

# ***Effect of Tobacco Use and Secondhand Smoke on Diabetes***

***April 21, 2011 Webinar for***

***Quality Insights Renal Network 3:***

***New Jersey, New York, Puerto Rico, U.S. Virgin Islands***



**GASP**

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# Collaboration: CDC's Tobacco-Diabetes Integration Project

- In 2009, the New Jersey State Department of Health and Human Services' (NJDHSS) Comprehensive Tobacco Control Program (CTCP) and its Chronic Disease Prevention and Control Program (CDPC), partnered to form the **U.S. 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.
- In 2010, NJ's Comprehensive Tobacco Control Program became the Office on Tobacco Control (OTC). **NJ-based CDC partners in tobacco control (now referred to as NJDHSS OTC partners)** are listed at <http://njgasp.org/diabetes.htm>

# Webinar Overview

- Smoking as a risk factor for Dialysis Patients.
- Recommended Guidelines re: smoking and dialysis patients.
- Your role in helping to educate end stage renal disease (ESRD) patients on smoking, second- and thirdhand smoke exposure.
- Tobacco 101: What is tobacco; negative health impact of smoking, prevalence of smoking.
- How smoking affects patients with kidney disease.
- Diabetes 101: What is diabetes; it is #1 cause of ESRD.
- How tobacco use (smoking and smokeless) and secondhand smoke play a role in the risk of becoming diabetic and managing diabetes.
- How to avoid second- and thirdhand smoke, in home, public places, work.
- Review of the benefits of quitting smoking/tobacco.
- Tobacco cessation resources in NJ, NY, Puerto Rico and U.S. Virgin Islands.

# Smoking: Risk Factor for Dialysis Patients

## According to the National Kidney Foundation:

- Traditional risk factors: include diabetes, hypertension.
- Lifestyle issues: **Smoking**, physical activity, depression, anxiety.

## Kidney Disease Outcomes Quality Initiative (KDOQI) Clinical Practice Guidelines for Cardiovascular Disease in Dialysis Patients

**Guideline 14: Smoking**, Physical Activity, and Psychological Factors

**14.1 All dialysis patients should be counseled and regularly encouraged to stop smoking. Referral to smoking cessation specialists is recommended.**

Source: National Kidney Foundation [http://www.kidney.org/professionals/kdoqi/guidelines\\_cvd/guide14.htm](http://www.kidney.org/professionals/kdoqi/guidelines_cvd/guide14.htm)

# KDOQI Guideline 14.1

## 14.1 All dialysis patients should be counseled and regularly encouraged to stop smoking. Referral to smoking cessation specialists is recommended.

- “Cigarette smoking is universally recognized as an independent risk factor for Cardiovascular Disease (CVD). **Smoking, therefore, should also be discouraged in patients with Chronic Kidney Disease (CKD). However, this recommendation is even more compelling, considering the relationship between smoking and poor outcomes in dialysis and transplant patients** (Table 14). The frequency and duration of contact with dialysis health-care providers should facilitate concerted and serious efforts directed towards assisting patients to discontinue smoking.”

Source: National Kidney Foundation

[http://www.kidney.org/professionals/kdoqi/guidelines\\_cvd/guide14.htm](http://www.kidney.org/professionals/kdoqi/guidelines_cvd/guide14.htm)

# Your Important Role in Patient Care

**Dialysis facility staff** – medical, dieticians, technicians and other public health professionals – **interact with patients and therefore play a key role:**

- in educating end stage renal disease (ESRD) patients about the health and “quality of life” benefits of quitting tobacco;
- how eliminating exposure to secondhand smoke (SHS) is beneficial to one’s health; and
- providing resources on tobacco cessation and how to eliminate secondhand smoke in their environments.

Helping ESRD patients to quit tobacco and eliminate SHS exposure is also an opportunity **to educate staff on the benefits of quitting tobacco**, so patients and fellow workers are not exposed to thirdhand smoke in the facility.

