

### **Brief intervention in alcohol-positive traffic casualties: Is it worth the effort?**

Dauer ARG; Rubio ES; Coris ME; Valls JM. *Alcohol and Alcoholism* 41(1): 76-83, 2006. (37 refs.)

**Aims:** This study aimed at testing the effectiveness of a brief motivational intervention (BI) compared with a minimal intervention (MI) for reducing alcohol consumption in adult, alcohol-positive traffic casualties. **Methods:** Patients were recruited at the emergency room of a trauma hospital and screened for alcohol by a qualitative saliva test (positive from a blood alcohol concentration of 0.02 g/l). Positive patients (13.3%) who accepted entering the study were randomly allocated into BI and MI. Baseline assessment was the same for all patients. Blind telephone follow-ups were performed at months 3, 6, and 12, and results were analysed by protocol and by intention-to-treat analysis. **Results:** After 1 year of follow-up, 67% of the patients had reduced their consumption, the percentage of heavy drinkers had dropped by 47%, and 62% of baseline AUDIT-C positive patients (hazardous drinkers) had become negative. Binge drinking dropped significantly ( $P < 0.05$ ). Results at month 12 were in line with the previous ones. **Conclusions:** The effectiveness of BI compared with MI has not been verified, but a significant reduction in consumption has been observed in the whole sample, without significant differences by type of intervention. The persistence and dimension of changes suggest a real effect of both interventions, although the lack of a pure control group does not allow definitive conclusions. Traffic casualties are in a teachable moments to benefit from easy and cheap interventions. Copyright 2006, Medical Council on Alcohol.

### **Predictive validity of the RIASI: Alcohol and drug use and problems six months following remedial program participation.**

Shuggi R; Mann RE; Zalcman RH; Chipperfield B; Nochajski T. *American Journal of Drug and Alcohol Abuse* 32(1): 121-133, 2006. (23 refs.)

The ability of screening instruments for convicted drinking drivers to predict subsequent alcohol and drug-related problems rarely has been studied. The Predictive validity of the Research Institute on

Addictions Self-Inventory (RIASI) was investigated in a sample of 6,003 convicted drinking drivers who were participating in Back on Track (BOT), Ontario's remedial measures program for convicted drinking drivers. All BOT participants complete an assessment (which includes the RIASI), followed by a brief education or treatment program, and Concluded 6 months later by a follow-up interview. The follow-up interview collects information on self-reported alcohol and other drug use and problems, and contacts with other health care providers in the 90 days prior to the follow-up contact. The ability of scores on the RIASI to predict these measures was assessed. The results revealed that, for almost all comparisons, individuals who used alcohol and other drugs, reported more substance-related problems at follow-up, and reported more contacts with other health and addictions providers had significantly higher scores on the RIASI total score and the RIASI recidivism scale at the initial assessment. The data indicate that this instrument appears to be able to identify individuals who will experience alcohol and drug related problems in the future. Copyright 2006, Taylor & Francis.

### **Minimum purchasing age for alcohol and traffic crash injuries among 15-to 19-year-olds in New Zealand.**

Kypri K; Voas RB; Langley JD; Stephenson SCR; Begg DJ; Tippetts AS et al. *American Journal of Public Health* 96(1): 126-131, 2006. (44 refs.)

**Objectives.** In 1999, New Zealand lowered the minimum purchasing age for alcohol from 20 to 18 years. We tested the hypothesis that this increased traffic crash injuries among 15- to 19-year-olds. **Methods.** Poisson regression was used to compute incidence rate ratios for the after to before incidence of alcohol-involved crashes and hospitalized injuries among 18- to 19-year-olds and 15- to 17-year-olds (20- to 24-year-olds were the reference). **Results.** Among young men, the ratio of the alcohol-involved crash rate after the law change to the period before was 12% larger (95% confidence interval [CI] = 1.00, 1.25) for 18- to 19-year-olds and 14% larger (95% CI = 1.01, 1.30) for 15- to 17-year-olds, relative to 20- to 24-year-olds. Among young women, the equivalent ratios were 51% larger (95% CI = 1.17, 1.94) for 18-

to 19-year-olds and 24% larger (95% CI=0.96, 1.59) for 15- to 17-year-olds. A similar pattern was observed for hospitalized injuries. Conclusions. Significantly more alcohol-involved crashes occurred among 15- to 19-year-olds than would have occurred had the purchase age not been reduced to 18 years. The effect size for 18- to 19-year-olds is remarkable given the legal exceptions to the pre-1999 law and its poor enforcement. Copyright 2006, American Public Health Association.

