study examined infants from birth to age one, measuring the prevalence of secondhand smoke absorption through cotinine levels in their urine, and found that the amount of secondhand smoke exposure increased as the child aged, with the proportion of infants exposed increasing from 14% to 36% over time.

Glantz, S.A.; Daynard, R.A., "Health hazards of secondhand smoke: safeguarding the workplace," *Trial*: 37-40, June 1991.

This article gives an overview of the scientific research that describes the dangerous health effects of secondhand smoke; includes a sidebar about plaintiffs that are winning secondhand smoke cases.

Elsner, R.H., "Secondhand smoke is a killer," *California Physician*: 14, March 1991.

This article reviews research studies showing that secondhand smoke is responsible for death and disease in up to 53,000 Americans per year.

Jones, C.J.; Schiffman, M.H.; Kurman, R.; Jacob, III, P.; Benowitz, N.L., "Elevated nicotine levels in cervical lavages from passive smokers," *American Journal of Public Health* 81(3): 378-379, March 1991.

This study examined the levels of nicotine found in the cervixes of 145 nonsmoking women and found that the levels were highest in women exposed to secondhand smoke in the home, intermediate in those exposed outside the home, and lowest in women who recalled no exposure.

Goldsmith, R.J.; Hurt, R.D.; Slade, J., "Development of smoke-free chemical dependency units," *Journal of Addictive Diseases* 11(2): 67-77, 1991.

This article reviews the prevalence of chemical dependency units (CDUs) in hospitals which have gained exemption to smoke-free requirements and urges CDUs to maintain a smoke-free policy while treating patients for alcohol, drug and nicotine addiction.

Kent, A., "Passive smoking: a health hazard," *London: Imperial Cancer Research Fund London: Cancer Research Campaign*, 1991.

An examination of secondhand smoking issues in Britain and remedies being tried there and in other countries.

Woodward, S.T.; Winstanley, M.H., "Lung cancer and passive smoking at work: the Carroll case*," *Medical Journal of Australia* 153: 682-684, December 3, 1990.

This paper examines a lawsuit brought by an Australian worker against his employer, seeking compensation for lung cancer caused by secondhand smoke exposure on the job.

Cowley, G., "Secondhand smoke: some grim news," *Newsweek*: 59, June 11, 1990.

Studies by the Environmental Protection Agency (EPA) and by Stanton A. Glantz show that secondhand smoke exposure is a leading cause of death from lung cancer and heart disease.

Heath, C., "The evidence accumulates: cancer risk from environmental tobacco smoke," *World Smoking & Health* 15(2): 10-11, Summer, 1990.

This article summarizes key research into the health hazards of secondhand smoke exposure.

Taylor, B., "Prevention of pediatric pulmonary problems: the importance of maternal smoking," *Lung Suppl.* 327-332, 1990.

Maternal smoking has been strongly associated with respiratory illness in young children, this study argues that stopping women from becoming smokers is a priority.

Miller, G.H., "The impact of passive smoking: cancer deaths among nonsmoking women," *Cancer Detection and Prevention* 14(5): 497-503, plus errata, 1990.

This study examined nonsmoking wives with no secondhand smoke exposure versus nonsmoking wives with lifetime secondhand smoke exposure.

Environmental Protection Agency, "Report to Congress on indoor air quality: executive summary and recommendations," *Washington, DC: Environmental Protection Agency*, August 1989.

The first of a four part report by the Environmental Protection Agency (EPA) to Congress mandated by Title IV of the Superfund Amendments and Reauthorization Act (SARA) of 1986, lays out the EPA's planned activities around secondhand smoke, one of "the most harmful indoor air pollutants, and higher in risk than many environmental pollutants currently regulated by EPA."

Environmental Protection Agency, "Report to Congress on indoor air quality volume I: federal programs addressing indoor air quality," *Washington, DC: Environmental Protection Agency*, August 1989.

The second of a four part report by the Environmental Protection Agency to Congress mandated by Title IV of the Superfund Amendments and Reauthorization Act (SARA) of 1986, states the EPA's intention to provide fact sheets and handbooks on secondhand smoke and to engage in research on secondhand smoke as a risk factor for cancer and heart disease.

Environmental Protection Agency, "Report to Congress on indoor air quality volume II: assessment and control of indoor air pollution," *Washington, DC: Environmental Protection Agency*, August 1989.