# Tobacco Use 101

- Smoking, chewing, inhaling, or otherwise consuming a tobacco product to satisfy a nicotine addiction or conform to social norms.
- Includes cigarettes, electronic cigarettes and cheaper forms of tobacco like smokeless tobacco, cigars, cigarillos, and all the others.



# Smoking: Deadly Health Problem

## How serious a health problem is smoking?

According to the National Institutes of Health:

- Smoking is the most important preventable cause of premature death in the U.S.
- Smoking accounts for one out of every five deaths in the U.S.
- Estimated 430,000 deaths annually are directly caused by cigarette smoking.

Source: <http://www.kidney.org/atoz/content/smoking.cfm> (citing National Institutes of Health)

# Smoking and Heart Disease

## Statistics:

- Smoking is the single largest preventable cause of heart disease in the U.S.
- Smokers are twice as likely to have a heart attack as nonsmokers.
- Smoking triples the risk of dying from heart disease.
- Nearly one-fifth of all deaths from heart disease are smoking-related (190,000 deaths a year).

Source: [http://www.kidney.org/news/newsroom/fs\\_new/smoking&health.cfm](http://www.kidney.org/news/newsroom/fs_new/smoking&health.cfm)

# Smoking and Heart Disease

## How does smoking affect the heart?

- Tobacco smoke contains high levels of carbon monoxide, which reduces the amount of oxygen the blood is able to carry.
- This means that the heart, lungs, brain and other vital organs do not always receive enough oxygen to perform everyday functions.
- At the same time, nicotine increases the heart rate and blood pressure.
- Over time, these things cause **"wear and tear"** on the heart and blood vessels.
- People who smoke are more likely to have heart attacks, high blood pressure, blood clots, strokes and other disorders of the heart and blood vessels.

Source: [http://www.kidney.org/news/newsroom/fs\\_new/smoking&health.cfm](http://www.kidney.org/news/newsroom/fs_new/smoking&health.cfm)

# Smoking: Deadly Health Problem

## U.S. Centers for Disease Control Sept. 2010 Report Findings:

- **1 in 5 Americans still smoke** (20% of adult population).
- **26% of people who have less than a high-school education smoke**, as compared to 25% of high school graduates, 11% of college graduates and 6% of people with a graduate degree.
- **31% of people who live below the poverty level smoke**, while only 20% of those earning above poverty level do so.
- **40% of nonsmoking adults and 54% of children are still exposed to secondhand smoke (SHS).**

Source: U.S. Morbidity and Mortality Weekly Report, 9/20/10

[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5935a3.htm?s\\_cid=mm5935a3\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5935a3.htm?s_cid=mm5935a3_w)

# Smoking: Deadly Health Problem

## What health problems are associated with smoking?

According to the World Health Organization (WHO), smokers have an increased risk of developing:

- **Cancer of the Bladder, Kidney,** Lung, Pancreas, Cervix, and Oral Cancer
- Heart Disease, High Blood Pressure, Stroke
- Lung disease (COPD, asthma, emphysema)
- Early menopause
- Pregnancy complications

Source: [http://www.kidney.org/news/newsroom/fs\\_new/smoking&health.cfm](http://www.kidney.org/news/newsroom/fs_new/smoking&health.cfm)

# Smoking: Cancer of the Kidney

Meta-analysis of 24 studies since the 1960s, published March 2005 in the International Journal of Cancer:

## Conclusions:

- People who smoke are 38% more likely to develop renal cell carcinoma (RCC) than individuals who never smoked in their life.
- More smoking over a lifetime resulted in a greater risk -- a so-called dose-response relationship that **supports a direct link between smoking and kidney cancer.**
- **Men who smoked 1 to 9 cigarettes** per day increased their risk of kidney cancer by 60%, whereas smokers of **21 or more cigarettes** per day increased their risk by 103%.
- **Women** increased their risk from about no increased risk to a 58% increase with more than a pack of cigarettes per day.

