

Effect of Tobacco Use and Secondhand Smoke on Diabetes



GASP

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Collaboration: CDC's Tobacco-Diabetes Integration Project

- In 2009, the New Jersey State Department of Health and Human Services' Comprehensive Tobacco Control Program (CTCP) and its Chronic Disease Prevention and Control (CDPC), partnered to form the Centers for Disease Control's Tobacco-Diabetes Integration Project, under the CDC's Collaborative Chronic Disease, Health Promotion, and Surveillance Project.
- GASP is a Project Partner, providing resource information on tobacco prevention and diabetes, and offering advocacy training modules on tobacco control advocacy, to diabetes prevention partners.
- NJ-based CDC partners in tobacco control listed at <http://njgasp.org/diabetes.htm>

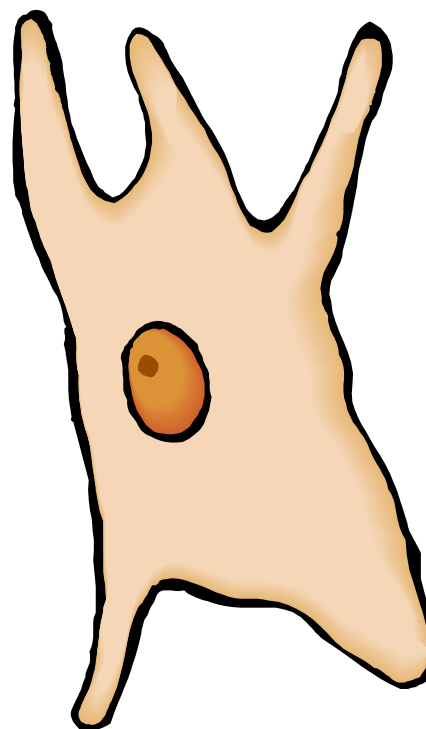
Tobacco Use

- Smoking, chewing, inhaling, or otherwise consuming a tobacco product to satisfy a nicotine addiction or conform to social norms.
- Includes cigarettes, “e-cigs,” smokeless tobacco, cigars, cigarillos, and all the others.



Effects of Smoking on Diabetes

- Reduces amount of oxygen reaching the tissues, and can lead to a heart attack or stroke.
- Damages & constricts blood vessels.
- Raises blood pressure and increases levels of bad cholesterol (LDL), raising the risk of a heart attack.
- Raises risk of blood clots forming in damaged blood vessels.



Connective tissue cell

<http://www.dlife.com/diabetes/information/Smoking/smoking.html>

Health Effects of Tobacco on Diabetes

- **Smoking also raises the risk of other diabetes complications:**
 - Worsens foot ulcers.
 - Increases nerve and kidney damage.
 - Increases risk of respiratory infection.
- **A diabetic smoker's risk of death from cardiovascular disease is three times higher than that for a nonsmoker with diabetes.**

<http://www.mayoclinic.com/health/diabetes-management/DA00008>

Health Effects of Tobacco on Diabetes

- Smoking increases blood sugar levels, making it more difficult to regulate blood sugar levels.
- Smoking increases gum disease, making it more difficult to control diabetes (link between gum disease and diabetes).
- Smoking increases the risk of vascular disease for patients with type 2-diabetes.
- Smoking increases the risk of poor outcomes in treating other chronic diseases.

Health Effects of Tobacco on Diabetes

- **Smoking is associated with an increased risk of type 2 diabetes.** 2007 study published in *JAMA (Journal of the American Medical Association)*.
- **Smoking is a risk factor for developing type 2 diabetes, for patients between the ages of 55-74.** 7-year study published in April 6, 2010 issue of the *European Journal of Epidemiology*.
- **Women who smoke increase their risk for diabetes.** Not smoking should be a targeted lifestyle change for diabetes prevention. Study published in February 1993 *American Journal of Public Health*.