### **Cannabis intoxication and fatal road crashes in France: Population based case-control study.**

Laumon B; Gadegbeku B; Martin JL; Biecheler MB; SAM Group. *British Medical Journal* 331(7529): 1371-1374, 2005. (33 refs.)

**Objectives** To evaluate the relative risk of being responsible for a fatal crash while driving under the influence of cannabis, the prevalence of such drivers within the driving population, and the corresponding share of fatal crashes. **Design** Population based case-control study. **Participants** 10 748 drivers, with known drug and alcohol concentrations, who were involved in fatal crashes in France from October 2001 to September 2003. **Main outcome measures** The cases were the 6766 drivers considered at fault in their crash; the controls were 3006 drivers selected from the 3982 other drivers. Positive detection of cannabis was defined as a blood concentration of Delta(9) tetrahydrocannabinol of over 1 ng/ml. The prevalence of positive drivers in the driving population was estimated by standardising controls off drivers not at fault who were involved in crashes resulting in slight injuries. **Results** 681 drivers were positive for cannabis (cases 8.8%, controls 2.8% including 285 with an illegal blood alcohol concentration ( $\geq 0.5$  g/l). Positive cannabis detection was associated with increased risk of responsibility (odds ratio 3.32, 95% confidence interval 2.63 to 4.18). A significant dose effect was identified; the odds ratio increased from 2.18 (1.22 to 3.89) if  $0 < \text{Delta}(9) \text{ tetrahydrocannabinol} < 1$  ng/ml to 4.72 (3.04 to 7.33) if  $\text{Delta}(9) \text{ tetrahydrocannabinol} \geq 5$  ng/ml. The effect of cannabis remains significant after adjustment for different cofactors, including alcohol, with which no statistical interaction was observed. The prevalence of cannabis (2.9%) estimated for the driving population is similar to that for alcohol (2.7%). At least 2.5% (1.5% to 3.5%) of fatal crashes were estimated as being attributable to cannabis, compared with 28.6% for alcohol (26.8% to 30.5%). **Conclusions:** Driving under the influence of cannabis increases the risk of involvement in a crash. However, in France its share in fatal crashes is significantly

lower than that associated with positive blood alcohol concentration. Copyright 2005, B M J Publishing Group.

### **Alcohol and/or benzodiazepine use: Different accidents - different impacts?**

Kurzthaler I; Wambacher M; Golser K; Sperner G; Sperner-Unterweger B; Haidekker A et al. *Human Psychopharmacology* 20(8): 583-589, 2005. (23 refs.) 1611 patients were included in this investigation. 16.7% of the patients were involved in traffic accidents, 38.2% were injured by a sudden fall, 3.5% were involved in an act of violence, 22.8% were injured by a sports related accident and 18.9% were hurt within a work-related accident. 19.5% of the patients tested positive for alcohol, 5.2% tested positive for benzodiazepines and 1.4% tested positive for both substances. Blood samples were positive for alcohol in 27% males and 7.7% females and for benzodiazepines in 6.3% males and in 3.5% females. The mean blood alcohol concentration (BAC) as well as the mean benzodiazepine plasma level were higher in patients injured in violent accidents compared to the other injury groups. This study provides epidemiologic information about the relationship between specific kinds of accidents and alcohol and/ or benzodiazepine use in a large probability sample of emergency room patients. We found a high number of patients using alcohol, and a lower but still relevant number of benzodiazepine users in this large and unselected traumatology ER sample. This study adds evidence to the existing literature about the co-occurrence of alcohol and/or benzodiazepine consumption and accident-related injuries. Copyright 2006, John Wiley & Sons.

### **Passive cannabis smoke exposure and oral fluid testing. II. Two studies of extreme cannabis smoke exposure in a motor vehicle.**

Niedbala RS; Kardos KW; Fritch DF; Kunsman KP; Blum KA; Newland GA et al. *Journal of Analytical Toxicology* 29(7): 607-615, 2005. (13 refs.)