# Smoking: Cancer of the Kidney

– Risk was substantially reduced for long-term former smokers:

- **BOTTOM LINE: Smoking cessation helped reduce the relative risk of developing kidney cancer in patients who had quit for more than 10 years in comparison with cessation for less than 10 years.**

Sources: Physician Weekly, May 31, 2005

<http://physweeklyarchives.com/article.asp?issueid=244&articleid=2296>

International Journal of Cancer March 10, 2005 abstract at

<http://onlinelibrary.wiley.com/doi/10.1002/ijc.20618/abstract>

# Smoking and Kidney Disease

## According to the National Kidney Foundation:

- More than 20 million Americans, or 1 in 9 adults, has chronic kidney disease (CKD). More than 20 million others are at increased risk.
- **Smoking is a health problem for people with kidney disease:**
  - Smoking slows blood flow and can worsen existing heart, blood vessel and kidney problems.
  - Bladder cancer and kidney cancer are more common in smokers.
- **Smoking can interfere with the medicines used to treat high blood pressure:**
  - If one has high blood pressure and smokes, blood pressure medicines may not control blood pressure effectively.
  - Uncontrolled or poorly controlled high blood pressure is a leading cause of chronic kidney disease.

Source: [http://www.kidney.org/news/newsroom/fs\\_new/smoking&health.cfm](http://www.kidney.org/news/newsroom/fs_new/smoking&health.cfm)

# Quitting Smoking can Slow ESRD

Study published in Nov 25, 2010 issue of BMC:

- Methods: Smoking data analyzed in 198 patients with stage 3 or higher CKD throughout 2005-2009.
- **Conclusions:**
  - **Smoking significantly increases the risk of CKD.**
  - **Former smokers did not have a statistically significant difference.**

Credits/Source: BMC (Biomed Central) Public Health 2010, 10:731

[http://7thspace.com/headlines/365045/association\\_between\\_smoking\\_and\\_chronic\\_kidney\\_disease\\_a\\_case\\_control\\_study.html](http://7thspace.com/headlines/365045/association_between_smoking_and_chronic_kidney_disease_a_case_control_study.html)

# Long-Term and Heavy Smoking Increases Risk of Progressive Kidney Disease by 50%

**Swedish Study published in August 2007 issue of *Journal of the American Society of Nephrology*:**

**Conclusion: Long-term and heavy smokers have about a 50 percent increased risk of progressive *kidney* disease.**

- Researchers assessed tobacco use, other risk factors among 926 people with chronic renal failure (CRF) and 998 people with normal *kidney* function.
- **The study found that people who smoked more than a pack of cigarettes a day had a 51 percent greater risk of CRF than people who never smoked. People who smoked for more than 40 years had a 45 percent increased risk of CRF.**
- Based on their findings, the researchers estimated that **smoking is responsible for about 9 percent of CRF cases among Swedes.**
- The study confirms that smoking is a significant but preventable risk factor for kidney disease.

<http://paktribune.com/news/index.shtml?185507>

# Long-Term and Heavy Smoking Increases Risk of Progressive Kidney Disease by 50%

Swedish study published in August 2004 issue of *Journal of the American Society of Nephrology*:

**Conclusion:** Heavy and/or long-term smokers have a 50% greater risk of developing chronic *kidney* failure, compared to non-smokers.

- Based on their findings, the researchers estimated that smoking is responsible for about 9 percent of chronic renal failure (CRF) cases among Swedes.
- Smoking causes narrowing of the blood vessels serving the kidneys.
- Smokers also seemed to be especially at risk of *kidney* failure caused by glomerulonephritis, an inflammatory condition interfering with the *kidney's* filtering function.
- Researchers assessed tobacco use and other risk factors among 926 people with CRF, and 998 people with normal *kidney* function.
- The study confirms that smoking is a significant but preventable risk factor for *kidney* disease.

