

# Tobacco Science

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*Editor: Giacomo Mangiaracina. Editorial board: Massimo Baraldo, Fabio Beatrice, Cristiano Chiamulera, Mario del Donno, Domenico Enea, Nolita Pulerà, Biagio Tinghino, Vincenzo Zagà.*

## In this edition

### Acta Neurol Scand - Tanaka

#### Active and passive smoking and risk of Parkinson's disease

[Acta Neurol Scand.](#) 2010 Feb 17. [Epub ahead of print]

[Tanaka K](#), [Miyake Y](#), [Fukushima W](#), [Sasaki S](#), [Kiyohara C](#), [Tsuboi Y](#), [Yamada T](#), [Oeda T](#), [Miki T](#), [Kawamura N](#), [Sakae N](#), [Fukuyama H](#), [Hirota Y](#), [Nagai M](#); the Fukuoka Kinki Parkinson's disease Study Group\*.

#### Abstract

Objective - To assess the association between active and passive smoking and the risk of Parkinson's disease (PD), a case-control study with 249 PD patients and 369 controls was carried out in Japan. Methods - Information on smoking was obtained through a self-administered questionnaire. Adjustment was made for age, sex, region of residence, educational level, and occupational exposure. Results - Ever having smoked cigarettes was associated with a reduced risk of PD [adjusted odds ratio = 0.38; 95% confidence interval (CI): 0.24-0.59]. Risk for former smokers was intermediate between the high risk for never smokers and the low risk for current smokers. Adjusted odds ratios for former and current smokers were 0.51 (95% CI: 0.32-0.82) and 0.12 (95% CI: 0.05-0.26), respectively. There was an inverse dose-response gradient with pack-years smoked. No significant association was detected for passive smoking exposure. Conclusion - Our results appear to confirm data from previous epidemiological studies.

<http://www3.interscience.wiley.com/journal/123290172/abstrac...>

### Addict Behav - McDonald/Morrell/Chung

#### Pilot study of inducing smoking cessation attempts by activating a sense of looming vulnerability

[Addict Behav.](#) 2010 Feb 10. [Epub ahead of print]

[McDonald D](#), [O'Brien J](#), [Farr E](#), [Haaga DA](#).

#### Abstract

Despite widespread knowledge of the negative health consequences of cigarette smoking, in 2007 a majority (60%) of daily smokers in the USA did not make a quit attempt lasting at least 24h. Drawing on Riskind's looming cognitive vulnerability model of anxiety, we developed a guided imagery induction intended to increase smokers' perceived susceptibility to the consequences of continued smoking and thereby to increase quit attempts. In a pilot study of this induction, 72 adult daily smokers were randomly assigned to

the looming imagery condition or to a control condition exposed to guided imagery that did not concern smoking or its dangers. Those in the looming condition reported significantly higher state anxiety and highly accessible negative outcome expectancies for smoking immediately after the induction, and a significantly lower smoking rate in the month after the experiment. Nonsignificant trends favored the looming condition also for increasing contemplation of quitting, self-efficacy for abstaining from cigarettes, intrinsic motivation to quit as a function of health concerns, and most importantly the likelihood of making a quit attempt in the month following the experiment. Further development and testing of the looming induction as a way to motivate quit attempts is warranted.

**Also:**

Depression vulnerability predicts cigarette smoking among college students: Gender and negative reinforcement expectancies as contributing factors  
A parallel process model of the development of positive smoking expectancies and smoking behavior during early adolescence in Caucasian and African American girls

<http://www.sciencedirect.com/science/journal/03064603>

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**Addict Behav - Pollard/Sirota/Watson**

**Friendship Networks and Trajectories of Adolescent Tobacco Use**

**Addictive Behaviors**

**Article in Press, Accepted Manuscript**  
**Available online 3 March 2010.**

**Michael S. Pollard, Joan S. Tucker, Harold D. Green, David Kennedy and Myong-Hyun Go**

**Abstract**

This article examines how friendship networks in adolescence are linked to tobacco use trajectories through a combination of analytic techniques that traditionally are located in separate literatures: social network analysis and developmental trajectory analysis. Using six years of longitudinal data from the National Longitudinal Study of Adolescent Health, we identify a set of six unique developmental trajectories of smoking (never smokers, steady lows, delayed increasers, early increasers, decreasers, and steady highs). Individuals' locations in their friendship networks were then linked to their trajectory group membership. Adolescents with a greater number of smoking friends were more likely to belong to the higher use trajectories. Beyond this exposure to smoking peers, individuals who at baseline were either members of a smoking group or liaisons to a smoking group were more likely than members of a nonsmoking group to belong to the higher use trajectories. Liaisons to a smoking group were particularly likely to belong to the delayed increaser trajectory group. Trajectory group membership for adolescents who belonged to a nonsmoking group did not significantly differ from those who were isolates or liaisons to a nonsmoking group. The study suggests features of an individual's social network have long-lasting associations with smoking behaviors.

