



Waterpipes (Hookahs)

Not a safe alternative to cigarettes

What is Hookah?

- Hookah smoking, long prevalent in the Far and Middle East, involves burning tobacco, passing it through a water-filled bowl and inhaling the smoke through a long hose.
- Waterpipes are known by a variety of names, including: hookah, shisha, boory, goza, narghile, nargile, argmile, and hubble bubble.
- Increasingly, the most common form of tobacco smoked in a waterpipe is called shisha or Maassel, which is sweetened with such flavors as apple, mint, cherry, or cappuccino.

Smoking waterpipes, as well as breathing secondhand smoke from waterpipes, is at least as harmful as exposure to cigarette smoke.

Who Uses Hookah?

- Waterpipes are most common in areas of China, India, Pakistan, and the Eastern Mediterranean Region. However, in the last several years hookah has been gaining in popularity in the United States as well, particularly among college students^{1 2 3} and young adults.^{4 5 6}
- Hookah smoking typically takes place in groups. Hookah bars have been opening with increasing frequency in recent years across the U.S., particularly in college towns and urban areas. The American Lung Association estimated that there were approximately 200-300 hookah bars in the U.S. in 2006,⁷ and that number has likely increased since. More than one in five high school students (20.9%) in one study first learned about hookah by seeing a hookah bar in their community.⁸
- Many hookah smokers have also tried or currently use cigarettes or other tobacco products.^{9 10 11 12 13}
- Among high school seniors, 17% have smoked a hookah in the past year.¹⁴

What are the Health Effects of Exposure to Hookah Smoke?

- **While many hookah smokers may be unaware of its health risks or believe that it is less harmful or addictive than cigarette smoking,^{15 16 17 18} this is not the case.** Smoking waterpipes, as well as breathing secondhand smoke from waterpipes, is at least as harmful as exposure to cigarette smoke.¹⁹
- **Waterpipe smoke, like cigarette smoke, contains significant amounts of cancer causing ingredients, such as arsenic, cobalt, chromium and lead.^{20 21}** In addition, smoke from a waterpipe contains carbon monoxide (CO) in amounts equal to or greater than smoke from cigarettes.^{22 23 24 25 26} A review and meta-analysis of existing research found that waterpipe smoking has the same negative effect on lung function as cigarette smoking.²⁷

- **Waterpipe smokers can be exposed to sufficient doses of nicotine to lead to addiction.**^{28 29} A meta-analysis of four studies assessing biomarkers of exposure to nicotine and tobacco smoke among hookah smokers found that using a waterpipe was equivalent to smoking 2-10 cigarettes per day.³⁰ Waterpipe smoke produces similarly increased blood nicotine levels and increases in heart rate as cigarette use.^{31 32}
- **Smokers of waterpipes may be exposed to even more smoke than cigarette smokers**³³ because waterpipe smoking sessions last from 20-80 minutes during which a smoker may inhale as much smoke as that from 100 or more cigarettes.³⁴ One study found that during a typical one-hour waterpipe use session a waterpipe smoker likely generates ambient carcinogens and toxicants equivalent to that of 2-10 cigarette smokers.³⁵
- **Unlike cigarettes, waterpipe smoke may also contain charcoal or wood cinder combustion products** from the heat source used to burn the tobacco, increasing the cancer- and heart-disease causing agents in the smoke.³⁶
- **Waterpipe smoke is associated with increased risk of disease** including cancer, heart disease, lung disease, and adverse effects during pregnancy.³⁷ In addition, the sharing of a waterpipe mouthpiece increases the user's risk for communicable diseases.
- **The World Health Organization (WHO) issued an advisory on waterpipe tobacco smoking** in 2005 addressing the health effects of waterpipe smoking and made several key recommendations related to regulating hookah in a similar manner as other tobacco products.³⁸ This advisory remains in effect.

ACS CAN supports the regulation of all tobacco products and passage of strong smoke-free laws to protect people from the harms of secondhand smoke from all tobacco products.

