# Library Watch on nicotine

www.projectcork.org winter 2012

**Effects of smoking on ocular health.**
Galor A; Lee DJ. *Current Opinion in Ophthalmology* 22(6): 477-482, 2011
To review recent data on the effects of smoking on ocular health. Smoking has been associated with a myriad of negative ocular health effects including age-related macular degeneration (ARMD) and cataract. Most recently, several papers have demonstrated a connection between smoking and ocular inflammation. Smokers are both more likely to develop ocular inflammation and to have more severe disease as manifested by poorer presenting vision and a higher risk of recurrent disease compared to nonsmokers. Smoking has also been shown to enhance the effect of genetic susceptibility with regards to the presence and development of ARMD. Finally, the negative effects of smoking on ocular disease have been increasingly documented in nonwhite populations outside of the USA. However, despite the abundance of data, public awareness on the adverse consequences of smoking on vision is lacking in the USA. In contrast, Australia improved public knowledge by launching a successful antitobacco health campaign highlighting the effects of smoking on ocular health. These findings suggest that eye care professionals should discuss and offer options for smoking cessation as part of the management of patients with ocular diseases, especially in those with ocular inflammation, ARMD, lens opacities/cataract, and thyroid-associated orbitopathy. Health campaigns using existing medical data can improve public awareness on the connection between tobacco and visual impairment. 

**Impact of spontaneous smoking cessation on sperm quality: Case report.**
Prentki SE; Lopez-Costa S; Chenlo P; Pugliese MN; Curi S; Ariagno J et al. *Andrologia* 43(6): 431-435, 2011. (16 refs.)
We evaluated sperm quality after a 3-month smoking cessation programme by sperm analysis, objective sperm motility analysis, protein tyrosine phosphorylation in capacitating conditions and DNA fragmentation (TUNEL). Sperm analysis after smoking cessation revealed a distinctive improvement in sperm concentration, fast spermatozoa (>35mum/s), sperm vitality, percentage of spermatozoa recuperated after an enrichment technique and protein tyrosine phosphorylation. However, no changes were observed in the number of germinal cells in the ejaculate, sperm morphology and sperm DNA fragmentation. It is concluded that physicians should strongly advise their patients to quit smoking before undergoing medical treatment or assisted reproduction techniques to achieve pregnancy. 

**Frequency and outcomes of accidental ingestion of tobacco products in young children. (review).**
Appleton S. *Regulatory Toxicology and Pharmacology* 61(2): 210-214, 2011. (44 refs.)
This review assesses published literature related to frequency and outcomes associated with accidental ingestion of tobacco and pharmaceutical nicotine products among young children. Twenty-seven years of annual reports by American Association of Poison Control Centers (AAPCC) were analyzed for occurrence and outcomes associated with accidental ingestion events involving tobacco and pharmaceutical nicotine products among young children. Over a 27-year period, and of >50 million contacts for all categories combined, 217,340 contacts involving ingestion of tobacco products were reported. Approximately 89% involved children <6 years old. One fatality was reported, however the co-ingestion of both cigarettes and diazepam complicates an assessment of a contributory role of tobacco. The rate of major, non-fatal, outcomes was <0.1%. Data from AAPCC reports and other sources indicate the frequency of accidental poisoning events is relatively low for tobacco products compared with other products such as drugs, dietary supplements, cleaning products, and personal care products. These findings, along with those for pharmaceutical nicotine products, are consistent with published case reports and reviews, indicating that the frequency and severity of outcomes associated with accidental ingestion of tobacco products by young children appear to be relatively low. However, adults should keep tobacco products out of the reach of children. 

