


Tobacco Use and Diabetes


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Tobacco Use and Diabetes

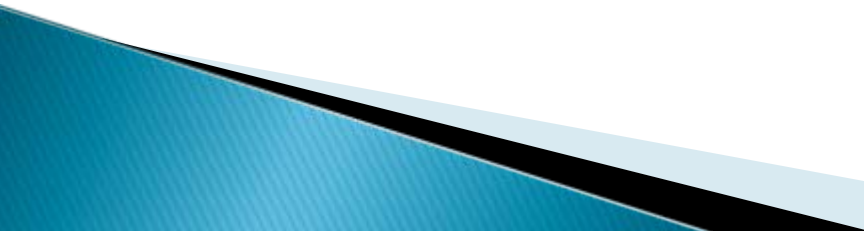
- ▶ I have no real or perceived vested interests that relate to this presentation nor do I have any relationships with pharmaceutical companies, and/or other corporations whose products or services are related to pertinent therapeutic areas.
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Tobacco Use and Diabetes


Objectives:

- ▶ Describe the prevalence of smoking among individuals with diabetes.
 - ▶ List 3 ways that tobacco use compromises the health of a diabetic patient.
 - ▶ Explain how healthcare providers can effectively counsel their diabetic patient to stop using tobacco.
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Tobacco Use and Diabetes

- ▶ Diabetes is the most common endocrine problem.
 - ▶ According to the ADA, 1.9 million new cases in ages 20 and over were newly diagnosed in 2010.
 - ▶ It is estimated that there are currently 26 million Americans with diabetes. If this trend continues, it is estimated that there will be 37 million Americans with diabetes by the end of 2015.
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Tobacco Use and Diabetes

- ▶ A survey in the United States found that the prevalence of smoking was higher among diabetic patients than in non-diabetic subjects, even after adjusting for age, sex, race and educational level. ¹
 - ▶ Smoking increases the risk for development of metabolic syndrome and its consequences (hypertension, hyperlipidemia, coronary artery disease, polycystic ovary syndrome). ²
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Tobacco Use and Diabetes

- ▶ Smoking is an independent risk factor for all-cause mortality largely due to cardiovascular disease. ³
 - ▶ In patients with diabetes, smoking causes a substantial risk for both macrovascular (atherosclerosis) and microvascular (retinopathy, neuropathy and nephropathy) disease. ⁴
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Tobacco Use and Diabetes

- ▶ People who smoke more than one pack/day have about double the risk for diabetes as non-smokers, and the risk is still 1.5 times greater for those who smoke only 1 to 14 cigarettes/day. ⁵

Tobacco Use and Diabetes

- ▶ Smoking causes vasoconstriction, contributing to poor circulation, wound healing, and peripheral sensation.
 - ▶ Patients with diabetes who smoke are at greater risk for cardiovascular events (MI, stroke, aneurism), and they are less likely to survive if they experience an event.
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Tobacco Use and Diabetes

- ▶ There is a dose related relationship between current smoking status and risk of coronary disease in women with diabetes. ⁶
- ▶ There is a 2.1 x inc chance for women who smoke 1–14 cigs/day, and a 3.5 x inc chance for women who smoke 15 or more cigs/day. ⁶
- ▶ The risk returns to baseline in those who stop smoking for more than 10 years. ⁶

Tobacco Use and Diabetes

- ▶ Smokers have poorer glycemic control: the mechanism is unclear. ⁷
- ▶ In a study documented in Canadian Diabetes Spring 2010, Hall and Patasi report that by smoking just one cigarette, the body's ability to use insulin is decreased by 15% for an entire day.
- ▶ Once a patient with diabetes has quit smoking, insulin resistance is reduced, thus lowering blood glucose levels.

Tobacco Use and Diabetes

- ▶ Glucose levels should be monitored closely as smoking is discontinued, and glucose lowering medications adjusted appropriately.
- ▶ Weight gain may be an issue once a patient with diabetes quits tobacco use. This may further complicate tight control – so monitoring is more imperative.



Tobacco Use and Diabetes

- ▶ Smoking is also associated with increased serum concentrations of total cholesterol and very low density lipoprotein, and a decrease in the high density lipoprotein. ⁸

Tobacco Use and Diabetes

- ▶ In a cholesterol screening conducted by SJH nursing staff in October 2011, more than 130 employees of a facility were screened for total cholesterol, HDL, cardiac risk ratio and blood glucose.
- ▶ Those with elevated blood glucose levels or known diabetes **who smoked** demonstrated a higher degree of hypertension, with low HDL cholesterol levels.
- ▶ Cardiac risk ratios were well above the 4.1% cardiac risk scale in those with elevated blood glucose in many of those who smoked.