**Also:**

Intolerance for smoking abstinence questionnaire: Psychometric properties and relationship to tobacco dependence and abstinence

Evidence for greater cue reactivity among low dependent vs. high dependent smokers

<http://www.sciencedirect.com/science/journal/03064603>

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**Alcohol - Riley**

**The influence of a chronic adolescent nicotine exposure on ethanol withdrawal severity during adulthood in C3H mice**

**Alcohol. Volume 44, Issue 1, Pages 81-87 (January 2010)**

Hugh H. Riley, André W. Zalud, Jaime L. Diaz-Granados

## Abstract

Animal and human studies have shown tolerance, consumption, relapse, and behavioral interactions between ethanol and nicotine, but little is understood about their interaction, especially as it relates to ethanol withdrawal in adulthood for subjects who have an adolescent history of using these drugs. This study investigated nicotine's influence on ethanol withdrawal seizures in two different age groups of male C3H mice. Adolescent and adult male C3H mice, beginning at postnatal day 28 or 70, respectively, were subjected to a 7-day chronic exposure to ethanol only, ethanol plus nicotine, nicotine only, or vehicle treatment. Six weeks later, all the groups were subjected to chronic exposure to ethanol vapors and the severity of their ethanol withdrawal seizures was assessed by handling-induced convulsions. An adolescent exposure to chronic nicotine resulted in an exacerbation of ethanol withdrawal seizures in adulthood. Given this, adolescence may contain a neurophysiological critical period that is sensitive to nicotine and which may result in an altered response to ethanol dependency in adulthood. These findings have serious implications for the long-term consequences following co-abuse of these drugs during adolescence.

<http://www.alcoholjournal.org/article/S0741-8329%2809%290019...>

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## Arch Gyn Ob - Habek

### Adverse pregnancy outcomes and long-term morbidity after early fetal hypokinesia in maternal smoking pregnancies

[Arch Gynecol Obstet](#). 2010 Feb 27. [Epub ahead of print]

[Habek D](#), [Kovačević M](#).

#### Abstract

AIM: The aim of this study is to evaluate perinatal outcome and subsequent morbidity and neurodevelopment in 10-year-old children with fetal hypokinesia intrauterinely verified by ultrasonography in early pregnancy as a pattern of abnormal fetal behavior due to maternal chronic smoking. This study revealed significant global fetal hypokinesia as well as head and arm hypokinesia in early pregnancy in mothers' chronic smokers (group 3-more than 20 cigarettes a day). MATERIALS AND METHODS: This retrospective study was performed in mothers and their 10-year-old children included in the study of the effect of cigarette smoking on fetal movements in early pregnancy. Perinatal outcome was assessed according to maternal data, course, and outcome of pregnancy and delivery. Data on the long-term (10 years) development and morbidity from infancy during childhood until age 10 years were obtained from the children's medical histories and medical rehabilitation records, maternal, and paternal histories. The psycholinguistic development was estimated. RESULTS: In group 3, there was a poor overall perinatal outcome and high rate of the bronchoconstrictive syndrome and recurrent infections, while one case of the sudden infant death syndrome. Poor school performance was recorded in five children, attention-deficit/hyperactivity disorder in four, and autism, dystonia syndrome, social maladaptation, and minimally cerebral disfunction in one child each. Retarded psycholinguistic development was found in seven children, only three of them attending speech therapy ( $P < 0.05$ ). CONCLUSION: Fetal hypokinesia in early pregnancy related with maternal smoking was found to correlate with poor perinatal outcome, subsequent morbidity, and developmental impairments in 10-year-old children born to mothers smoking more than 20 cigarettes a day.

<http://www.springerlink.com/content/j846062344v58m76/>

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## CEB&P - Rozek

*Smoking, Gender, and Ethnicity Predict Somatic BRAF Mutations in Colorectal Cancer*

**Cancer Epidemiology, Biomarkers & Prevention**

Published OnlineFirst March 3, 2010

[Laura S. Rozek](#), [Casey M. Herron](#), [Joel K. Greenson](#), [Victor Moreno](#), [Gabriel Capella](#), [Gad Rennert](#) and [Stephen B. Gruber](#)

#### Abstract

Approximately 5% to 15% of all colorectal cancers (CRC) have an activating *BRAF* somatic mutation, which may be associated with a distinct risk profile compared with tumors without *BRAF* mutations. Here, we measured the prevalence and epidemiologic correlates of the *BRAF* V600E somatic mutation in cases

collected as a part of a population-based case-control study of CRC in northern Israel. The prevalence of *BRAF* V600E was 5.0% in this population, and the mutation was more likely to be found in tumors from cases who were of Ashkenazi Jewish descent [odds ratio (OR), 1.87; 95% confidence interval (95% CI), 1.01-3.47], female (OR, 1.97;  $P = 1.17-3.31$ ), and older (73.8 years versus 70.3 years;  $P < 0.001$ ). These results were similar when restricting to only tumors with microsatellite instability. Whether smoking was associated with a *BRAF* somatic mutation depended on gender. Although men were less likely to have a tumor with a *BRAF* somatic mutation, men who smoked were much more likely to have a tumor with a somatic *BRAF* mutation (OR<sub>interaction</sub>, 4.95; 95% CI, 1.18-20.83) than women who never smoked. We note the strong heterogeneity in the reported prevalence of the *BRAF* V600E mutation in studies of different ethnicities, with a lower prevalence in Israel than other Western populations but a higher prevalence among Jewish than non-Jewish Israeli cases. Epidemiologic studies of CRC should incorporate somatic characteristics to fully appreciate risk factors for this disease.

<http://cebp.aacrjournals.org/content/early/2010/02/24/1055-9...>

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## Chest - Jones

### The Master Settlement Agreement and Its Impact on Tobacco Use 10 Years Later

#### Lessons for Physicians About Health Policy Making

*CHEST* March 2010 vol. 137 no. 3 692-700

[Walter J. Jones](#), PhD and [Gerard A. Silvestri](#), MD, FCCP

#### Abstract

The issue of tobacco industry responsibility for population health problems and compensation for their treatment has been growing since the 1960s. In 1999, the state attorneys general collectively launched the largest class action lawsuit in US history and sued the tobacco industry to recover the costs of caring for smokers. In what became known as the Master Settlement Agreement (MSA), states were rewarded billions of dollars and won concessions regarding how cigarettes could be advertised and targeted to minors. Ten years after this settlement, much is known about how MSA monies were distributed and how states have used the money. There is some understanding about how much of the money went toward offsetting the health-care costs attributable to smoking and whether resources were allocated to efforts to reduce smoking in a particular state. However, there are few data on what effect, if any, the MSA had on tobacco control locally and nationally. This commentary explores these issues, as well as how the tobacco industry has evolved to offset the losses incurred by the settlement. Finally, an analysis of the complexities of current tobacco policy making is provided so that physicians and other health-care advocacy groups can more completely understand the present-day political dynamics and be more effective in shaping tobacco control policy in the future.