Two studies were conducted to determine if extreme passive exposure to cannabis smoke in a motor vehicle would produce positive results for THC in oral fluid. Passive exposure to cannabis smoke in an unventilated room has been shown to produce a transient appearance of THC in oral fluid for up to 30 minutes. However, it is well known that such factors as room size and extent of smoke exposure can affect results. Questions have also been raised concerning the effects of tobacco when mixed with marijuana and THC content. We conducted two cannabis studies under severe passive smoke exposure conditions in an unventilated eight-passenger van. four passive subject

sat alongside four active cannabis smokers who each smoked a single cannabis cigarette containing either 5.4%, 39.5 mg THC (study1) or 104%, 83.2 mg THC (Study 2). The cigarettes in Study 1 contained tobacco mixed with cannabis; cigarettes in Study 2 contained only cannabis. Oral fluid specimens were collected for 1 hour after smoking cessation while inside the van (Study 1) and up to 72 h (passive) or 8 h (active) outside the van. Peak oral fluid THC concentrations in passive subjects recorded at the end of cannabis exposure. Oral fluid specimens from active smokers had peak concentrations of THC approximately 100-fold greater than passive subjects in both studies. Positive oral fluid results were observed for the active smokers 0-8 h. Urine analysis confirmed oral fluid results. These studies clarify earlier findings on the effects of passive cannabis smoke on oral fluid results. Oral specimens collected in the presence of cannabis smoke appear to have been contaminated, thereby falsely elevating THC concentrations in oral fluid. The risk of a positive test for THC was virtually eliminated when specimens were collected in the absence of THC smoke. Copyright 2005, Preston Publications Inc.

#### **Detection of cannabis use in drivers with the drugwipe device and by GC-MS after Intercept (R) device collection.**

Kintz P; Bernhard W; Villain M; Gasser M; Aebi B; Cirimele V. *Journal of Analytical Toxicology* 29(7): 724-727, 2005. (15 refs.)

Saliva has been presented as an alternative matrix in the establishment of drug exposure. The noninvasive collection of a saliva sample, which is relatively easy to perform and can be achieved under close supervision, is one of the most important benefits in a "driving under the influence" situation. Moreover, the presence of THC in oral fluid is a better indication of recent use than when the drug is detected in urine, so there is a higher probability that the subject is experiencing the pharmacological effects at the time of the sampling. At 3 check points organized by the Swiss police in Bern, 61 drivers were tested for the presence of drugs of abuse using the Drugwipe 5 device. In parallel, oral fluid was collected with the Intercept DOA Oral Specimen Collection device and tested by gas chromatography-mass spectrometry. The Drugwipe device identified 1 exposed driver, but with mass spectrometry, 18 drivers tested positive. THC concentrations in the intercept buffer ranged from 2.1 to 205.1 ng/mL. These concentrations represent about 1/2 to 1/3 the authentic THC concentrations in oral fluid because of the dilution by the blue liquid of the device. Two main limitations of oral fluid are (1) the amount of matrix collected is smaller when compared

to urine and (2) the levels of drugs in urine are higher than in oral fluid. A current limitation of the use of this specimen for roadside testing is the absence of a suitable immunoassay that detects parent compound in sufficiently low concentrations. Copyright 2005, Preston Publications Inc.

#### **Heavy alcohol use and the commission of nuisance crime: Evidence from underage drunk driving laws.**

Carpenter CS. *American Economic Review* 95(2): 267-272, 2005. (17 refs.)

There is extensive evidence documenting a strong relationship between alcohol use and crime. The Bureau of Justice Statistics (BJS) reports that over a third of convicted offenders in 1996 were drinking at the time of their offense (1998). The evidence is less clear, however, that heavy alcohol use 'causes' individuals to commit crime, for example by increasing aggression, lowering inhibition, or altering perceptions of acceptable behavior; the association could be attributable to some unobserved third factor such as risk preference. The passage of "Zero Tolerance" (ZT) laws substantially lowers the legal blood alcohol content (BAC) limit for underage drivers. Previous research has shown that these tougher laws reduced heavy episodic drinking by young men age 18-20 but had no effect on slightly older males age 22-24. The research reported here focuses on nuisance crimes such as vandalism, public drunkenness, and disorderly conduct; evidence suggests that these socially costly crimes may be particularly sensitive to heavy alcohol use. Zero tolerance laws alter the age structure of arrests for driving under the influence. DUI arrests of 18-20 year old males increased relative to those for older males on the order of 4 percent. Results also indicate that ZT laws reduced arrests of young men in the targeted age group for alcohol-related offenses such as public drunkenness and disorderly conduct, as well as the nuisance crime of vandalism. Overall, these results provide novel and new evidence consistent with a causal role for heavy alcohol use in the commission of nuisance crime by youths. Copyright 2005, American Economic Association.

