

TOBACCO HARM TO KIDS

Tobacco use continues to pose a serious threat to our children. Over 400,000 middle and high school students still smoke. Nationwide, 1.9 percent of high school students and 1.1 percent of middle school students currently smoke. In 16 states and DC, cigar smoking by high school boys equals or surpasses cigarette smoking (nationally, 2.3% high schools boy smoke cigars and 2.3% of high school boys smoke cigarettes). 2.1 percent of U.S. high school boys are current smokeless or spit tobacco users. In some states, spit tobacco use among high school males is much higher than the national rate. For example, in West Virginia, Alabama, Tennessee and Ohio, 9.0 percent, 5.6 percent, 3.5 percent and 2.0 percent of high school boys use spit tobacco, respectively.

Nearly 90 percent of smokers begin at or before the age of 18.⁵ There are more than 36,000 new underage daily smokers in this country each year—and roughly one-third of them will eventually die prematurely from smoking-caused disease.⁶ According to the U.S. Surgeon General, 5.6 million kids under the age of 18 who are alive today will ultimately die from smoking-related disease.⁷

To make matters worse, 38.1 percent kids aged 3 to 11 still are exposed to secondhand smoke.⁸ In addition, 8.4 percent of all pregnant women smoke, and many non-smoking pregnant women are exposed to secondhand smoke – causing enormous harms to newborn babies.⁹

Tobacco Use Harms At or Around Birth. Smoking and exposure to secondhand smoke among pregnant women causes spontaneous abortions, ectopic pregnancies, still-born births, low-birth-weight babies, and other pregnancy and delivery complications requiring neonatal intensive care. Exposure to nicotine during fetal development, which is a critical time for brain development, also can have lasting negative consequences on brain development. ¹⁰ In addition, smoking and exposure to secondhand smoke during pregnancy directly increase the risk of health and behavioral problems including: abnormal blood pressure in infants and children, cleft palates and lips, childhood leukemia, infantile colic, childhood wheezing, respiratory disorders in childhood, eye problems during childhood, intellectual disability, attention deficit disorder, behavioral problems and other learning and developmental problems. ¹¹

Each year in the United States, more than 400,000 live-born infants are exposed in utero to tobacco from pregnant women smoking. Smoking causes more than 1,000 deaths due to perinatal conditions annually, including 400 from sudden infant death syndrome (SIDS).

Harm to Kids from Smoking by Family Members. Parental or other household smoking after birth also increases the chances that exposed children will suffer from smoke-caused coughs and wheezing, bronchitis, asthma, pneumonia, potentially fatal lower respiratory tract infections, eye and ear problems or injury or death from cigarette-caused fires. Each year, 280 children die from respiratory illness caused by secondhand smoke; and another 300 kids suffer from injuries caused by smoking-caused fires. ¹⁴ Secondhand smoke aggravates asthma symptoms in 400,000 to 1 million children, is responsible for between 150,000 and 300,000 new cases of bronchitis and pneumonia and 7,500 to 15,000 hospitalizations among kids (aged 18 months or younger), and causes 790,000 cases of otitis media (an acute or chronic inflammation of the middle ear) that result in office visits each year. ¹⁵ Moreover, in 2013, there were more than 8,000 reports of potentially toxic exposure to tobacco and nicotine products among children five years old or younger, caused primarily by young children ingesting cigarettes. ¹⁶

Harm to Youth from Their Own Smoking. Most people focus on the increased risk of heart disease, lung cancer and other cancers from smoking and believe that the harms to kids from their own smoking or other tobacco use do not appear for many years. In fact, many health consequences can occur quite quickly. For example:

 Beyond smoke- or nicotine-stained teeth, smokers are also more likely to suffer from periodontal disease and to have more serious periodontal disease, including tooth loss.¹⁷