The third of a four part report by the Environmental Protection Agency to Congress mandated by Title IV of the Superfund Amendments and Reauthorization Act (SARA) of 1986, discusses health and economic effects of poor indoor air quality, ventilation and other control mechanisms, and the legislative acts and government agencies that govern control of indoor air quality.

Slattery, M.L.; Robison, L.M.; Schuman, K.L.; French, T.K.; Abbott, T.M.; Overall, J.C.; Gardner, J.W., "Cigarette smoking and exposure to passive smoke are risk factors for

cervical cancer," *Journal of the American Medical Association* 261(11): 1593-1598, March 17, 1989.

This study examined active vs. passive smoking as risk factors for developing cervical cancer.

Hurt, R.D.; Berge, K.G.; Offord, K.P.; Leonard, D.A.; Gerlach, D.K.; Renquist, C.L.; O'Hara, M.R., "The making of a smoke-free medical center," *Journal of the American Medical Association* 261(1): 95-97, January 6, 1989.

This article summarizes the methods used to develop and implement a smoke-free policy in the Mayo Medical Center, and concludes that such a policy can be implemented smoothly and effectively if it is well planned and supported.

[n.a.], "Nicotine in non-smokers' urine," *Healthwise* 9 (4): 6, July/August, 1989.

Summary of a research studies on effects of secondhand smoke on airline passengers and crew, the current regulations on airline flights, and the causes of smoky airline cabins.

Wells, A.J., "Lung cancer from passive smoking at work," *American Journal of Public Health* 88(7): 1025-1029, July 1988.

This article studies whether workplace exposure to secondhand smoke is associated with an increased risk of lung cancer and concludes that workplace exposure is about the same as household exposure.

Smith, A.H.; Mendell, M., "Health risk assessment for passive smoking in buildings," [n.s.], May 4, 1987.

This document, prepared for the School of Public Health of the University of California, Berkeley, assesses whether public health is at risk if the policy of smoking in private offices is continued and concludes that it is.

Burghuber, O.C.; Punzengruber, Ch.; Sinzinger, H.; Haber, P.; Silberbauer, K., "Platelet sensitivity to prostacyclin in smokers and non-smokers," *CHEST* 90(1): 34-38, July 1986.

This study examined the platelet sensitivity to prostacyclin in smokers and non-smokers.

National Research Council: Committee on Airliner Cabin Air Quality, "The airliner cabin environment: air quality and safety," *Washington DC: National Academy Press*, 1986.

This report summarizes the findings of the committee's study of cabin air quality in airliners.

Committee on Airliner Cabin Air Quality, Board on Environmental Studies and Toxicology, Commission on Life Services, National Research Council, "The airliner cabin environment: air quality and safety," *Washington, DC: National Academy Press*, 1986.

This 12-page report was the culmination of 18 months of research into cabin air quality, cabin environment, emergency procedures, cabin regulations, and records; it was found that cabin air quality at the lowest ventilation rate was only acceptable in nonsmoking situations, that secondhand smoke was a hazardous substance, and that secondhand smoke generated the most passenger complaints.

Repace, J.L.; Lowrey, A.H., "An indoor air quality standard for ambient tobacco smoke based on carcinogenic risk," *New York State Journal of Medicine* 85: 381-383, July 1985.

This paper argues that, in order to achieve an acceptable risk level of secondhand smoke in the air, the only effective means are the complete physical separation of smokers and nonsmokers using separate ventilation systems or prohibiting smoking in the workplace altogether.

Behrens, R.A., "No smoking: a decision maker's guide to reducing smoking at the worksite," *Washington DC: Washington Business Group on Health*, 1985.

This report provides background information to support decisions for businesses to create and implement clean indoor air policies.

Repace, J.L.; Lowrey, A.H., "Tobacco smoke, ventilation, and indoor air quality," *ASHRAE Transactions* 88: 895-914, 1982.

This paper examined secondhand smoke and ventilation issues.

Hirayama, T., "Non-smoking wives of heavy smokers have a higher risk of lung cancer: a study from Japan," *British Medical Journal* 282: 183-185, January 17, 1981.

This study found that the nonsmoking wives of heavy smokers had a higher risk of developing lung cancer than other women.