<http://chestjournal.chestpubs.org/content/137/3/692.abstract>

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## Infect Immun - Kulkarni

### Cigarette smoke inhibits airway epithelial innate immune responses to bacteria

*Infect Immun.* 2010 Mar 1. [Epub ahead of print]

[Kulkarni R](#), [Rampersaud R](#), [Aguilar JL](#), [Randis TM](#), [Kreindler JL](#), [Ratner AJ](#).

#### Abstract

The human upper respiratory tract, including the nasopharynx, is colonized by a diverse array of microorganisms. While the host generally exists in harmony with the commensal microflora, under certain conditions these organisms may cause local or systemic disease. Respiratory epithelial cells act as local sentinels of the innate immune system, responding to conserved microbial patterns through activation of signal transduction pathways and cytokine production. In addition to colonizing microbes, these cells may also be influenced by environmental agents, including cigarette smoke (CS). Because of the strong relationship among secondhand smoke exposure, bacterial infection, and sinusitis, we hypothesized that components in CS might alter epithelial innate immune responses to pathogenic bacteria. We examined the effect of cigarette smoke condensate (CSC) or extract (CSE) on signal transduction and cytokine production in primary and immortalized epithelial cells of human or murine origin in response to non-typeable

Haemophilus influenzae and Staphylococcus aureus. We observed that epithelial production of interleukin (IL)-8 and IL-6 in response to bacterial stimulation was significantly inhibited in the presence of CS ( $P < 0.001$  for inhibition by either CSC or CSE). In contrast, epithelial production of interferon-beta was not inhibited. CSC decreased NFkappaB activation ( $P < 0.05$ ) and altered the kinetics of mitogen-activated protein kinase phosphorylation in cells exposed to bacteria. Treatment of CSC with antioxidants abrogated CSC-mediated reduction of epithelial IL-8 responses to bacteria ( $P > 0.05$  compared to cells without CSC treatment). These results identify a novel oxidant-mediated immunosuppressive role for CS in epithelial cells.  
<http://iai.asm.org/cgi/content/abstract/IAI.01410-09v1>

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**J Am Stat Assoc - Liu**

**Joint Models for the Association of Longitudinal Binary and Continuous Processes With Application to a Smoking Cessation Trial**

**J Am Stat Assoc.** 2009 Jun 1;104(486):429-438.

[Liu X](#), [Daniels MJ](#), [Marcus B](#).

**Abstract**

Joint models for the association of a longitudinal binary and a longitudinal continuous process are proposed for situations in which their association is of direct interest. The models are parameterized such that the dependence between the two processes is characterized by unconstrained regression coefficients. Bayesian variable selection techniques are used to parsimoniously model these coefficients. A Markov chain Monte Carlo (MCMC) sampling algorithm is developed for sampling from the posterior distribution, using data augmentation steps to handle missing data. Several technical issues are addressed to implement the MCMC algorithm efficiently. The models are motivated by, and are used for, the analysis of a smoking cessation clinical trial in which an important question of interest was the effect of the (exercise) treatment on the relationship between smoking cessation and weight gain.

<http://www.ncbi.nlm.nih.gov/pubmed/20161053>

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**J Clin Neurosci - Bienfait**

**Impulsive smoking in a patient with Parkinson's disease treated with dopamine agonists**

**J Clin Neurosci.** 2010 Feb 18. [Epub ahead of print]

[Bienfait KL](#), [Menza M](#), [Mark MH](#), [Dobkin RD](#).

**Abstract**

Impulse control disorders, including pathological gambling, binge eating, compulsive shopping and hypersexual behaviors, have frequently been reported as a side effect of dopaminergic medications for Parkinson's disease (PD). Here we describe a patient with PD who developed an unusual manifestation of impulsive behaviors, including cigarette smoking, associated with an increase in dopamine agonist medication. We postulate this to be related to an overstimulation of mesolimbic dopamine receptors responsible for reward-seeking behaviors. Further research is needed to examine impulsive cigarette smoking in PD.

<http://www.sciencedirect.com/science/journal/09675868>

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**JCO - Levine**

**HIV As a Risk Factor for Lung Cancer in Women: Data From the Women's Interagency HIV Study**

**J Clin Oncol.** 2010 Feb 22. [Epub ahead of print]

[Levine AM](#), [Seaberg EC](#), [Hessol NA](#), [Preston-Martin S](#), [Silver S](#), [Cohen MH](#), [Anastos K](#), [Minkoff H](#), [Orenstein J](#), [Dominguez G](#), [Watts DH](#).

