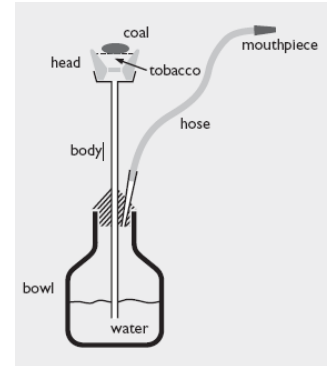


The hookah is a waterpipe most often used to smoke tobacco.¹ The tobacco, which is generally moist, flavored and sweetened, is placed in the head of the waterpipe. The hose and mouthpiece through which the user inhales, are connected to the bowl that is partially filled with water.²

The tobacco is heated by placing charcoal atop the tobacco-filled head, often separated by aluminum foil. When the smoker inhales, the smoke passes through the waterpipe body, bubbles through the water in the bowl, and is then carried to the smoker through the hose.³



Hookah and Health Risks

Using a hookah to smoke tobacco is not a safe alternative to cigarette smoking.³

Smoking tobacco in hookahs increases the risk for smoking-related diseases such as lung cancer and heart disease.¹ Tobacco smoke from hookahs contains significant amounts of nicotine, tar and heavy metals¹. The World Health Organization estimates that hookah users may inhale as much smoke during one hookah session as a cigarette smoker would inhale consuming 100 or more cigarettes.³ It has been shown that the smoothness of the hookah smoke, being less irritating to the throat, actually encourages users to inhale more deeply and for a longer period of time causing greater exposure to harmful elements.⁴

The heat sources that are applied to burn the tobacco, such as wood cinders or charcoal, further increase health risks. When these heat sources are burned, they emit additional potentially dangerous chemicals, including carbon monoxide and heavy metals.¹ The levels of carbon monoxide and other toxic chemicals can be just as high as or even higher than the levels found in cigarette smoke.^{1,4,5}

Evidence From The Field

A recent University of Florida study shows that patrons leaving hookah cafés had carbon monoxide levels more than three times higher than patrons exiting bars where cigarette smoking is permitted. The average carbon monoxide level of hookah patrons was 30.8 parts per million while traditional bar-goers had an average carbon monoxide reading of 8.9 ppm. Even hookah café patrons who reported not engaging in hookah smoking while in the café demonstrated elevated carbon monoxide levels: on average 11.5 ppm, an amount comparable to a carbon monoxide level of a regular cigarette smoker.

The Occupational Safety and Health Administration's maximum level for carbon monoxide exposure is 50 ppm over an eight-hour period. In the University of Florida study, 18 percent of hookah café patrons had carbon monoxide levels above 50 ppm compared with 1.5 percent of traditional bar patrons.

Barnett, T., Curbow, B., Soule, E., Tomar, S., Thombs, D. (2011) Carbon Monoxide Levels Among Patron's of Hookah Cafés. *American Journal of Preventative Medicine*, 324-328.

The perception that hookah smoke is filtered in water is often used to indicate that hookah smoke is less harmful.⁶ However, when passed through water, the smoke produced by a hookah continues to hold high levels of toxic compounds.³ Less than 5% of nicotine is actually filtered out into the water. But even this nominal reduction of nicotine may be offset by a tendency to compensate by inhaling more deeply and more often to get the desired effect.⁴

Hookah and Secondhand Smoke

The Utah Indoor Clean Air Act was passed by the legislature to provide protection to Utahns and visitors from the toxic effects of secondhand smoke exposure. Secondhand smoke has been classified by the U.S. Environmental Protection Agency (EPA) as a Group A carcinogen, which is known to cause cancer in humans.⁷ There is no established safe level of exposure to this class of carcinogens.⁷

Secondhand smoke from hookah is a mixture of tobacco smoke and smoke from the fuel (usually charcoal). It puts non-users, workers and patrons alike, involuntarily at risk for the same types of diseases as secondhand smoke from cigarettes, including: cancer, heart disease, respiratory illnesses and adverse effects during pregnancy.³ A typical hookah session lasts from 20-80 minutes, with hookah smokers taking up to 200 puffs. In contrast, cigarettes are typically smoked in 5-7 minutes with 8-12 puffs. As a result, a single hookah causes significantly higher levels of secondhand smoke than a cigarette.⁸ In addition, hookah smoke often produces a sweet smelling aroma that makes secondhand smoke exposure less obvious to patrons and employees of hookah bars.⁹

Secondhand tobacco smoke from hookah is secondhand tobacco smoke, and is toxic. Hookah use in workplaces and public places where smoking of traditional tobacco products is already prohibited creates concern and confusion and leads to difficulties in enforcing the smoking prohibitions currently in place under the Indoor Clean Air Act.