**Tobacco education and counseling in obstetrics and gynecology clerkships: A survey of medical school program directors.**
Powers CA; Zapka J; Phelan S; Ozcan T; Biello KB; O'Donnell J et al. *Maternal and Child Health Journal* 15(8): 1153-1159, 2011
The 16,000 medical students completing OB/GYN clerkship programs each year provide a unique opportunity to motivate and mentor students in facilitating tobacco cessation. To determine the scope of current tobacco teaching in obstetrics/gynecology (OB/GYN) education at US medical schools and to assess opportunities for including new tobacco teaching, a 28-question survey was administered to directors and assistant directors at US medical school OB/GYN clerkship programs. Surveys were completed at 71% of schools. Only 9% reported having at least 15min of dedicated teaching time for improving tobacco cessation skills. Nearly three-fourths of respondents reported teaching students how to intervene to reduce smoking during a work-up in the OB/GYN clinic, but only 43% reported that students would know where to refer someone wishing to quit. Only a third of respondents reported teaching students both to intervene with and refer OB/GYN patients who smoke. These findings suggest that although medical students see many OB and GYN patients who smoke, they have few opportunities to learn comprehensive cessation skills during their clerkships. 

**Advertising media and cigarette demand.**
Goel RK. *Bulletin of Economic Research* 63(4): 404-416, 2011. (19 refs.)
Using state-level panel data for the USA spanning three decades, this research estimates the demand for cigarettes. The main contribution lies in studying the effects of cigarette advertising disaggregated across five qualitatively different groups. Results show cigarette demand to be near unit elastic, the income effects to be generally insignificant and border price effects and habit effects to be significant. Regarding advertising effects, aggregate cigarette advertising has a negative effect on smoking. Important differences across advertising media emerge when cigarette advertising is disaggregated. The effects of public entertainment and Internet cigarette advertising are stronger than those of other media. Anti-smoking messages accompanying print cigarette advertising seem relatively more effective. Implications for smoking control policy are discussed. 

**Providing coaching and cotinine results to preteens to reduce their secondhand smoke exposure: A randomized trial.**
Hovell MF; Wahlgren DR; Liles S; Jones JA; Hughes SC; Matt GE et al. *Chest* 140(3): 681-689, 2011. (42 refs.)
Background: Secondhand smoke exposure (SHSe) poses health risks to children living with smokers. Most interventions to protect children from SHSe have coached adult smokers. This trial determined whether coaching and cotinine feedback provided to preteens can reduce their SHSe. Methods: Two hundred one predominantly low-income families with a resident smoker and a child aged 8 to 13 years who was exposed to two or more cigarettes per day or had a urine cotinine concentration >= 2.0 ng/mL were randomized to control or SHSe reduction coaching groups. During eight in-home sessions over 5 months, coaches presented to the child graphic charts of cotinine assay results as performance feedback and provided differential praise and incentives for cotinine reductions. Generalized estimating equations were used to determine the differential change in SHSe over time by group. Results: For the baseline to posttest period, the coaching group had a greater decrease in both urine cotinine concentration (P = .039) and reported child SHSe in the number of cigarettes exposed per day (child report, P = .003; parent report, P = .078). For posttest to month 12 follow-up, no group or group by time differences were obtained, and both groups returned toward baseline. Conclusions: Coaching preteens can reduce their SHSe, although reductions may not be sustained without ongoing counseling, feedback, and incentives. Unlike interventions that coach adults to reduce child SHSe, programs that increase child avoidance of SHSe have the potential to reduce SHSe in all settings in which the child is exposed, without requiring a change in adult smoking behavior.

**Willingness of cancer patients to help family members to quit smoking.**
Garces YI; Patten CA; Sinicrope PS; Decker PA; Offord KP; Brown PD et al. *Psycho-oncology* 20(7): 724-729, 2011. (19 refs.)
Objectives: The impact of social support on successful smoking cessation has been well documented. However, little is known about whether personal experience with cancer may motivate cancer survivors to support smoking cessation among their family members and friends. As a first step in this line of research, we sought to explore interest in playing a supportive role for smoking cessation as well as

correlates of such interest among cancer survivors. Methods: Cancer survivors undergoing radiation therapy (N=211) completed a 77-item pencil-paper questionnaire. A section of the survey assessed interest in helping a smoker quit and charac-teristics of the smoking social network member. Respondents provided information on their smoking status, medical status, and psychosocial and behavioral factors related to cigarette smoking. Results: Over half of the respondents 114 (54%) reported having someone close to them (family member or friend) smoking cigarettes who they thought should quit. Of these respondents (44 females, 70 males) 78% (89/114) reported they were definitely or probably interested in helping a smoker quit. Nearly all respondents wanted to help a family member (typically an adult child). Conclusions: Results: suggest the potential feasibility of engaging cancer survivors to help family members quit smoking. Research is needed to determine the optimal methods and timing for engaging the cancer patient to maximize positive effects and minimize potential harms. 