**Abstract**

**PURPOSE:** Prior reports of an increased risk of lung cancer in HIV-infected individuals have not always included control groups, nor considered other risk factors such as tobacco exposure. We sought to determine the role of HIV infection and highly active antiretroviral therapy (HAART) on lung cancer incidence in 2,651 HIV-infected and 898 HIV-uninfected women from the Women's Interagency HIV Study (WIHS). **METHODS:** A prospective study of the incidence rates of lung cancer was conducted, with cases identified through medical records, death certificates, and state cancer registries. Standardized incidence ratios (SIRs) were calculated to compare lung cancer incidence among HIV-infected and uninfected WIHS participants, with population-based expectations using the Surveillance, Epidemiology, and End Results registry. Behavioral characteristics in the WIHS were compared to US women by age and race adjusting the population-based data from the National Health and Nutritional Examination Survey (NHANES) III. **RESULTS:** Incidence rates of lung cancer were similar among HIV-infected and uninfected WIHS women. Lung cancer SIRs were increased in both HIV-infected and -uninfected women compared with population expectations, but did not differ by HIV status. Among HIV-infected women, lung cancer incidence rates were similar in pre-HAART and HAART eras. All WIHS women with lung cancer were smokers; the risk of lung cancer increased with cumulative tobacco exposure. WIHS women were statistically more likely to smoke

than US women studied in NHANES III. CONCLUSION: HIV infection is strongly associated with smoking behaviors that increase lung cancer risk. The role of HIV itself remains to be clarified.

<http://jco.ascopubs.org/cgi/content/abstract/JCO.2009.25.614...>

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#### JCO - Slatore

#### Lung Cancer and Hormone Replacement Therapy: Association in the Vitamins and Lifestyle Study

JCO Early Release, published online ahead of print Feb 16 2010

Journal of Clinical Oncology, 10.1200/JCO.2009.25.9739

Christopher G. Slatore, Jason W. Chien, David H. Au, Jessie A. Satia, and Emily White

#### Abstract

**Purpose:** Lung cancer is the leading cause of cancer-related mortality among women. The role of hormone replacement therapy (HRT) in lung cancer development is unclear.

**Patients and Methods:** We evaluated a prospective cohort of 36,588 peri- and postmenopausal women aged 50 to 76 years from Washington State recruited in 2000 to 2002 (Vitamins and Lifestyle [VITAL] Study). Lung cancer cases (n = 344) were identified through the Seattle-Puget Sound Surveillance, Epidemiology, and End Results cancer registry during 6 years of follow-up. Hazard ratios (HRs) associated with use and duration of specific HRT formulations were calculated for total incident lung cancer, specific morphologies, and cancer by stage at diagnosis.

**Results:** After adjusting for smoking, age, and other potential confounders, there was an increased risk of incident lung cancer associated with increasing duration of estrogen plus progestin (E+P) use (HR = 1.27 for E+P use 1 to 9 years, 95% CI, 0.91 to 1.78; and HR = 1.48 for E+P use  $\geq$  10 years, 95% CI, 1.03 to 2.12; *P* for trend = .03). There was no association with duration of unopposed estrogen use. Duration of E+P use was associated with an advanced stage at diagnosis (*P* for trend = .03).

**Conclusion:** Use of E+P increased the risk of incident lung cancer in a duration-dependent manner, with an approximate 50% increased risk for use of 10 years or longer. These findings may be helpful for informing women of their risk of developing lung cancer and delineating important pathways involved in hormone metabolism and lung cancer.

<http://jco.ascopubs.org/cgi/content/abstract/JCO.2009.25.973...>

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#### J Comm Health - Hudson/Burton/Nimpitakpong

#### Tobacco Use: A Chronic Illness?

**J Community Health.** 2010 Feb 24. [Epub ahead of print]

Hudson NL, Mannino DM.

#### Abstract

Tobacco use is a modifiable risk factor that has many characteristics of a chronic illness. We analyzed longitudinal data from participants in the Atherosclerosis Risk in Communities Study (ARIC) and the Cardiovascular Health Study (CHS) and compared tobacco use to other chronic illnesses to evaluate effects on mortality. We limited our analysis to 20,293 participants aged 45 and older at baseline. We determined smoking status, diabetes status, hypertension, cardiovascular disease (ASCVD), and lung disease status at baseline. We developed Cox proportional hazard models, adjusting for age, sex and race and all comorbid diseases, to determine the effect of disease on mortality at up to 13 years of follow-up, 3,022 study participants died during the follow-up period. Adjusted proportional hazard models found that the risk of smoking for death had a hazard ratio (HR) of 2.0 (95% confidence interval [CI] 1.8, 2.2). This was similar to the mortality risk for ASCVD (HR 1.8, 95% CI 1.7, 2.0), diabetes (HR 1.9, 95% CI 1.7, 2.0), and chronic obstructive pulmonary disease (COPD) (HR 2.1, 95% CI 1.9, 2.4). The risk in former smokers were significantly less than that of current smokers (HR 1.1, 95% CI 1.01, 1.2). In the adjusted models, current cigarette smoking has a mortality risk that is in the same range of that seen in other "chronic diseases", whereas the risk in former smokers is greatly reduced. These data suggest that current smoking should be approached as aggressively as other chronic diseases that are amenable to interventions.

<http://www.springerlink.com/content/w3m56gx5676438n1/>

#### Also:

A Phone-Counseling Smoking-Cessation Intervention for Male Chinese Restaurant Workers

<http://www.springerlink.com/content/4213wk6282478v67/>

A National Survey of Training and Smoking Cessation Services Provided in Community Pharmacies in Thailand

<http://www.springerlink.com/content/u72435851264817g/>

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## The importance of tobacco cessation training for nurses in Serbia

*J Contin Educ Nurs.* 2010 Feb;41(2):89-96. doi: 10.3928/00220124-20100126-05.

Merrill RM, Gagon H, Harmon T, Milovic I.