Tobacco, Pregnancy and Diabetes

- **Pregnant women should avoid tobacco and nicotine, and secondhand smoke exposure.** Fetal and neonatal exposure to nicotine use may increase the risk of type 2 diabetes (2008 Purdue University study). http://njgasp.org/ToxSci_Nicotine_Diabetes_3-18-2008.pdf
- Pregnant women can develop gestational diabetes.
- Pregnant women should not smoke while pregnant.
- **Resources :**
 - <http://www.learningaboutdiabetes.org/downloads/PregnantWithDiabetesEN.pdf>
 - http://njgasp.org/quit_tobacco.htm has resources for pregnant women to quit tobacco, and women with young children.

Smokeless Tobacco

- **Traditional forms**
 - **Chew:** loose or compacted tobacco leaf that is chewed or bitten to release nicotine.
 - **Dip:** ground tobacco that releases nicotine as it is held against mucous membranes in the mouth.
- **New forms**
 - **Snus:** similar to dip, but contained in a teabag-like pouch.
 - **Orbs:** look like Tic Tacs.
 - **Sticks:** look like cinnamon sticks.
 - **Strips:** look like Listerine strips.

Smokeless Tobacco

Popularity of smokeless tobacco is growing:

- More smokefree air laws means smokers switch to smokeless products when they can't smoke.
- Smokeless tobacco is cheaper than cigarettes – smokeless taxed much lower than cigarettes.
- Many smokeless users falsely believe that smokeless tobacco is safe, and it is not.
- Smokeless tobacco contains nicotine, so it has same addictive properties as cigarettes.

<http://www.reuters.com/article/idUSTRE63D4QZ20100414>

Smokeless Tobacco and Diabetes

- Tobacco contains naturally occurring simple sugars... there is no such thing as sugar-free tobacco.
- Many brands/varieties of smokeless tobacco add sugars and sodium to flavor the product.
- Added sugar and sodium make blood sugar harder to manage for diabetics.
- Nicotine increases glucose levels, making blood sugar levels even harder to manage.

Martin Urberg, "The effects of cigarette smoking on glycosylated hemoglobin in nondiabetic individuals." *Journal of Family Practice*.

http://findarticles.com/p/articles/mi_m0689/is_n5_v28/ai_7923099/

Secondhand Smoke is Hazardous

- **Class A carcinogen** (asbestos, benzene), according to the U.S. Environmental Protection Agency.
- **SHS kills 50,000 Americans per year.**
- **More than 250,000 children's ear, nose, infections, per year.**
- 2006 and 2010 U.S. Surgeon General's Reports on secondhand smoke summarize studies on dangers of secondhand smoke exposure, and recommend 100% smokefree environments.
- Similar findings by World Health Organization, other well-respected public health organizations.

Secondhand Smoke is Hazardous

- **Chronic exposure to secondhand smoke is almost as deleterious to one's health (80%), as being a pack-a-day smoker** (2005 University of California, San Francisco study published in the journal *Circulation*).
- 2006 NJ Smokefree Air Act and 2007 Regulations protect most employees and members of the public from secondhand smoke indoors.
- More than 100 smokefree municipal laws in NJ that ban smoking in public places and workplaces, including outdoors.

Secondhand Smoke and Diabetes

- Secondhand smoke exposure (SHS) increases the risk of developing diabetes.
- Both active and passive (secondhand smoke) smoking increases the development of glucose intolerance in young adulthood, increasing the risk of developing diabetes later in life.
- Nonsmokers exposed to secondhand smoke are more likely to develop diabetes than ex-smokers (21.8% smokers, vs. 17.2% nonsmokers w/ SHS exposure, vs. 14.4% smokers who quit, vs. 11.5% nonsmokers w/o SHS exposure).

April 2006 issue of *British Medical Journal (BMJ)*.

http://njgasp.org/BMJ_study_passive_smoke_diabetes_04-2006.pdf

Secondhand Smoke and Diabetes

- **Chronic secondhand smoke exposure significantly increases the risk for Type 2 diabetes:**
 - 1190 Greek and Cypriot men and women, age 65 years were studied from 2005-2007.
 - "Chronic exposure to secondhand smoke significantly increased the likelihood of having Type 2 diabetes by 63%.
 - Each year of exposure to secondhand smoke was associated with a 2% increased chance of developing the condition after controlling for confounders.