#### **Revoke first, ask questions later: Challenging Minnesota's unconstitutional pre-hearing revocation scheme.**

Sheridan JS; Booth EBB. *William Mitchell Law Review* 31(4): 1461-1486, 2005. (247 legal refs.)

This article addresses revocation of driver's license in Minnesota via the process of "implied consent." Both the United States and Minnesota Constitutions prohibit

the deprivation of life, liberty, or property at the hands of the government without due process of law. (Courts have recognized that driving is not a right, but does constitute an important property interest.) The analysis of the constitutionality of Minnesota's pre-hearing revocation scheme begins by explaining the mechanics of Minnesota's implied consent statute. In brief, if a driver refuses to take an implied consent test and the peace officer certifies "that there existed probable cause to believe the person had been driving, operating, or in physical control of a motor vehicle ..." while impaired, the individual's driver's license is revoked for one year. In a case known as *Heddan*, the Minnesota Supreme Court noted that approximately 33,000 licenses were revoked under the implied consent law in 1981. In the case discussed here, the issue considered was whether Minnesota's implied consent law violates the constitutional guarantees of due process of law. This analysis begins by explaining the mechanics of Minnesota's implied consent statute. Because the United States Supreme Court has established minimum procedural due process protections that must be afforded drivers, this backdrop is examined. After considering the federal standards for procedural due process, the numerous changes to Minnesota's implied consent statute are addressed. Next, the current challenge is described, including the factual basis for the challenge, the arguments for the statute's unconstitutionality, and the district court's decision. Finally, the note concludes that, given the dramatic increase in the private interest at stake and the complete lack of any procedural due process protections, Minnesota's current pre-hearing revocation scheme is unconstitutional. Copyright 2005, William Mitchell Law Review, Inc.

**Relation between blood- and urine-amphetamine concentrations in impaired drivers as influenced by urinary pH and creatinine.**

Jones AW; Karlsson L. *Human and Experimental Toxicology* 24(12): 615-622, 2005. (15 refs.)

Amphetamine undergoes extensive renal excretion and significant amounts are present in urine as the unchanged parent drug. This prompted us to investigate whether a quantitative relationship existed between blood and urine concentrations of amphetamine in the body fluids of drug-impaired drivers apprehended in Sweden, where this stimulant is the major drug of abuse. The relationship between

blood and urine concentrations of amphetamine was determined by multivariate analysis with urinary pH and creatinine as predictor variables. Amphetamine was determined in blood and urine by gas chromatography-mass spectrometry with deuterium-labelled internal standards. The concentration of amphetamine in urine was about 200 times greater than the concentration in blood; the mean and median urine/blood ratios were 214 and 160, respectively, with large individual variations. The Pearson correlation coefficient between urine (y) and blood (x) amphetamine was  $r = 0.53$ ,  $n = 48$ , which was statistically highly significant ( $P < 0.001$ ), although the residual standard deviation (SD) was large ( $\pm 181$  mg/L). The correlation coefficient increased ( $r = 0.60$ ) when the concentration of amphetamine in urine was normalized for dilution by dividing with the creatinine content. When urinary pH and creatinine were both included as predictor variables, the correlation coefficient was even higher ( $r = 0.69$ ), now explaining 48% ( $r^2 = 0.48$ ) of the variation in urine-amphetamine concentration. However, the partial regression coefficient for creatinine ( $53 \pm 28.7$ ) was not statistically significant ( $t = 1.85$ ,  $P > 0.05$ ), whereas the corresponding regression coefficient for pH was highly significant and had a negative sign ( $-102 \pm 32.6$ ,  $t = -3.12$ ,  $P < 0.005$ ). Other factors could impact on the urine-blood amphetamine relationship, such as route of administration, pattern of voiding and time elapsed after use of the drug. Copyright 2005, Hodder Arnold, Hodder Headline PLC.

**Maas v. Department of Commerce and Regulation: Why can't South Dakota curb repeat offenses of driving under the influence?**

Connolly JR. *South Dakota Law Review* 50: 352-373, 2005. (191 legal refs.)

The focus of this article is on how South Dakota has failed to keep up with other states in curbing repeat offenses of drunk driving. First, an account of the facts surrounding Maas's arrest are provided. This is followed by a history of DUI laws in South Dakota, a detailed examination of three relevant statutes, and the South Dakota Supreme Court's history of resolving conflicts between specific and general statutes. A review of South Dakota's current drunk driving laws as well as a discussion of the efforts of South Dakota, Minnesota, and Maine in reducing drunk driving are noted. Copyright 2005, South Dakota Law Review.