### Abstract

**BACKGROUND:**This study assessed smoking prevalence, attitudes, and perceived patient counseling responsibilities among practicing nurses in Serbia. The need for nurses to receive tobacco cessation training is explored. **METHODS:**Data were collected through a cross-sectional survey of 230 nurses at public institutions in Belgrade, a health care center in Belgrade, and public health care facilities throughout Serbia. **RESULTS:**The smoking prevalence was 52% for male nurses and 47% for female nurses. Nurses had the greatest mean level of agreement with statements about controlling smoking through policy, followed by statements about being role models. Only 15% (n = 35) of nurses regularly counseled their patients about smoking, and only 16% of nurses (45% of males vs. 12% of females, p < .0001) had received training in counseling patients about smoking. Nurses' training in counseling patients about smoking was positively associated with the nurses' belief that their counseling could help patients stop smoking or never start smoking. In addition, nurses with training in counseling patients about smoking considered themselves significantly better prepared to assist patients to quit smoking. Nurses who smoked were significantly less likely to believe that their counseling about smoking could be effective. They also felt significantly less well prepared to assist patients to quit smoking. **CONCLUSION:**These findings show that nurses' training in tobacco cessation counseling results in greater self-perceived confidence and frequency of regular tobacco cessation counseling in Serbia.

<http://www.ncbi.nlm.nih.gov/pubmed/20166649>

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## J Neurosci - Parikh

### Prefrontal $\beta 2$ Subunit-Containing and $\alpha 7$ Nicotinic Acetylcholine Receptors Differentially Control Glutamatergic and Cholinergic Signaling

*The Journal of Neuroscience*, March 3, 2010, 30(9):3518-3530

Vinay Parikh, Jinzhao Ji, Michael W. Decker, and Martin Sarter

### Abstract

One-second-long increases in prefrontal cholinergic activity ("transients") were demonstrated previously to be necessary for the incorporation of cues into ongoing cognitive processes ("cue detection"). Nicotine and, more robustly, selective agonists at  $\alpha 4\beta 2^*$  nicotinic acetylcholine receptors (nAChRs) enhance cue detection and attentional performance by augmenting prefrontal cholinergic activity. The present experiments determined the role of  $\beta 2$ -containing and  $\alpha 7$  nAChRs in the generation of prefrontal cholinergic and glutamatergic transients *in vivo*. Transients were evoked by nicotine, the  $\alpha 4\beta 2^*$  nAChR agonist ABT-089 [2-methyl-3-(2-(S)-pyrrolidinylmethoxy) pyridine dihydrochloride], or the  $\alpha 7$  nAChR agonist A-582941 [2-methyl-5-(6-phenyl-pyridazin-3-yl)-octahydro-pyrrolo[3,4-c]pyrrole]. Transients were recorded in mice lacking  $\beta 2$  or  $\alpha 7$  nAChRs and in rats after removal of thalamic glutamatergic or midbrain dopaminergic inputs to prefrontal cortex. The main results indicate that stimulation of  $\alpha 4\beta 2^*$  nAChRs evokes glutamate release and that the presence of thalamic afferents is necessary for the generation of cholinergic transients. ABT-089-evoked transients were completely abolished in mice lacking  $\beta 2^*$  nAChRs. The amplitude, but not the decay rate, of nicotine-evoked transients was reduced by  $\beta 2^*$  knock-out. Conversely, in mice lacking the  $\alpha 7$  nAChR, the decay rate, but not the amplitude, of nicotine-evoked cholinergic and glutamatergic transients was attenuated. Substantiating the role of  $\alpha 7$  nAChR in controlling the duration of release events, stimulation of  $\alpha 7$  nAChR produced cholinergic transients that lasted 10- to 15-fold longer than those evoked by nicotine.  $\alpha 7$  nAChR-evoked cholinergic transients are mediated in part by dopaminergic activity. Prefrontal  $\alpha 4\beta 2^*$  nAChRs play a key role in evoking and facilitating the transient glutamatergic-cholinergic interactions that are necessary for cue detection and attentional performance.

<http://www.jneurosci.org/cgi/content/abstract/30/9/3518>

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## JPHP - Alderman

### Commentary: Understanding the origins of anger, contempt, and disgust in public health policy disputes: Applying moral psychology to harm reduction debates

*Journal of Public Health Policy* (2010) 31, 1–16.

Jess Alderman, Katherine M Dollar and Lynn T Kozlowski

### Abstract

Scientific disputes about public health issues can become emotional battlefields marked by strong emotions like anger, contempt, and disgust. Contemporary work in moral psychology demonstrates that each of these emotions is a reaction to a specific type of moral violation. Applying this work to harm reduction debates,

specifically the use of smokeless tobacco to reduce harm from tobacco use, we attempt to explain why some public health disputes have been so heated. Public health ethics tend to emphasize social justice concerns to the exclusion of other moral perspectives that value scientific authority, professional loyalty, and bodily purity. An awareness of their different emotional reactions and underlying moral motivations might help public health professionals better understand each others' viewpoints, ultimately leading to more productive dialogue.

<http://www.palgrave-journals.com/jphp/journal/v31/n1/abs/jph...>

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#### **J Sep Sci - Petersen**

##### **Cotinine as a biomarker of tobacco exposure: Development of a HPLC method and comparison of matrices**

**J Sep Sci**. 2010 Feb 12. [Epub ahead of print]

[Petersen GO](#), [Leite CE](#), [Chatkin JM](#), [Thiesen FV](#).