Hookah bars should not be exempt from smoke-free laws that prohibit smoking in public places, including workplaces, restaurants, and bars.

ACS CAN also supports other policies focused on decreasing the use of hookah and other tobacco products. Specifically:

- Hookah tobacco should be taxed at an equivalent rate to cigarettes and other tobacco products, using a price-based approach with a minimum tax;
- Sales of hookah tobacco should be prohibited to minors under age 18;
- Waterpipe and hookah tobacco retailers and hookah bars should be subject to the same licensing requirements as retailers of other tobacco products in the jurisdiction;
- The Food and Drug Administration should assert its authority to regulate hookah tobacco under the 2009 federal Family Smoking Prevention and Tobacco Control Act;
- Flavored hookah tobacco should be prohibited;
- Questions about hookah use should be included on national and state-based surveys, particularly those targeting youth and young adults, to obtain information about the prevalence and patterns of hookah use that can be used to improve tobacco prevention and cessation.

References

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- ¹ Fielder RL, Carey KB, and Carey MP. Prevalence, Frequency, and Initiation of Hookah Tobacco Smoking Among First-Year Female College Students: A One-Year Longitudinal Study. *Addictive Behaviors* 2012; 37(2): 221-224.
- ² Sutfin EL, McCoy TP, Reboussin BA, et al. Prevalence and Correlates of Waterpipe Tobacco Smoking by College Students in North Carolina. *Drug Alcohol Depend* 2011; 115(1-2): 131-136.
- ³ Grekin ER and Ayna D. Argileh Use Among College Students in the United States: An Emerging Trend. *J Stud Alcohol Drugs* 2008; 69(3):472-475.
- ⁴ Martinasek MP, McDermott RJ, Martini L. Waterpipe (Hookah) Tobacco Smoking Among Youth. *Curr Probl Pediatr Adolesc Health Care* 2011; 41(2): 34-57.
- ⁵ Jamil H, Elsouhag D, et al. Sociodemographic Risk Indicators of Hookah Smoking Among White Americans: A Pilot Study. *Nicotine Tob Res* 2010; 12(5): 525-529.
- ⁶ Aljarrah K, Ababneh ZQ, and Al-Delaimy WK. Perceptions of Hookah Smoking Harmfulness: Predictors and Characteristics Among Current Hookah Users. *Tob Induc Dis* 2009; 5(1): 16.
- ⁷ American Lung Association. *An Emerging Deadly Trend: Waterpipe Tobacco Use*. Tobacco Policy Trend Alert. 2007. Available at http://www.lungusa2.org/embargo/slati/Trendalert_Waterpipes.pdf. Accessed January 18, 2012.
- ⁸ Smith JR, Novotny TE, Edland SD, et al. Determinants of Hookah Use Among High School Students. *Nicotine Tob Res* 2011; 13(7): 565-572.
- ⁹ Sterling KL and Mermelstein R. Examining Hookah Smoking Among a Cohort of Adolescent Ever Smokers. *Nicotine & Tobacco Research* 2011 (epub ahead of print).
- ¹⁰ Smith JR, Edland SD, Novotny TE et al. Increasing Hookah Use in California. *Am J Pub Heal* 2011;101(10):1876-9.
- ¹¹ Braun RE, Glassman T, Wohlwend J. Hookah Use Among College Students from a Midwest University. *J Community Health* 2011; epub ahead of print.
- ¹² Smith, Novotny, et al, 2011.