Source: <http://www.tobacco.org/news/171543.html>

# Nicotine may Accelerate and Promote Chronic Kidney Disease

**Study by University of Miami's Miller School of Medicine, published January 2007 by the American Physiological Society:**

- **Conclusion:** Showed for the first time that nicotine – a component of cigarette smoke – is an agent that may accelerate and promote the progression of chronic kidney disease.
- How? Researchers studied human cells in the kidney's blood vessels, called mesangial cells (MC), and discovered they are endowed with nicotinic receptors (cells that interact with the nicotine in tobacco), which may play an active role in the development of certain kidney diseases.
- **Nicotine, at concentrations similar to those found in the plasma of smokers, promoted mesangial cell proliferation and that spurred on critical molecules that are involved in the extracellular matrix production, which affects the development of certain kidney diseases.**

Source: The study, "Nicotine: The Link Between Cigarette Smoking and the Progression of Renal Injury?," was conducted by Edgar A. Jaimes, MD, Run-Xia Tian, MD, and Leopoldo Raij, MD, all of the Miller School of Medicine, University of Miami, Miami, FL. It appears in the Articles in Press Section of the *American Journal of Physiology – Heart and Circulatory Physiology* (<http://ajpheart.physiology.org/>).

Source: <http://www.the-aps.org/>

# Cigarette Smoke Affects Kidneys

**September 2003 study shows that cigarette smoke affects other organs like the kidneys and spleen:**

**Conclusion: Cigarette smoke reduces the amount of an important enzyme called MAO B, in these organs. Too much or too little of it can affect a person's mental or physical health.**

- MAO B breaks down the chemicals that allow nerve cells to communicate with each other.
- MAO B also controls blood pressure.

Source: <http://www.tobacco.org/news/137405.html> Dr. Nora D. Volkow, director of the National Institute on Drug Abuse and the National Institutes of Health, researcher Dr. Joanna Fowler and others at Brookhaven National Laboratory and the State University of New York at Stony Brook.

# Diabetes 101

- Diabetes is a disease in which blood glucose levels are above normal.
- Most of the food we eat is turned into glucose, or sugar, for our bodies to use for energy.
- The pancreas, an organ that lies near the stomach, makes a hormone called insulin to help glucose get into the cells of our bodies.
- When you have diabetes, your body either doesn't make enough insulin or can't use its own insulin as well as it should. This causes sugar to build up in your blood.
- Diabetes can cause serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations.
- **Diabetes is the sixth leading cause of death in the United States.**

source: <http://www.cdc.gov/diabetes/consumer/learn.htm>

# Type 1 Diabetes

- Type 1 diabetes, formerly called juvenile diabetes or insulin-dependent diabetes, is usually first diagnosed in children, teenagers, or young adults.
- With this form of diabetes, the beta cells of the pancreas no longer make insulin because the body's immune system has attacked and destroyed them.
- Treatment for type 1 diabetes includes taking insulin and possibly another injectable medicine, making wise food choices, being physically active, taking aspirin daily—for some—and controlling blood pressure and cholesterol, **and not smoking or being exposed to second- and thirdhand smoke.**

# Type 2 Diabetes

- Type 2 diabetes, formerly called adult-onset diabetes or noninsulin-dependent diabetes, is the most common form of diabetes. People can develop type 2 diabetes at any age—even during childhood.
- Type 2 diabetes usually begins with insulin resistance, a condition in which fat, muscle, and liver cells do not use insulin properly. At first, the pancreas keeps up with the added demand by producing more insulin. In time, however, it loses the ability to secrete enough insulin in response to meals.
- Being overweight and inactive increases the chances of developing type 2 diabetes. Treatment includes using diabetes medicines, making wise food choices, being physically active, taking aspirin daily—for some—and controlling blood pressure and cholesterol, **and not smoking or being exposed to second- or thirdhand smoke.**

# Gestational Diabetes

- Some women develop gestational diabetes during the late stages of pregnancy.
- Although this form of diabetes usually goes away after the baby is born, a woman who has had it is more likely to develop type 2 diabetes later in life.
- Gestational diabetes is caused by the hormones of pregnancy or a shortage of insulin.