#### **Abstract**

Tobacco dependence reaches one-third of the world population, and is the second leading cause of death around the world. Cotinine, a major metabolite of nicotine, is the most appropriate parameter to evaluate tobacco exposure and smoking status due to its higher stability and half-life when compared to nicotine. The procedure involves liquid-liquid extraction, separation on a RP column (Zorbax((R)) XDB C(8)), isocratic pump (0.5 mL/min of water-methanol-sodium acetate (0.1 M)-ACN (50:15:25:10, v/v/v/v), 1.0 mL of citric acid (0.034 M) and 5.0 mL of triethylamine for each liter) and HPLC-UV detection (261 nm). The analytical procedure proved to be sensitive, selective, precise, accurate and linear ( $r > 0.99$ ) in the range of 5-500.0 ng/mL for cotinine. 2-Phenylimidazole was used as the internal standard. The LOD was 0.18 ng/mL and the LOQ was 5.0 ng/mL. All samples from smoking volunteers were collected simultaneously to establish a comparison between serum, plasma, and urine. The urinary cotinine levels were normalized by the creatinine and urine density. A significant correlation was found ( $p < 0.01$ ) between all matrices. Results indicate that the urine normalization by creatinine or density is unnecessary. This method is considered reliable for determining cotinine in serum and plasma of smokers and in environmental tobacco smoke exposure.

<http://www3.interscience.wiley.com/journal/123278420/abstrac...>

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#### **Mat Child Health J - Chertok**

##### **Association Between Changes in Smoking Habits in Subsequent Pregnancy and Infant Birth Weight in West Virginia**

**Matern Child Health J**. 2010 Feb 25. [Epub ahead of print]

[Chertok IR](#), [Luo J](#), [Anderson RH](#).

#### **Abstract**

West Virginia has one of the highest prenatal smoking prevalence rates in the nation. While overall national prenatal smoking rates have been declining, the prevalence rates in West Virginia continue to climb. Smoking in pregnancy has been associated with deleterious health outcomes in infants, including decreased birth weight. Yet, minimal research has been done on changes in smoking behaviors over time and the association of the changes in infant birth weights. The aim of the current study is to examine the change in prenatal smoking status of West Virginia women and the associated changes in infant birth weights. Population-based secondary data analysis was conducted using West Virginia birth certificates for all singleton infant siblings born between 1989 and 2006, linked based on mother. Infants born to women who smoked during pregnancy had significantly lower birth weights than infants born to non-smokers. Repeated measures analysis used to examine the changes with time showed that women who smoked during their first pregnancy but refrained from smoking during their subsequent pregnancy had significantly increased birth weight for the second infant, and conversely, infants born to women who initiated smoking with the subsequent pregnancy had significantly decreased birth weight compared to the previous infant. Findings of the study may be used to inform and to guide the development of population focused interventions to decrease maternal prenatal smoking in first and in subsequent pregnancies in an effort to improve infant birth weight outcomes.

<http://www.springerlink.com/content/g776j02m0320vp18/>

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#### **N&TR - Berg**

##### **Predictors of smoking reduction among Blacks**

**Nicotine & Tobacco Research Advance Access published online on March 1, 2010**

**Carla J. Berg, Ph.D., Janet L. Thomas, Ph.D., Hongfei Guo, Ph. D., Lawrence C. An, M.D., Kolawole S. Okuyemi, M.D., M.P.H., Tracie C. Collins, M.D., M.P.H. and Jasjit S. Ahluwalia, M.D., M.P.H., M.S.**

### **Abstract**

**Introduction:** Blacks who smoke have increased tobacco-related health risks. Cessation decreases the likelihood of many health problems. Smoking reduction may be important in the cessation process and potentially reduce health risks.

**Methods:** Because little is known about specific predictors of smoking reduction, we investigated factors predicting reduction among Black light smokers enrolled in a 26-week cessation trial. Specifically, we compared (a) reducers (reduced cigarettes per day [cpd]  $\geq 50\%$ ) with nonreducers and (b) reducers with quitters. Baseline demographic, smoking-related, and psychosocial variables were collected, and Week 26 smoking status was assessed.

**Results:** Among 539 participants, 41.0% ( $n = 221$ ) reduced their smoking, 17.6% ( $n = 95$ ) quit, and 41.4% ( $n = 223$ ) did not reduce their smoking by  $\geq 50\%$ . In comparison with reducers, nonreducers were more likely to have their first cigarette within 30 min of waking (odds ratio [OR] = 2.4, 95% CI = 1.47–3.93), lower baseline cpd (OR = 0.84, 95% CI = 0.77–0.93), higher baseline cotinine levels (OR = 1.002, 95% CI = 1.000–1.003), lower perceived stress (OR = 0.86, 95% CI = 0.78–0.95), and higher Smoking Consequences Questionnaire (SCQ) negative social impression scores (OR = 1.04, 95% CI = 1.01–1.06), after controlling for treatment arm, gender, and age. Significant predictors of smoking cessation versus reduction included lower baseline cpd (OR = 0.85, 95% CI = 0.75–0.95), higher nicotine dependence (OR = 1.47, 95% CI = 1.09–1.98), lower baseline cotinine levels (OR = 0.996, 95% CI = 0.994–0.998), higher body mass index (OR = 1.05, 95% CI = 1.01–1.08), lower perceived stress (OR = 0.82, 95% CI = 0.72–0.95), and higher SCQ negative social impression scores (OR = 1.05, 95% CI = 1.01–1.08).

**Discussion:** Distinct predictors are associated with different trajectories of smoking behavior change (i.e., reduction vs. cessation vs. no change).