- Chronic coughing, increased phlegm, emphysema and bronchitis have been well-established products of smoking for decades. Smokers are also more susceptible to influenza and are more likely to experience severe symptoms when they get the flu.¹⁸
- Smoking causes mild airway obstruction, reduced lung function and slowed growth of lung function among adolescents.¹⁹
- Teenage smokers suffer from shortness of breath almost three times more often as teens that don't smoke and produce phlegm more than twice as often as teens who don't smoke. Not surprisingly, smoking also hurts young people's physical fitness in terms of both performance and endurance even among young people trained in competitive running.²⁰
- The resting heart rates of young adult smokers are two to three beats per minute faster than nonsmokers, and studies have shown that early signs of heart disease and stroke can be found in adolescents who smoke.²¹
- Smoking is also associated with hearing loss, vision problems and increased headaches.²²
- While many smokers believe that smoking relieves stress, it is actually a major cause. Smoking only
 appears to reduce stress because it lessens the irritability and tension caused by the underlying
 nicotine addiction.²³
- High school seniors who are regular smokers and began smoking by the ninth grade are more than
 twice as likely than their nonsmoking peers to report poorer overall health; are roughly two and a half
 times more likely to report cough with phlegm or blood, shortness of breath when not exercising and
 wheezing or gasping; and are three times more likely to have seen a doctor or other health
 professional for an emotional or psychological complaint.²⁴
- Smoking causes bad breath, makes smokers' homes and clothes stink, and reduces their sense of smell.²⁵

Harm to Youth from E-Cigarettes. E-cigarettes have been the most popular tobacco product among youth since 2014. In 2023, over 2.1 million youth, including 10.0% of US high schoolers were current ecigarette users. ²⁶ Kids are not just experimenting with e-cigarettes, but are using them frequently, leading to an addiction that is difficult to break. In 2023, 39.7% of high school e-cigarette users reported vaping on 20 or more days/month, and 29.9% reported daily use. In total, 530,000 middle and high school students are vaping every single day.²⁷ Almost all e-cigarettes contain nicotine, a highly addictive drug that can have lasting damaging effects on adolescent brain development and has been linked to a variety of adverse health outcomes for the developing fetus.²⁸ Nicotine also impacts the cardiovascular system.²⁹ Exposure to liquid nicotine found in e-cigarettes has also resulted in thousands of calls annually to poison control centers, according to the American Association of Poison Control Centers (AAPCC).³⁰ In addition to nicotine, e-cigarettes can contain other harmful and potentially harmful constituents, including formaldehyde, acrolein, volatile organic compounds like toluene, tobacco-specific nitrosamines, and metals like nickel and lead. 31 As stated by the Surgeon General, "E-cigarette use poses a significant – and avoidable - health risk to young people in the United States. Besides increasing the possibility of addiction and long-term harm to brain development and respiratory health, e-cigarette use is associated with the use of other tobacco products that can do even more damage to the body."32

Campaign for Tobacco-Free Kids, November 6, 2023 / Hope Neuling

More information on kids and tobacco use is available at https://www.tobaccofreekids.org/fact-sheets/tobaccos-toll-health-harms-and-cost/tobacco-and-kids.

¹ Birdsey J, et al. "Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023." *MMWR* 72(44):1173–1182, November 3, 2023, https://www.cdc.gov/mmwr/volumes/72/wr/pdfs/mm7244a1-H.pdf.