**Smoking-cessation prevalence among US smokers of menthol versus non-menthol cigarettes.**

Delnevo CD; Gundersen DA; Hrywna M; Echeverria SE; Steinberg MB. *American Journal of Preventive Medicine* 41(4): 357-365, 2011. (34 refs.)

Background: The Food and Drug Administration currently is assessing the public health impact of menthol cigarettes. Whether menthol cigarettes pose increased barriers to quitting is a critical issue because previous declines in smoking prevalence have stalled. Purpose: To explore whether menthol cigarette smokers are less likely to quit than non-menthol smokers at the population level and whether this relationship differs by race/ethnicity. Methods: Cross-sectional analyses of the 2003 and 2006/2007 Tobacco Use Supplement to the Current Population Survey were conducted in 2010. Multiple logistic regressions were used to calculate the adjusted odds of cessation for menthol smoking relative to non-menthol smoking. Five different sample restrictions were used to assess the robustness of the findings. Results: In the broadest sample restriction, menthol smokers were less likely to have quit smoking (AOR=0.91, 95% CI=0.87, 0.96). This relationship holds among whites (AOR=0.93, 95% CI=0.88, 0.98) and blacks (AOR=0.81, 95% CI=0.67, 0.98). The magnitude of the relationship among Hispanics was similar to that among whites, but differed by Hispanic origin. Among those of Mexican origin, the AOR for menthol smokers was protective but not significant (AOR=1.29, 95% CI=0.99, 1.61), whereas among those of Puerto Rican origin, menthol smokers were less likely to have quit (AOR=0.57, 95% CI=0.37, 0.87). These findings were robust and significant in four of five sample restrictions. Conclusions: Smoking menthol cigarettes is associated with decreased cessation at the population level, and this association is more pronounced among black and Puerto Rican smokers. These findings support the recent calls to ban menthol flavoring in cigarettes. 

**'A pack a day for 20 years': Smoking and cigarette pack sizes.**

Farrell L; Fry TRL; Harris MN. *Applied Economics* 43(21): 2833-2842, 2011. (16 refs.)

This study focuses on the determinants of cigarette consumption. In particular, the impact of cigarette pack sizes on the typical daily consumption of smokers is investigated. Results are presented from a new multi-modal count data model which allows for 'pack-effects' in daily consumption levels. Our results suggest that smokers regulate their consumption in accordance with the variety of pack sizes that are available to them. 

**The impact of a community-based oral, head and neck cancer screening for reducing tobacco consumption.**

Hapner ER; Bauer KL; Wise JC. *Otolaryngology: Head and Neck Surgery* 145(5): 778-782, 2011. (23 refs.)

Objective. Examine the usefulness of large-scale community-based head and neck cancer screening for reducing tobacco use in an at-risk population. Questions answered: (1) Is participating in a community-based head and neck cancer screening related to a reduction in tobacco usage? (2) Do differing factors between participants predict behavior change? Study Design. Survey based with a longitudinal follow-up component. Setting. Atlanta Motor Speedway during a National Association of Stock Car Auto Racing (NASCAR) race event. Subjects and Methods. Recruited NASCAR fans (n = 620). Initial screening and 11-question survey for 6-month telephone follow-up. Results. One hundred fifty-six participants (25%) required medical follow-up. Chi-square analysis indicated a significantly higher proportion of smokers (13%) evidenced positive findings compared to nonsmokers (8%) or past smokers (6%). Kruskal-Wallis analysis followed by Dunn's multiple comparison post hoc test indicated smokers were from a significantly lower socioeconomic status background compared to nonsmokers. Analysis of variance indicated contacted participants reported smoking significantly fewer

cigarettes per day 6 months postscreening compared to the number of cigarettes smoked at the baseline. Forty-four (59%) participants reported reducing the number of cigarettes smoked per day, and 11 participants reported quitting smoking. Conclusion. The authors have demonstrated that large-scale community-based head and neck cancer screenings can be effectively implemented in nonmedical venues. This study demonstrated that targeting education for reduction of risk factors in the NASCAR population positively affected tobacco cessation. 