Evidence From The Field

Puff topography data suggests that, relative to a cigarette, a 45-minute hookah session generates more than 40 times the smoke volume.¹

Research on secondhand smoke produced by hookah demonstrates that levels of particulate matter can build up to toxic levels similar or even more than measured in traditional secondhand smoke.¹⁻⁶ In one study, the mean particulate matter increased by 553% for hookah (increase from 55 to 365 mg/m³) compared with 447% for cigarettes (increase from 52 to 287 mg/m³).³

1. Eissenberg, Thomas and Alan Shihadeh, Waterpipe Tobacco and Cigarette Smoking; Direct Comparison of Toxicant Exposure, American Journal of Preventive Medicine 37(6) 2009, P 521
2. Aljarrah, Khaled, Zaid Q. Ababneh, and Wael K Al-Delaimy, Perceptions of Hookah Smoking Harmfulness: Predictors and Characteristics Among Current Hookah Users, Tobacco Induced Diseases 2009, 5:16.
3. Maziak, W, Rastram S, Ibrahim I, Ward KD, Eissenberg T. Nicotine Tobacco Research, 10(3): 519-23, 2008
4. Daher N, Jaroudi E, Sheheitti H, Badr T, Sepetdjian E, Al Rashidi M, Saliba N, WShihadeh A. 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, Atmospheric Environment, Jan1; 4(1):8-14, 2010.
5. El Nachef, W. N., & Hammond, K. (2008). Exhaled carbon monoxide and with waterpipe use in U.S. students. Journal of the American Medical Association, 299(1), 36–38.
6. A. Mirahmadizadeh, N. Nakhaee, Reply: Recent Evidence is Alerting Us to the Critical Importance of Secondhand Water Pipe Smoke, Medical Principles and Practice, pp 425-426, 2009.

The Utah Indoor Clean Air Act prohibits tobacco smoke in indoor places of public access. Accordingly, the World Health Organization (WHO) and the American Lung Association recommend that tobacco smoke from hookahs be treated the same as smoke from other tobacco products and be prohibited in the same places.^{1, 3}

Benefits of Smoke-Free Workplace Policies

Many local Utah businesses and business leaders support the implementation of tobacco-free policies. These policies lead to substantial financial and health-related benefits for businesses and employees, including reductions in employee smoking and related healthcare costs, improved employee productivity, reduced cleaning and maintenance costs, and reduced fire risk and fire insurance premiums. A smoke-free workplace also prevents violation of the Americans with Disabilities Act which can occur when people with respiratory problems have limited access or cannot patronize or work in a business due to tobacco smoke pollution.

Special Risk To Hospitality Workers

Hospitality employees in a smoking restaurant or bar have no choice but to breathe secondhand smoke every shift they work. Even if they are active smokers, exposure to secondhand smoke increases their health risks as well as the health risks of non-smoking patrons.¹⁰ Restaurant and bar workers are subject to much longer exposure than patrons and are exposed to the highest levels of secondhand smoke of any occupational or demographic group.¹¹ Hazardous working conditions are prohibited in every other line of work.