Source: <http://www.diabetes.niddk.nih.gov/dm/pubs/type1and2/what.htm>

# Increase in Diabetes Prevalence

- Nearly 26 million Americans are estimated to have diabetes (1 in 12 Americans has diabetes).
- Pre-diabetes, a condition in which blood sugar levels are higher than normal, but not high enough to be diagnosed as diabetes. Pre-diabetes raises a person's risk of type 2 diabetes, heart disease and stroke.
- **Type 2 diabetes**, in which the body gradually loses its ability to use and produce insulin, **accounts for 90 percent to 95 percent of diabetes cases.**

Source: <http://www.cdc.gov/diabetes/pubs/factsheet11.htm> (January 26, 2011)

# Diabetes and Renal Disease

- **Diabetes is the #1 cause of end-stage renal disease (ESRD).**
- Diabetes is the leading cause of kidney failure, accounting for 44% of all new cases of kidney failure in 2008.
- In 2008, 48,374 people with diabetes began treatment for end-stage kidney disease.
- In 2008, a total of 202,290 people with end-stage kidney disease due to diabetes were living on chronic dialysis or with a kidney transplant.

Source: [www.cdc.gov/diabetes/pubs/estimates11.htm#](http://www.cdc.gov/diabetes/pubs/estimates11.htm#)

# Smoking hastens Kidney Disease in Diabetics

**August 2010 study published in the *American Journal of Renal Physiology* shows that the nicotine in cigarette smoke might hasten kidney disease in diabetics.**

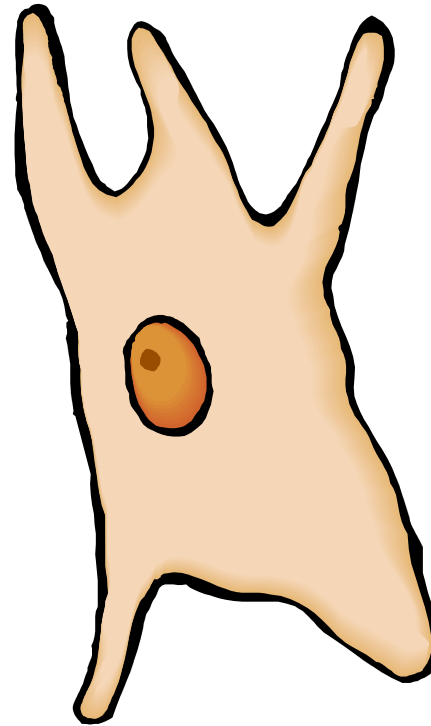
- Previous studies established smoking as a risk factor in the progression of diabetic kidney disease. **This study is the first research to link a specific compound in cigarette smoke to the worsening of the disease.**
- Researchers exposed diabetic mice to nicotine and compared their kidney function to diabetic mice not exposed to nicotine.

- Researchers measured a bio-marker called cotinine, which is a metabolite of nicotine. Cotinine is found in a person's blood proportionate to the amount of exposure to cigarette smoke, making it an important indicator of tobacco smoke exposure.
- The mice exposed to nicotine had levels of cotinine in their blood comparable to those of human smokers. The mice with the comparable cotinine levels of human smokers had:
  - **more fibrosis, or scarring of the kidneys (a marker of kidney disease), and**
  - **more proteinuria which is the amount of protein found in the urine, another marker of kidney disease, than mice not exposed to nicotine.**
- **Researchers suggested nicotine replacement therapy (NRT) that contains nicotine (e.g. patch) should not be a long-term smoking cessation strategy.**

Source: <http://ajprenal.physiology.org/content/early/2010/08/04/ajprenal.00293.2010.abstract>

# 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>

# Smoking and Diabetes

## Smoking increases health risks for diabetics:

- Smoking slows down the blood flow, and can worsen heart, blood vessel and kidney problems.
- Smoking can also slow blood flow to your feet and legs, making sores and infections harder to heal.

Source: [http://www.kidney.org/news/newsroom/fs\\_new/smoking&health.cfm](http://www.kidney.org/news/newsroom/fs_new/smoking&health.cfm)

# Health Effects of Smoking 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 Smoking 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.

# U.S. Surgeon General recommends smoking cessation for diabetics

**December 2010 U.S. Surgeon General's Report, *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease*:**

*Chapter 6 Cardiovascular Diseases, pg. 387:*

“Many clinical and experimental studies have found **significant associations between cigarette smoking and development of impaired glycemic control and diabetic complications** (micro- and macrovascular).”