<http://ntr.oxfordjournals.org/cgi/content/abstract/ntq019>

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### **N&TR - Cooper/Malin**

#### **Differences between intermittent and light daily smokers in a population of U.S. military recruits**

**Nicotine & Tobacco Research Advance Access published online on March 4, 2010**

**Theodore V. Cooper, Ph.D., Thom Taylor, M.A., Ashley Murray, M.A., Margaret W. DeBon, Ph.D., Mark W. Vander Weg, Ph.D., Robert C. Klesges, Ph.D. and G. Wayne Talcott, Ph.D.**

### **Abstract**

**Introduction:** Few studies have assessed differences between intermittent and light smokers, particularly among young adults. Exploring these differences promotes a systematic approach to research and treatment in low-level smokers. This study explored demographic, tobacco-related, and psychosocial predictors of intermittent nondaily smoking relative to light smoking among basic military training (BMT) recruits. The impact of smoking status on abstinence rates at follow-up was also assessed.

**Methods:** Participants were 5,603 U.S. Air Force BMT intermittent nondaily ( $n = 3,134$ ) or light daily ( $n = 2,469$ ) smoking recruits participating in a population-based group randomized trial targeting tobacco use prevention and cessation (Klesges et al., 2006, Efficacy of a tailored tobacco control program on long-term use in a population of U.S. military troops. *Journal of Consulting and Clinical Psychology*, 74, 295–306.).

Participants completed baseline measures assessing demographics; tobacco use and history; and common social, attitudinal, and behavioral risk factors for tobacco use. Flights of recruits were randomly assigned to a tobacco use intervention or health education control intervention. At the 1-year follow-up, participants reported 7-day point prevalence and continuous abstinence.

**Results:** Intermittent nondaily smoking relative to light daily smoking was associated with lesser perceived addiction, intermittent and daily use of smokeless tobacco, nonsmoking male and female heads of household, lesser likelihood of smoking while stressed or while bored, and higher likelihood of intentions to quit smoking. Intermittent smokers were significantly more likely than light daily smokers to report abstinence at follow-up.

**Discussion:** Intermittent and daily light smokers differ on several tobacco-related and psychosocial variables. Attending to these factors in prevention and cessation programs may enhance abstinence in both groups.

<http://ntr.oxfordjournals.org/cgi/content/abstract/ntq025>

### **Also:**

Passive immunization against nicotine attenuates somatic nicotine withdrawal syndrome in the rat

<http://ntr.oxfordjournals.org/cgi/content/abstract/ntq021>

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## N&TR - Madden/Simmons

### Effects of bupropion on simulated demand for cigarettes and the subjective effects of smoking

**Nicotine & Tobacco Research Advance Access published online on March 1, 2010**

**Gregory J. Madden, Ph.D. and David Kalman, Ph.D.**

#### Abstract

Introduction: The biobehavioral mechanism(s) mediating bupropion's efficacy are not well understood. Behavioral economic measures such as demand curves have proven useful in investigations of the reinforcing effects of drugs of abuse. Behavioral economic measures may also be used to measure the effect of pharmacotherapies on the reinforcing effects of drugs of abuse.

Methods: The effects of bupropion on simulated demand for cigarettes were investigated in a placebo-controlled double-blind clinical trial. Participants reported the number of cigarettes they would purchase and consume in a single day at a range of prices. The effects of medication on the subjective effects of smoking were also explored.

Results: Demand for cigarettes was well described by an exponential demand equation. Bupropion did not significantly decrease the maximum number of cigarettes that participants said they would smoke in a single day nor did it significantly alter the relation between price per cigarette and demand. Baseline demand elasticity did not predict smoking cessation, but changes in elasticity following 1 week of treatment did. Medication group had no effect on any subjective effects of smoking.

Discussion: Bupropion had no significant effects on demand for cigarettes. The exponential demand equation, recently introduced in behavioral economics, proved amenable to human simulated demand and might be usefully employed in other pharmacotherapy studies as it provides a potentially useful measure of changes in the essential value of the drug as a reinforcer. Such changes may be useful in predicting the efficacy of medications designed to reduce drug consumption.

<http://ntr.oxfordjournals.org/cgi/content/abstract/ntq018>

#### Also:

A measure of smoking abstinence-related motivational engagement: Development and initial validation

<http://ntr.oxfordjournals.org/cgi/content/abstract/ntq020>

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## Oral Oncol - Amarasinghe

### Betel-quid chewing with or without tobacco is a major risk factor for oral potentially malignant disorders in Sri Lanka: A case-control study

**Oral Oncol.** 2010 Feb 25. [Epub ahead of print]

[Amarasinghe HK](#), [Usgodaarachchi US](#), [Johnson NW](#), [Laloo R](#), [Warnakulasuriya S](#).

#### Abstract

We investigated the prevalence of, and risk factors for, oral potentially malignant disorders (OPMDs) in rural Sri Lanka. A cross-sectional community-based study was conducted by interview and oral examination of 1029 subjects aged over 30 years. A community-based nested case-control study then took those with OPMDs as 'cases', "controls" being those with no oral abnormalities at time of initial screening. The prevalence of OPMD was 11.3% (95% CI: 9.4-13.2), after weighting for place of residence and gender. Risk factors were betel-quid (BQ) chewing daily [OR=10.6 (95% CI: 3.6-31.0)] and alcohol drinking daily or weekly [OR=3.55 (1.6-8.0)]. A significant dose-response relationship existed for BQ chewing. Smoking did not emerge when adjusted for covariates. A synergistic effect of chewing and alcohol consumption existed. The attributable risk (AR) of daily BQ chewing was 90.6%, the population AR 84%. This study demonstrates high prevalence of OPMD, betel-quid chewing with or without tobacco being the major risk factor.