(anecdotal information: SJH Wellness Place)

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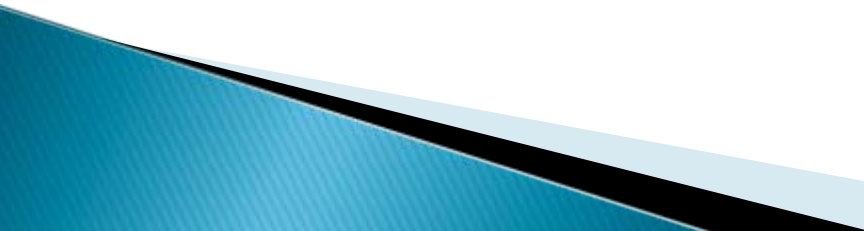
- ▶ Smoking is associated with an inc. risk of end-stage renal disease with a decreased survival once dialysis is initiated; in one report, the one and five year survival rates on hemodialysis patients was substantially lower in those who smoked compared to non-smokers.

Survival Rates

At one year: 68% smokers vs. 80% non-smokers

At five years: 9% smokers vs. 37% non-smokers ⁹


Tobacco Use and Diabetes

- ▶ A meta-analysis of many of the cardiovascular risk reduction trials showed that cessation of smoking had a much greater benefit on survival than most other interventions.¹⁰
 - ▶ These findings suggest that discontinuation of smoking is one of the most important aspects of therapy in patients with diabetes who smoke.¹⁰
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Tobacco Use and Diabetes: Sad News!

- ▶ A survey conducted in the United States found that over 25% of newly diagnosed patients with diabetes were smokers. **The percentage did not fall significantly with increasing duration of diabetes**, suggesting that long term contact with health care professionals had little impact on smoking status. ¹¹

Tobacco Use and Diabetes: Good News!

- ▶ The sooner a patient quits smoking, the better their change of long term survival.
 - ▶ A report from the World Health Organization multinational study further supports this: In a cohort of 4,427 patients with diabetes, the relative risk of all cause mortality was higher with those who had recently quit smoking compared to those who had quit over 10 years before. ¹²
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Smokeless Tobacco

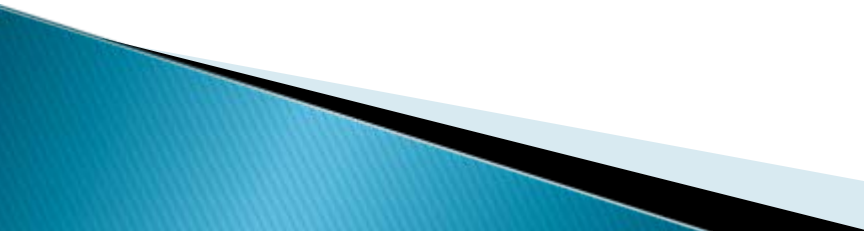
Traditional

- ▶ Chew: loose or compacted tobacco leaf that is chewed or bitten to release nicotine.
- ▶ Dip: ground tobacco that released 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 candy (tic tacs).
- ▶ Sticks: looks like tooth picks.
- ▶ Strips: look like Listerine strips.


Smokeless Tobacco

- ▶ Tobacco contains natural sugar – there is no sugar free tobacco. ¹³
 - ▶ Many brands add sugar and sodium to flavor the products, making it more difficult to manage blood sugar. ¹³
 - ▶ Nicotine itself raises blood sugar (inc. insulin resistance). ¹³
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Tobacco Use and Diabetes

- ▶ Best practice should be utilized for all patients with dx of diabetes.
 - ▶ Includes the “Big Three” goals: aggressively controlling blood pressure, cholesterol, and blood sugar.
 - ▶ Recognize that smoking sabotages all efforts to maintain control of the “Big Three” goals.
 - ▶ By addressing tobacco use, all three can be improved upon.
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Tobacco Use and Diabetes

- ▶ Recovery from tobacco use should be framed as a very positive step towards effective diabetic management.
 - ▶ Each of the “Big Three” goals should be discussed at every visit.
 - ▶ Progress should be documented – praise patient for every positive step.
 - ▶ Use of the 5 A’s and 5 R’s at every visit for those who continue to smoke. ¹⁴
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Thank You



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