- ¹³ Jordan HM and Delnevo CD. Emerging Tobacco Products: Hookah Use Among New Jersey Youth. *Prev Med* 2010; 51(5): 394-396.
- ¹⁴ Johnston LD, O'Malley PM, Bachman JG, Schulenberg JE. *Monitoring the Future National Results on Adolescent Drug Use: Overview of Key Findings, 2010*. Ann Arbor (MI): The University of Michigan, Institute for Social Research, 2011.
- ¹⁵ Wray RJ, Jupka K, Berman S, et al. Young Adults' Perceptions about Established and Emerging Tobacco Products: Results from Eight Focus Groups. *Nicotine Tob Res* 2011 (epub ahead of print).
- ¹⁶ Rankin KV. Hookah Smoking: A Popular Alternative to Cigarettes. *Tex Dent J* 2011; 128(5): 441-445.
- ¹⁷ Smith, Novotny, et al, 2011.
- ¹⁸ Aljarrah et al, 2009.
- ¹⁹ Maziak W, Ward KD, Afifi Soweid RA, Eissenberg T. Tobacco Smoking Using a Waterpipe: A Re-emerging Strain in a Global Epidemic. *Tobacco Control* 2004, 13, 327-333.
- ²⁰ Maziak et al, 2004.
- ²¹ Fromme H, Dietrich S, Heitmann D, et al. Indoor Air Contamination During a Waterpipe (Narghile) Smoking Session. *Food Chem Toxicol* 2009; 47(7): 1636-1641.
- ²² Schubert J, Hahn J, Dettbarn G, et al. Mainstream smoke of the waterpipe: does this environmental matrix reveal as significant source of toxic compounds? *Toxicology Letters* 2011; 205(3):279-84.
- ²³ Jacob P, Raddaha AH, Dempsey D, et al. Nicotine, carbon monoxide, and carcinogen exposure after a single use of a water pipe. *Cancer Epidemiol Biomarkers Prev* 2011; 20(11):2345-53.
- ²⁴ Barnett TE, Curbow BA, Soule EK, et al. Carbon Monoxide Levels Among Patrons of Hookah Cafes. *Am J Prev Med* 2011; 40(3): 324-328.
- ²⁵ Singh S, Soumya M, Saini A, et al. Breath Carbon Monoxide Levels in Different Forms of Smoking. *Indian J Chest Dis Allied Sci* 2011; 53(1): 25-28.
- ²⁶ Eissenberg T and Shihadeh A. Waterpipe Tobacco and Cigarette Smoking: Direct Comparison of Toxicant Exposure. *Am J Prev Med* 2009; 37(6): 518-523.
- ²⁷ Raad D, Gaddam S, Schunemann HJ, et al. Effects of Water-Pipe Smoking on Lung Function: A Systematic Review and Meta-Analysis. *Chest* 2011; 139(4): 764-774.
- ²⁸ WHO Study Group on Tobacco Product Regulation. *Advisory Note: Waterpipe Tobacco Smoking: Health Effects, Research Needs and Recommended Actions by Regulators*. World Health Organization, 2005. Accessed December 6, 2005 at http://www.who.int/tobacco/global_interaction/tobreg/Waterpipe%20recommendation_Final.pdf.
- ²⁹ Schubert et al, 2011.
- ³⁰ Neergaard J, Singh P, Job J, and Montgomery S. Waterpipe Smoking and Nicotine Exposure: A Review of the Current Evidence. *Nicotine Tob Res* 2007; 9(10): 987-994.
- ³¹ Jacob et al, 2011.
- ³² Eissenberg et al, 2009.
- ³³ Eissenberg et al, 2009.
- ³⁴ WHO Study Group on Tobacco Product Regulation, 2005.

³⁵ Daher N, Saleh R, Jaroudi E, et al. Comparison of Carcinogen, Carbon Monoxide, and Ultrafine Particle Emissions From Narghile Waterpipe and Cigarette Smoking: Sidestream Smoke Measurements and Assessment of Second-Hand Smoke Emission Factors. *Atmos Environ* 2010; 44(1): 8-14.

³⁶ WHO Study Group on Tobacco Product Regulation, 2005.

³⁷ WHO Study Group on Tobacco Product Regulation, 2005.

³⁸ WHO Study Group on Tobacco Product Regulation, 2005.