- ³ Birdsey J, et al. "Tobacco Product Use Among U.S. Middle and High School Students National Youth Tobacco Survey, 2023." MMWR 72(44):1173–1182, November 3, 2023, https://www.cdc.gov/mmwr/volumes/72/wr/pdfs/mm7244a1-H.pdf. .
- ⁴ CDC, Youth Risk Behavior Surveillance United States, 2021," https://yrbs-
- explorer.services.cdc.gov/#/tables?questionCode=H37&topicCode=C02&year=2021&location=XX.
- ⁵ SAMHSA. Center for Behavioral Health Statistics and Quality. National Survey on Drug Use and Health (NSDUH), 2016. See also, HHS, *Preventing Tobacco Use Among Youth and Young Adults, A Report of the Surgeon General*, 2012.
- ⁶ Substance Abuse and Mental Health Administration (SAMHSA), HHS, Results from the 2021 National Survey on Drug Use and Health, NSDUH: Detailed Tables. Table 4.9A, https://www.samhsa.gov/data/report/2021-nsduh-detailed-tables.
- ⁷ HHS, *The Health Consequences of Smoking—50 Years of Progress, A Report of the Surgeon General*, 2014, http://www.surgeongeneral.gov/library/reports/50-years-of-progress/.
- Brody DJ, Lu Z, Tsai J, "Secondhand smoke exposure among nonsmoking youth: United States, 2013-2016," NCHS Data Brief, 348, 2019, https://www.cdc.gov/nchs/data/databriefs/db348-h.pdf.
- ⁹ CDC, "Smoking Prevalence and Cessation Before and During Pregnancy: Data from the Birth Certificate, 2014," National Vital Statistics Reports, 65(1), February 10, 2016, http://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_01.pdf.
- ¹⁰ HHS, The Health Consequences of Smoking—50 Years of Progress, A Report of the Surgeon General, 2014, http://www.surgeongeneral.gov/library/reports/50-years-of-progress/.
- 11 On abnormal blood pressure in infants and children, see, e.g., Morley, R, et al., "Maternal Smoking and Blood Pressure in 7.5 to 8 Year Old Offspring," Archives of Disease in Childhood 72(2):120-24, February 1995; Blake, KV, et al., "Maternal Cigarette Smoking During Pregnancy, Low Birth Weight and Subsequent Blood Pressure in Early Childhood," Early Human Development 57:137-147, 2000. On cleft palates and lips, see Nagourney, E, "Consequences: Linking Cleft Palates and Smoking Moms," New York Times, April 12, 2000 [citing recent study in Plastic and Reconstructive Surgery, the Journal of the American Society of Plastic Surgeons]. On childhood leukemia, see, e.g., Stjernfeldt, M, et al., "Maternal Smoking and Irradiation During Pregnancy as Risk Factors for Child Leukemia," Cancer Detection and Prevention 16(2):129-35, 1992. On birth defects, see, e.g., Kallen, K, "Maternal Smoking During Pregnancy and Limb Reduction Malformations in Sweden," AJPH 87(1):29-32, January 1997; Czeizel, AE, et al., "Smoking During Pregnancy and Congenital Limb Deficiency," BMJ 308(6942):1473-76, 1994; Drews, CD, et al., "The Relationship Between Idiopathic Mental Retardation and Maternal Smoking During Pregnancy," Pediatrics 97(4):547-53, April 1997. On colic, see Reijneveld, SA, et al., "Infantile Colic: Maternal Smoking As Potential Risk Factor," Archives of Disease in Childhood 83:302-303, October 2000. On wheezing and respiratory problems, see, e.g., Hu, FB, et al., "Prevalence of Asthma and Wheezing in Public Schoolchidren: Association with Maternal Smoking During Pregnancy," Annals of Allergy, Asthma, and Immunology 79(1):80-84, July 1997; Tager, IB, et al., "Maternal Smoking During Pregnancy: Effects on Lung Function During the First 18 Months of Life," American Journal of Respiratory and Critical Care Medicine 52(3):977-83, September 1995; Lux, AL, et al., "Wheeze Associated with Prenatal Tobacco Smoke Exposure: A Prospective, Longitudinal Study," Archives of Disease in Childhood 83:307-12, October 2000. On eye problems, see, e.g., Hakim, RB & Tielsch, JM, "Maternal Cigarette Smoking During Pregnancy: A Risk Factor for Childhood Stabismus," Archives of Opthalmology 110(10):1459-62, October 1992. On impaired intellectual development, see, e.g., Frydman, M, "The Smoking Addiction of Pregnant Women and the Consequences on the Offspring's Intellectual Development," Journal of Environmental Pathology, Toxicology and Oncology 15(2-4):169-72, 1996; Olds, DL, et al., "Intellectual Impairment in Children of Women Who Smoke During Pregnancy," Pediatrics 93(2):221-27, 1994 [correction published in 93(6, Pt 1):973, June 1994]. On developmental and behavioral problems, including criminality, see, e.g., Milberger, S, et al., "Further Evidence of an Association Between Maternal Smoking During Pregnancy and Attention Deficit Hyperactivity Disorder: Findings from a High-Risk Sample of Siblings," Journal of Clinical Child Psychology 27(3):352-58, October 1998; Orlebeke, JF, et al., "Child Behavior Problems Increased By Maternal Smoking During Pregnancy," Archives of Environmental Health 54(1):15-19, 1999; Fergusson, DM & Horwood, LJ, "Prospective Childhood Predictors of Deviant Peer Affiliations in Adolescence," Journal of Child Psychology and Psychiatry 40(4):581-92, May 1999; Orlebeke, JF, et al., "Increase in Child Behavior Problems Resulting From Maternal Smoking During Pregnancy," Archives of Environmental Health 52(4):317-21, 1997.
- ¹² HHS, *The Health Consequences of Smoking—50 Years of Progress, A Report of the Surgeon General*, 2014, http://www.surgeongeneral.gov/library/reports/50-years-of-progress/.
- ¹³ HHS, *The Health Consequences of Smoking—50 Years of Progress, A Report of the Surgeon General*, 2014, http://www.surgeongeneral.gov/library/reports/50-years-of-progress/.
- ¹⁴ See, e.g., Li, JS, et al., "Meta-Analysis on the Association Between Environmental Tobacco Smoke (ETS) Exposure and the Prevalence of Lower Respiratory Tract Infection in Early Childhood," *Pediatric Pulmonology* 27(1):5-13, January 1999; DiFranza, JR & Lew, RA, "Morbidity & Mortality in Children Associated with the Use of Tobacco Products By Other People," *Pediatrics* 97(4):560-68, April 1997; Adair-Bischoff, CE & Sauve, RS, "Environmental Tobacco Smoke and Middle Ear Disease in Preschool-Age Children," *Archives of Pediatric and Adolescent Medicine* 52(2):127-33, February 1999; American Academy of Pediatrics Committee on Environmental Health, "Environmental Tobacco Smoke: A Hazard to Children," *Pediatrics* 99(4):639-42, April 1997; Mannino, DM, et al., "Environmental Tobacco Smoke Exposure and Health Effects in Children," *Tobacco Control* 5(1):13-18, Spring 1996; Anderson HR & Cook, DG, "Passive Smoking and Sudden Infant Death Syndrome: Review of the Epidemiological Evidence," *Thorax* 52(11):1003-09, November 1997; Hall, Jr., JR, *The U.S. Smoking-Material Fire Problem Through* 1995, National Fire Protection Association, September 1997.
- ¹⁵ California Environmental Protection Agency, *Proposed Identification of Environmental Tobacco Smoke as a Toxic Air Contaminant:* Executive Summary, June 24, 2005, http://www.arb.ca.gov/regact/ets2006/ets2006.htm. CDC, Secondhand Smoke (SHS) Facts, accessed January 2, 2014, http://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/general_facts/index.htm. United States Environmental Protection Agency, Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders, 1992.