**Smoking, cognitive function and mortality in a US national cohort study.**

Gillum RF; Kwagyan J; Obisesan TO. International Journal of Environmental Research and Public Health 8(9): 3628-3636, 2011. (12 refs.)

Previous studies report that low levels cognitive function and history of smoking are associated with increased mortality risk. Elderly smokers may have increased risk of dementia, but risk in former smokers is unclear. We tested the hypotheses that the harmful effect of impaired cognitive function as related to mortality is greater in persons smoking at baseline than in others. Further, we used serum cotinine levels to assess recall bias of smoking history by cognitive function level. Data were analyzed from a longitudinal mortality follow-up study of 4,916 American men and women aged 60 years and over, examined in 1988-1994 with complete data followed an average 8.5 years. Measurements at baseline included smoking history, a short index of cognitive function (SICF), serum cotinine and socio-demographics. Death during follow-up occurred in 1,919 persons. In proportional hazards regression analysis, a significant interaction of current smoking with cognitive function was not found; but there was a significant age-smoking interaction. After adjusting for confounding by age or multiple variables, current smoking associated with over 2-fold increased mortality (hazards ratio and 95% confidence limits current versus never smoking 2.13, 1.75-2.59) and SICF with 32% reduction in mortality; top versus bottom SICF stratum 0.68, 0.53-0.88). Serum cotinine data revealed substantial recall bias of smoking history in persons with cognitive impairment. However analyses correcting for this bias did not alter the main conclusions: In a nationwide cohort of older Americans, analyses demonstrated a lower risk of death independent of confounders among those with high SICF scores and never smokers, without a significant interaction of the two. 

**Driving kids to smoke? Children's reported exposure to smoke in cars and early smoking initiation.**

Glover M; Scragg R; Min S; Kira A; Nosa V; McCool J et al. *Addictive Behaviors* 36(11): 1027-1031, 2011. (29 refs.)

The health risks associated with second hand smoke (SHS) are well-known. However, little is known about exposure to SHS in cars and risk of smoking uptake. This paper investigates the association between pre-adolescents reported exposure to smoking in cars and prevalence of early stage smoking activity. Data from Keeping Kids Smokefree baseline surveys of students were used to determine exposure to smoking in cars. Log binomial regression analyses were used to investigate if reported exposure to SHS in cars was associated with smoking prevalence. 83% of 5676 students invited took part. After controlling for all variables reported exposure to smoking in cars and homes were significantly associated with increased risk of initiated smoking.. Exposure to smoking in cars was substantially and significantly associated with risk of current smoking. Early smoking uptake is associated with students' reported exposure to smoking in cars which confirms the importance of protecting children from SHS. Smoking in cars is under parental control and therefore modifiable. Moreover, children's reports of SHIS exposure offer a simple way of identifying families who can be targeted for tobacco control interventions. 

**The clinical implications of a smoking ban on submarines in the U.S. Navy.**

Shah AN; Arnold MJ. *Military Medicine* 176(2): 222-227, 2011. (36 refs.)

By the end of calendar year 2010, a total smoking ban on submarines is expected to be implemented throughout the submarine force because of the negative health effects of environmental tobacco smoke and the recently demonstrated exposure of nonsmoking submariners to measurable levels of nicotine during submarine deployments. Historically, smoking has been highly prevalent in the military, but new data on the negative health effects of tobacco have led the military to change its policies, restricting its use in certain environments. A number of research studies have examined the effect of smoking on the military, cessation and prevention interventions, effect of environmental tobacco smoke onboard the submarine, and treatment modalities aimed at smokers attempting to quit. With the potential for considerable physical and psychological effects, a mass tobacco cessation program is being implemented to support the prohibition onboard the submarine. Recommendations

for a successful implementation program are included. 