<http://njgasp.org/medwire-news-11-2009.pdf>

Avoid Secondhand Smoke

- **Avoid secondhand smoke in your home:**
 - Read about the dangers of secondhand smoke in the home at <http://njgasp.org/housing.htm>
- **Create 100% smokefree policy for your home:**
 - Free-standing home? Make outdoors smokefree too.
 - Live in an apartment or condo complex, ask your property manager about 100% smokefree policy for the building inside and outside:
 - Smokefree housing guide in English at <http://njgasp.org/HousingBrochure2010.pdf>
 - Smokefree housing guide in Spanish at http://njgasp.org/HousingbrochureSpanish_pages1-2.pdf

Avoid Secondhand Smoke

- **Avoid secondhand smoke in any vehicle and create a 100% smokefree policy for your car.**
 - Read GASP’s research paper on the dangers of smoking in cars at
http://njgasp.org/f_SF%20cars,kids,%20info,%20arguments.pdf
- **Avoid outdoor secondhand smoke in recreational areas, outdoor dining, by doorways.**
 - Read GASP’s research paper on the dangers of outdoor smoking at
<http://njgasp.org/Outdoor%20bans%20white%20paper.pdf>

Avoid Thirdhand Smoke

- **Thirdhand smoke is residual secondhand smoke that imbeds into upholstery, rugs, and onto walls, and other surfaces, lingering for weeks.**
- New studies indicate that thirdhand smoke may be more dangerous than secondhand smoke.
- Thirdhand smoke does not dissipate quickly, and continuously emits respirable particles long after secondhand smoke takes place.
- Thirdhand smoke accumulates in smokers' homes and persists when smokers move out even after homes remain vacant for two months and are cleaned and prepared for new residents.

Read more about thirdhand smoke at http://njgasp.org/children_ths.htm

For Healthcare Professionals Treating Diabetic Patients

Disparity in diabetes care for diabetic smokers vs. diabetic non-smokers:

- Study results indicate that diabetic smokers were less likely to receive recommended diabetes care compared with age-, sex-, and race-matched diabetic nonsmokers.

Study recommendations for health care professionals:

- Be more active in educating about the risks of smoking and assess smoking status of all diabetic patients;
- Advise diabetic smokers to quit smoking;
- Pay closer attention to diabetic smokers for signs of complications by making sure that all necessary preventive care and examinations are performed."

Diabetes Care, July 2007.

http://njgasp.org/ADA_2007_diabetes_care_disparity_between_smokers_nonsmokers.pdf

Data collected from participants of the New York State Diabetes Coalitions community-based intervention programs, 1999–2004. Data contained self-reported health status, smoking behavior, diabetes care, and insurance status of 16,000 adults (aged 18 years) with diagnosed diabetes. Participants with 13 months of duration since diagnosis of diabetes were excluded from the study. 20

Resources for Health Professionals

CDC NJ-based tobacco control partners can help:

Share materials and presentations with home healthcare providers, patient clinics, health educators, etc. about how to quit tobacco and prevent exposure to secondhand smoke.

Find NJ tobacco control partners at

http://njgasp.org/quit_tobacco.htm

Why Quit Tobacco ?

- **To better manage one's diabetic condition.**
- **To decrease the risk of becoming diabetic.**
- **To reduce the risk of chronic diseases** associated with tobacco, or reduce current chronic conditions:
 - Quitting tobacco (smoked and smokeless) will help lower your risk for heart attack, stroke, nerve, kidney and vascular diseases.
 - Cholesterol and blood pressure levels and blood circulation may improve when you quit smoking.
- **To reduce chronic disease in loved ones, neighbors, visitors, pets...** eliminate secondhand and thirdhand smoke in your home, car and surroundings.

Quit Tobacco - Resources

- NJ state-funded quit services are through the New Jersey Quitline. **Call 1 (800) QUIT-NOW**, for resources to help quit tobacco.
- For more resources on how to quit tobacco, including state-funded and private tobacco dependence treatment centers in your area, plus online resources, go to www.njgasp.org/quit_tobacco.htm

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