² Birdsey J, et al. "Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023." *MMWR* 72(44):1173–1182, November 3, 2023, https://www.cdc.gov/mmwr/volumes/72/wr/pdfs/mm7244a1-H.pdf. . State Data from YRBS, YTS and other state-specific surveys. 16 states + DC include: AR, CA, DE, DC, FL, IL, KY, LA, MD, MI, MS, PA, RI, TN, TX, VA, WY

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¹⁶ Mowry, JB, et al., "2013 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS): 31st Annual Report," *Clinical Toxicology*, 52:1032-1283, 2014.

¹⁷ See, e.g., Tonetti, MS, "Cigarette Smoking and Periodontal Disease: Etiology and Management of Disease," *Annals of Periodontology*, 3(1): 88-101, July 1998; Burgan, SW, "The Role of Tobacco Use in Periodontal Diseases: A Literature Review," *General Dentistry* 45(5):449-60, September-October 1997; Krall, EA, "Smoking, Smoking Cessation, and Tooth Loss," *Journal of Dental Research* 76(10):1653-59, October 1997.

¹⁸ Kark, JD, et al., "Cigarette Smoking as a Risk Factor For Epidemic a(h1n1) Influenza in Young Men," *New England Journal of Medicine* 307(17):1042-46, October 21, 1982; Kark, JD & Lebiush, M, "Smoking and Epidemic Influenza-Like Illness in Female Military Recruits: A Brief Survey," *American Journal of Public Health* 71(5):530-32, May 1981.

¹⁹ Gold, DR, et al., "Effects of Cigarette Smoking on Lung Function in Adolescent Boys and Girls," New England Journal of Medicine 335(13): 931-37, September 26, 1996; HHS, Preventing Tobacco Use Among Young People: A Report of the Surgeon General, 1994.

²⁰ Arday, DR, et al., "Cigarette smoking and self-reported health problems among US high school seniors, 1982-1989," *American Journal of Health Promotion* 10(2):111-116, 1995.

²¹ HHS, Preventing Tobacco Use Among Young People: A Report of the Surgeon General, 1994.