“The development of type 2 diabetes is another harmful effect of cigarette smoking, one that adds to the heightened risks of cardiovascular disease. **In diabetes care, smoking cessation is crucial to facilitating glycemic control and limiting development of complications.**”

Source: <http://www.njgasp.org/SGreport.htm>

# Health Effects of Smoking 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](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](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/](http://findarticles.com/p/articles/mi_m0689/is_n5_v28/ai_7923099/)

# Electronic Cigarette Use not Safe Alternative to Smoking

- Some electronic cigarettes are advertised as smoking cessation devices.
- Not FDA-approved as a smoking cessation device.
- Unregulated tobacco product.
- FDA has concerns about quality control and amount of nicotine in product, along with chemical ingredients in the product.
- NJ State legislature banned use of e-cigarettes in public places and workplaces (defined as 'smoking' in the law), as of 2010.
- Do not recommend to patients to switch to e-cigarettes, if trying to quit smoking. Use FDA-approved tobacco cessation products and services.

Source: [http://njgasp.org/E-Cigs\\_White\\_Paper.pdf](http://njgasp.org/E-Cigs_White_Paper.pdf)

# 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](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](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](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 Secondhand Smoke

- Quality Insights Renal Network 3 facilities can create a 100% smokefree property policy for outdoors, to eliminate secondhand smoke exposure on entire property.
  - If own property.
  - If leased, discuss with owner/management company.
  - Have clear signage, notification to employees, patients.
- To avoid secondhand smoke migrating indoors, clearly post no smoking signs by doorways, entrances, perimeters of properties.
- NJ law requires no smoke migrate into a public place; experts suggest minimum 25 ft smokefree perimeter by doors, windows.

# 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](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](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. 49

# Why Talk to Patients about Quitting Tobacco ?

- **To better manage ESRD.**
- **To better manager 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 in NJ

- **New Jersey** state-funded quit services are through the New Jersey Quitline:
  - **Call 1 (800) QUIT-NOW**, for resources to help quit tobacco. **For 4 months, starting mid-April, uninsured medicaid patients may qualify for free nicotine replacement therapy (NRT) treatment, additional phone sessions.**
  - More resources on how to quit tobacco (U.S. Centers for Disease Control in English and Spanish), including NJ state-funded and private tobacco dependence treatment centers in your area, plus online resources at [www.njgasp.org/quit\\_tobacco.htm](http://www.njgasp.org/quit_tobacco.htm)
  - Read NJ State Quitline profile at <http://map.naquitline.org/profile/usa/nj/> [source: North American Quitline Consortium (NAQC) website]

# Quit Tobacco Resources in NY

- **New York State** quit-funded services are through the **NY State Quitline 1-866-NY-QUITS**. Call for free NRT availability and qualification requirements.

<https://www.nysmokefree.com/register/default.aspx>

- **NYC Department of Health may offer additional services:**

<http://www.nyc.gov/html/hhc/html/services/smokingcessation.shtml>

- Check local, county health departments

- Read NY State Quitline profile at <http://map.naquitline.org/profile/usa/ny/>

# Quit Tobacco Resources in Puerto Rico and U.S. Virgin Islands

- **Puerto Rico Linea de Cesacion** 1-877-335-2567
  - Read Puerto Rico Quitline profile at <http://map.naquitline.org/profile/usa/pr/>
- **Virgin Islands Quit resources at state website** <http://www.healthvi.com/smokefree/resources.html>
  - Effective February 10, 2011, the Virgin Islands Smoke-Free Act prohibits smoking in virtually all workplaces, including restaurants, bars, casinos [U.S.V.I. Quitline profile not available on NAQC].

More tobacco cessation help at:

- U.S. Centers for Disease Control Website [www.smokefree.gov](http://www.smokefree.gov)
- “**Become and Ex**”. Legacy Foundation’s national campaign <http://www.becomeanex.org/>

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