<http://www.sciencedirect.com/science/journal/13688375>

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## Prev Chron Dis - Keller/Bousman

### Changes in tobacco quitlines in the United States, 2005-2006

**Prev Chronic Dis.** 2010 Mar;7(2):A36. Epub 2010 Mar 15.

[Keller PA](#), [Feltracco A](#), [Bailey LA](#), [Li Z](#), [Niederdeppe J](#), [Baker TB](#), [Fiore MC](#).

#### Abstract

**INTRODUCTION:** Telephone quitlines are an effective way to provide evidence-based tobacco dependence treatment services at the population level. Information about what services quitlines offer and how those services are used may improve their reach to the smoking population. **METHODS:** The North American Quitline Consortium surveyed state quitlines in 2005 and 2006 to get information about quitline services, funding, and use. We report changes between 2005 and 2006. **RESULTS:** By 2006, all 50 states, the District of Columbia, and Puerto Rico had quitlines, and annual mean reach was approximately 1% of US adult smokers (aged 18 years or older). Significant increases were seen in mean quitline reach, mean per capita funding for quitline services, and provision of free cessation medications; otherwise, few changes were seen in quitline services. **CONCLUSION:** Quitlines have the potential to serve a large percentage of smokers. Between 2005 and 2006, gains in the number, reach, and per capita funding for quitline services in the United States were seen. Although this represents progress, further research and investment to optimize quitline service delivery and reach are required for quitlines to fulfill their potential of improving the health of the American population.

[http://www.cdc.gov/pcd/issues/2010/Mar/09\\_0095.htm](http://www.cdc.gov/pcd/issues/2010/Mar/09_0095.htm)

[http://www.cdc.gov/pcd/issues/2010/Mar/pdf/09\\_0095.pdf](http://www.cdc.gov/pcd/issues/2010/Mar/pdf/09_0095.pdf)

**Also:**

Family history of lung cancer and contemplation of smoking cessati

**Note:** Full text PDFs freely available from links immediately above.

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**PATS - Wewers**

**An Official American Thoracic Society Workshop Report: Tobacco Control Initiatives within the American Thoracic Society**

[Proc Am Thorac Soc. 2010 Feb;7\(1\):1-7.](#)

[Wewers ME, Bailey WC, Carlsen KH, Eisner MD, Folan P, Heath J, Klinnert MD, Kovesi T, Pien GW, Reichart VC, Talwar A, Thompson K; on behalf of the American Thoracic Society Subcommittee on ...](#)

**Abstract**

Cigarette smoking represents the single most preventable cause of premature morbidity and mortality in the United States and the burden of tobacco use is apparent world-wide. Cigarette smoking is a major risk factor for chronic obstructive pulmonary disease, the third leading cause of death in the United States in 2004. The American Thoracic Society (ATS) and its members have contributed significantly to an understanding of the biological and pathophysiologic mechanisms responsible for the development and management of tobacco-attributable disease and disability. The society's active involvement in tobacco control advocacy and policy-related initiatives are central to its mission. Within the ATS, there is also increased interest in accelerating the society's efforts to understand the mechanisms responsible for the uptake, persistence, and cessation of tobacco use. Scientific, clinical, and educational activities that include an examination of these underlying mechanisms are warranted. This paper describes findings from an ATS initiative that developed a preliminary strategy for enhancing scientific, clinical, educational, and policy-related tobacco control efforts that are consistent with the vision of the ATS. The specific aims of this project included the identification of existing mechanisms, as well as the current governance in place within the ATS infrastructure, to address tobacco control issues related to scientific inquiry, policy initiatives, and advocacy for tobacco control. This assessment generated recommendations to inform the ATS leadership with regard to the future development of relevant tobacco control initiatives.

<http://pats.atsjournals.org/cgi/content/abstract/7/1/1>

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**Stroke - Deka**

**The Relationship Between Smoking and Replicated Sequence Variants on Chromosomes 8 and 9 With Familial Intracranial Aneurysm**

**Stroke. 2010**

Published online before print February 26, 2010

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Huston III MD; Robert D. Brown MD; Dawn O. Kleindorfer MD; Matthew L. Flaherty MD; Carl D. Langefeld PhD; Tatiana Foroud PhD; Joseph P. Broderick MD; the FIA Study Investigators

### **Abstract**

**Background and Purpose**—The purpose of this study was to replicate the previous association of single nucleotide polymorphisms (SNPs) with risk of intracranial aneurysm (IA) and to examine the relationship of smoking with these variants and the risk of IA.

**Methods**—White probands with an IA from families with multiple affected members were identified by 26 clinical centers located throughout North America, New Zealand, and Australia. White control subjects free of stroke and IA were selected by random digit dialing from the Greater Cincinnati population. SNPs previously associated with IA on chromosomes 2, 8, and 9 were genotyped using a TaqMan assay or were included in the Affymetrix 6.0 array that was part of a genomewide association study of 406 IA cases and 392 control subjects. Logistic regression modeling tested whether the association of replicated SNPs with IA was modulated by smoking.

**Results**—The strongest evidence of association with IA was found with the 8q SNP rs10958409 (genotypic  $P=9.2 \times 10^{-5}$ ; allelic  $P=1.3 \times 10^{-5}$ ; OR=1.86, 95% CI: 1.40 to 2.47). We also replicated the association with both SNPs on chromosome 9p, rs1333040 and rs10757278, but were not able to replicate the previously reported association of the 2 SNPs on chromosome 2q. Statistical testing showed a multiplicative relationship between the risk alleles and smoking with regard to the risk of IA.

**Conclusion**—Our data provide complementary evidence that the variants on chromosomes 8q and 9p are associated with IA and that the risk of IA in patients with these variants is greatly increased with cigarette smoking.

<http://stroke.ahajournals.org/cgi/content/abstract/STROKEAHA...>

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