Hookah Use Among Utah Youth and Young Adults

Hookah smoking is generally viewed as a social activity¹. Often, the group shares one hookah pipe and tries different flavors throughout the evening¹ such as apple, bubble gum, chocolate, mint, orange soda, root beer and watermelon². Smoking hookah is considered more pleasant and less irritating to the throat than cigarette smoking, which adds to its appeal and might explain why some people, *particularly young people who otherwise might not use tobacco*, begin to smoke tobacco in hookahs.¹

Recent school surveys show that experimentation with smoking tobacco in hookah is alarmingly high among Utah high school students, especially among high school seniors. In 2011, Utah high school students were as likely to have smoked tobacco in hookahs in the past 30 days as cigarettes. One in five Utah high school seniors (19.5%) reported that they had tried hookah smoking and 7.5% had smoked tobacco in hookahs in the past 30 days.¹²

Furthermore, hookah smoking among Utah youth and young adults is associated with cigarette smoking. In tobacco use surveys conducted at youth-oriented events, 10-18 year olds as well as 19-24 year olds who had smoked tobacco in hookah in the past 30 days were significantly more likely to be current cigarette smokers (or to have tried cigarettes) than not (p<.001).¹³

The tobacco industry has long recognized that public smoking restrictions are one of the most effective ways of reducing tobacco consumption, confidentially acknowledging that comprehensive laws that protect against secondhand smoke pose a serious threat to Big Tobacco.¹⁴

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- ¹ American Lung Association. "An Emerging Deadly Trend: Waterpipe Tobacco Use." 2007. 10 June 2009. <http://www.lungusa2.org/embargo/slati/Trendalert_Waterpipes.pdf>
- ² Primack, B., Walsh, M., Bryce, C., Eissenberg, T. (2009) Waterpipe Tobacco Smoking Among Middle and High School Students in Arizona. *Pediatrics* 123, e282-e288. Available online at <<http://www.pediatrics.org/cgi/content/full/123/2/e282>>
- ³ World Health Organization. "Waterpipe Tobacco Smoking: Health Effects, Research Needs and Recommended Actions by Regulators." 2005. 8 June 2009. <http://www.who.int/tobacco/global_interaction/tobreg/waterpipe/en/index.html>
- ⁴ CESAR FAX. "Scientific Evidence of the Health Risks of Hookah Smoking." 9 June 2008. University of Maryland, College Park. 2 June 2009. <<http://www.cesar.umd.edu/cesar/cesarfax/vol17/17-23.pdf>>
- ⁵ Barnett, T., Curbow, B., Soule, E., Tomar, S., Thombs, D. (2011) Carbon Monoxide Levels Among Patron's of Hookah Cafés. *American Journal of Preventative Medicine*, 324-328.
- ⁶ Aljarrah, Khaled, Zaid Q. Ababneh, and Wael K Al-Delaimy, Perceptions of Hookah Smoking Harmfulness: Predictors and Characteristics Among Current Hookah Users, *Tobacco Induced Diseases* 2009, 5:16.
- ⁷ U.S. Environmental Protection Agency. (1994, June). Setting the Record Straight: Secondhand Smoke is a Preventable Health Risk. Retrieved May 23, 2011, from U.S. Environmental Protection Agency Web site: <http://www.epa.gov/smokefree/pubs/strsfs.html>
- ⁸ Second-hand Smoke and Hookah Pipes, Non-Smokers' Rights Association Smoking and Health Action Foundation, March 2008.
- ⁹ Noonan D., Exemption for Hookah Bars in Clean Air Legislation: A Public Health Concern, *Public Health Nursing*, January-February 2010, pp 49-53 (abstract)
- ¹⁰ University of California, S.F. (2011) *What About Choice*. Retrieved October 19, 2011 from Tobacco Scam website at http://tobaccoscam.ucsf.edu/simply/simply_wac.cfm
- ¹¹ University of California, S.F. (2011) *Your Exposure At Work*. Retrieved September 30, 2011 from Tobacco Scam website at http://tobaccoscam.ucsf.edu/Secondhand/Secondhand_iih.cfm
- ¹² Utah Prevention Needs Assessment (2011). Utah Division of Substance Abuse and Mental Health. Salt Lake City: Utah.
- ¹³ Tobacco Products Survey (2010). Utah Department of Health. Tobacco Prevention and Control Program. Salt Lake City: Utah.
- ¹⁴ Tobacco Control Legal Consortium, *The Verdict Is In: Findings From United States v. Philip Morris, Secondhand Smoke* (2006).