**Pharmacotherapy for smoking cessation: Present and future. (review).**
Aubin HJ; Karila L; Reynaud M. Current Pharmaceutical Design 17(14): 1343-1350, 2011. (123 refs.)
Tobacco dependence is a chronic disease that often requires repeated interventions and multiple attempts to quit. To date, three medications are FDA-approved for smoking cessation: nicotine replacement therapy, sustained-release bupropion, and varenicline. These treatments are effective across a broad range of populations, and are recommended for all smokers, including those with psychiatric or addictive comorbidity. Less is known however concerning the benefit-risk profile of these medications in pregnant women and adolescents. With these limitations in mind, clinicians should encourage and offer counseling and a prescription of pharmacotherapy to every patient willing to make a quit attempt. Despite the relative efficacy of first-line medications, many smokers relapse after one given quit attempt, and alternative pharmacotherapies are needed. Clonidine and nortriptyline have been proposed as second-line medications. In addition, this review identifies a series of promising drugs that hopefully will be available to complete our current armory. 

**Effects of smoking cessation on pain in older adults.**
Shi Y; Hooten WM; Warner DO. *Nicotine & Tobacco Research* 13(10): 919-925, 2011. (46 refs.)
Introduction: Smokers are at increased risk of developing chronic pain and suffering higher pain intensity. However, nicotine has analgesic properties, and smokers may view smoking as a means to cope with pain. Smoking cessation is clearly beneficial to the long-term health of smokers. However, it is not known how abstinence from smoking affects pain. The aim of this study was to determine the association between smoking cessation and changes in pain symptoms by secondary analysis of a large longitudinal dataset of older adults. Methods: Secondary analyses were performed of longitudinal biennial survey data (1992 through 2006) from the nationally representative Health and Retirement Study of United States adults older than 50 years. Multivariate logistic regressions were utilized to determine the relationship between the changes in smoking status and changes in pain symptoms, controlling for demographics, depression, self-rated health, history of arthritis, and body mass index. Results: In multivariate analyses, among the 4,695 smokers who reported no pain or mild pain at enrollment, smoking status was not independently associated with exacerbation of pain (odds ratio [OR]: 0.95, 95% CI: 0.84, 1.08). Among the 1,118 smokers who reported moderate to severe pain at enrollment, smoking status was not independently associated with improvement of pain (OR: 0.87, 95% CI: 0.70, 1.08). Conclusions: Smoking cessation was not independently associated with changes in pain symptoms in older adults. These results suggest that concerns regarding the effects of abstinence from smoking on pain should not pose a barrier to offering tobacco use interventions to smokers with chronic pain. 

**Adverse childhood experiences and smoking status in five states.**
Ford ES; Anda RF; Edwards VJ; Perry GS; Zhao GX; Li CY et al. *Preventive Medicine* 53(3): 188-193, 2011. (48 refs.)
Objective. Our objective was to examine the associations between adverse childhood experiences (ACEs) and smoking behavior among a random sample of adults living in five U.S. states. Methods. We used data from 25,809 participants of the 2009 Behavioral Risk Factor Surveillance System to assess the relationship of each of the 8 adverse childhood experiences and the adverse childhood experience score to smoking status. Results and conclusions. Some 59.4% of men and women reported at least one adverse childhood experience. Each of the eight adverse childhood experiences measures was significantly associated with smoking status after adjustment for demographic variables. The prevalence ratios for current and ever smoking increased in a positive graded fashion as the adverse childhood experience score increased. Among adults who reported no adverse childhood experiences, 13.0% were currently smoking and 38.3% had ever smoked. Compared to participants with an adverse childhood experience score of 0, those with an adverse childhood experience score of 5 or more were more likely to be a current smoker (adjusted prevalence ratio (aPR): 2.22, 95% confidence interval [CI]: 1.92-2.57) and to have ever smoked (aPR: 1.80, 95% CI: 1.67-1.93). Further research is warranted to determine whether the prevention of and interventions for adverse childhood experiences might reduce the burden of smoking-related illness in the general population. 