²² For hearing loss, see, e.g., Noorhassim, I & Rampal, KG, "Multiplicative Effect of Smoking and Age on Hearing Impairment," *American Journal of Otolaryngology* 19(4):240-43, July-August 1998; Cruickshanks, KJ, et al., "Cigarette Smoking and Hearing Loss: The Epidemiology of Hearing Loss Study," *Journal of the American Medical Association* 279(21):1715-19, June 3, 1998. For eye problems, see, e.g., Klein, R, et al., "Relation of Smoking to the Incidence of Age-Related Maculopathy: The Beaver Dam Eye Study," *American Journal of Epidemiology* 147(2): 103-10, January 15, 1998; Cumming, RG & Mitchell, P, "Alcohol, Smoking, and Cataracts," *Archives of Ophthalmology* 115(10):1296-303, October 1997; Sibony, PA, et al., "The Effects of Tobacco Smoking on Smooth Pursuit Eye Movements," *Annals of Neurology* 23(3):238-41, March 1988. For headaches, see Payne, TJ, et al., "The Impact of Cigarette Smoking on Headache Activity in Headache Patients," *Headache* 31(5):329-32, May 1991.

²³ Parrott, AC, "Does Cigarette Smoking Cause Stress?," American Psychologist 54(10):817-20, October 1999.

²⁴ Arday, DR, et al., "Cigarette smoking and self-reported health problems among US high school seniors, 1982-1989," *American Journal of Health Promotion* 10(2):111-116, 1995.

²⁵ Fiser, A, "Smell Perception in Smokers," *Medicinski Pregled* 43(1-2):48-49, 1990 [in Serbo-Croation]; Moritz, RP & Winkler, U, "Effect of Smoking on Sense of Smell and Taste," *Zeitschrift Fur Die Gesamte Hygiene Und Ihre Grenzgebiet* 33(12):660-61, December 1987 [in German]. ²⁶ Birdsey J, et al., "Tobacco Product Use Among U.S. Middle and High School Students - National Youth Tobacco Survey, 2023," MMWR, 72(44): 1173-1182, November 3, 2023, https://www.cdc.gov/mmwr/volumes/72/wr/pdfs/mm7244a1-H.pdf.

²⁷ Birdsey J, et al., "Tobacco Product Use Among U.S. Middle and High School Students - National Youth Tobacco Survey, 2023," *MMWR*, 72(44): 1173-1182. November 3, 2023, https://www.cdc.gov/mmwr/volumes/72/wr/pdfs/mm7244a1-H.pdf.

²⁸ HHS, The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General, CDC, Office of Smoking and Health (OSH), 2014, http://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html. See also: CDC Office on Smoking and Health, "Electronic Nicotine Delivery Systems: Key Facts," July 2015. Accessed November 19, 2015. http://www.cdc.gov/tobacco/stateandcommunity/pdfs/ends-key-facts2015.pdf

²⁹ HHS, *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General, Centers for Disease Control and Prevention, Office on Smoking and Health, 2010 http://www.ncbi.nlm.nih.gov/books/NBK53017/. ³⁰ American Association of Poison Control Centers, "Electronic Cigarettes and Liquid Nicotine," https://aapcc.org/track/ecigarettes-liquid-nicotine.*

³¹ Cheng, T, "Chemical Evaluation of Electronic Cigarettes," *Tobacco Control* 23:ii11-ii17, May 2014. http://tobaccocontrol.bmj.com/content/23/suppl_2/ii11.full. Goniewicz, ML, et al., "Levels of selected carcinogens and toxicants in vapour from electronic cigarettes," *Tobacco Control* 23(2):133-9, March 6, 2013. Williams, M, et al., "Metal and Silicate Particles Including Nanoparticles Are Present in Electronic Cigarette Cartomizer Fluid and Aerosol," *PlosOne*, 8(3), March 2013. See also Williams, M, "Electronic Cigarette Liquids and Vapors: Is It Harmless Water Vapor," presented October 3, 2013 at TRDRP Electronic Cigarette Webinar, http://www.trdrp.org/docs/Williams%20ecig%20vapor%20this%20time%20slides%202013.pdf.

³² HHS, Know the Risks: E-Cigarettes & Young People, accessed March 15, 2018 at https://e-cigarettes.surgeongeneral.gov/knowtherisks.html.