

**Anesthesia-assisted vs buprenorphine- or clonidine-assisted heroin detoxification and naltrexone induction: A randomized trial.**

Collins ED; Kleber HD; Whittington RA; Heitler NE. *Journal of the American Medical Association* 294(8): 903-913, 2005. (71 refs.)

Context: Rapid opioid detoxification with opioid antagonist induction using general anesthesia has emerged as an expensive, potentially dangerous, unproven approach to treat opioid dependence. Objective To determine how anesthesia-assisted detoxification with rapid antagonist induction for heroin dependence compared with 2 alternative detoxification and antagonist induction methods. Design, Setting, and Patients: A total of 106 treatment-seeking heroin-dependent patients, aged 21 through 50 years, were randomly assigned to 1 of 3 inpatient withdrawal treatments over 72 hours followed by 12 weeks of outpatient naltrexone maintenance with relapse prevention psychotherapy. This randomized trial was conducted between 2000 and 2003 at Columbia University Medical Center's Clinical Research Center. Outpatient treatment occurred at the Columbia University research service for substance use disorders. Patients were included if they had an American Society of Anesthesiologists physical status of I or II, were without major comorbid psychiatric illness, and were not dependent on other drugs or alcohol. Interventions Anesthesia-assisted rapid opioid detoxification with naltrexone induction, buprenorphine-assisted rapid opioid detoxification with naltrexone induction, and clonidine-assisted opioid detoxification with delayed naltrexone induction. Main Outcome Measures: Withdrawal severity scores on objective and subjective scales; proportions of patients receiving naltrexone, completing inpatient detoxification, and retained in treatment; proportion of opioid-positive urine specimens. Results Mean withdrawal severities were comparable across the 3 treatments. Compared with clonidine-assisted detoxification, the anesthesia- and buprenorphine-assisted detoxification interventions had significantly greater rates of naltrexone induction (94% anesthesia, 97% buprenorphine, and 21 % clonidine), but the groups did not differ in rates of completion of inpatient detoxification. Treatment retention over 12 weeks was

not significantly different among groups with 7 of 35 (20%) retained in the anesthesia-assisted group, 9 of 37 (24%) in the buprenorphine-assisted group, and 3 of 34 (9%) in the clonidine-assisted group. Induction with 50 mg of naltrexone significantly reduced the risk of dropping out (odds ratio, 0.28; 95% confidence interval, 0.15-0.51). There were no significant group differences in proportions of opioid-positive urine specimens. The anesthesia procedure was associated with 3 potentially life-threatening adverse events. Conclusion: These data do not support the use of general anesthesia for heroin detoxification and rapid opioid antagonist induction. Copyright 2005, American Medical Association.

**Acute ethanol intoxication after consumption of hairspray.**

Carnahan RM; Kutscher EC; Obritsch MD; Rasmussen LD. *Pharmacotherapy* 25(11): 1646-1650, 2005. (13 refs.)

A 61-year-old woman with a history of alcohol dependence came to the emergency department with ethanol intoxication. Her serum ethanol concentration was 322 mg/dl. When questioned, she admitted to consuming a 14-oz bottle of hairspray mixed with water because of its denatured alcohol content. The woman had used nonbeverage sources of alcohol on a regular basis for a number of years after learning of the practice from fellow attendees of Alcoholics Anonymous meetings. Her primary reason for this behavior was to hide her continued alcohol abuse from her family. She consumed hairspray that contained 50% denatured alcohol by volume; the amount she ingested was equal to 7 fluid oz of ethanol, the equivalent of 14 1.25-oz shots of 80-proof liquor. Her serum ethanol concentration was consistent with that predicted by pharmacokinetic equations based on the consumption of one bottle of hairspray. The hairspray product contained specially denatured alcohol 40-B, which consists of ethanol and small quantities of t-butyl alcohol and denatonium benzoate. Ethanol is the substance of primary toxicologic concern. Clinicians need to be aware that numerous nonbeverage sources of alcohol exist and should be considered when a patient presents with acute intoxication. The source and its components should be identified as soon as

possible in order to assess other potential toxicities. Copyright 2005, Pharmacotherapy Publications, Inc.

**Cannabis: Psychosis pathway independent of other types of psychopathology.**

Ferdinand RF; van der Ende J; Bongers I; Selten JP; Huizink A; Verhulst FC. *Schizophrenia Research* 79(2-3): 289-295, 2005. (39 refs.)

Aims: To investigate if associations between cannabis use and psychotic symptoms occur independently, or occur as a consequence of previous-other types of psychopathology. Methods: A 14-year follow-up study of 1580 initially 4- to 16-year-olds who were drawn randomly from the Dutch general population was conducted. At initial assessment, psychopathology was assessed with the Child Behavior Checklist (CBCL). Across the 14-year follow-up period, cannabis use and psychotic symptoms were assessed with the Composite International Diagnostic Interview (CIDI). Because cannabis use is generally condoned in The Netherlands, false-negative reports of cannabis use may occur less frequently than in countries with stricter drug policies, which supports the value of the present study. Results: Survival analyses indicated that the association between cannabis use and psychotic symptoms occurred independently of initial CBCL scores. Conclusions: The link between cannabis use and psychotic symptoms is specific, and does not depend on the earlier presence of other types of psychopathology. This indicates that research aimed at unraveling mechanisms that are responsible for this specific association is useful. Further, given the fact that cannabis use seemed to be a specific risk factor for future psychotic symptoms, prevention aimed against cannabis use may prohibit the onset of psychotic symptoms in vulnerable individuals. Copyright 2005, Elsevier Science BV.

**Fatal methadone intoxication in an infant.**

Couper FJ; Chopra K; Pierre-Louis MLY. *Forensic Science International* 153(1): 71-73, 2005. (5 refs.)

Presented are the case history and toxicological findings of an infant fatality involving methadone. A mother found her 10-month-old infant unresponsive in a crib. The infant was taken to a hospital; however, she was cold and stiff on arrival and was pronounced dead. Few details regarding the case history were known at the time, and the autopsy findings were unremarkable. Specimens were submitted for a full toxicological analysis, including an alcohol analysis by headspace gas chromatography with flame ionization detection; a screen for drugs of abuse and several prescription drug classes using an enzyme-linked immunosorbent assay technique (ELISA); and a screen for basic compounds

using gas chromatography-mass spectrometry (GC-MS). Positive findings were confirmed and quantitated using GC-MS. Methadone was detected in subclavian blood at a concentration of 0.67 mg/L. The cause of death was determined to be "methadone intoxication", and the manner of death was "homicide". A discussion of the case circumstances, the toxicology findings and methadone pharmacokinetics are presented. Copyright 2005, Elsevier Ireland Ltd.

**High-dose methadone maintenance in pregnancy: Maternal and neonatal outcomes.**

McCarthy JJ; Leamon MH; Parr MS; Anania B. *American Journal of Obstetrics and Gynecology* 193(3, Part 1): 606-610, 2005. (25 refs.)

Objective: This study assesses the effect of higher doses of methadone during pregnancy on maternal and fetal outcomes. Study design: We retrospectively reviewed clinical data for 81 mothers who received methadone and their 81 offspring. The cohort was divided into high-dose ( $\geq 100$  mg) and low-dose ( $< 100$  mg) groups. Results: There were no differences in the rate of medication treatment for neonatal abstinence symptoms or days of infant hospitalization between the high-dose (mean, 132 mg) and low-dose (mean, 62 mg) groups. Despite longer histories of opiate abuse, the high-dose group had less illicit drug use at delivery. The whole cohort, which received an average of 101 mg/d, had an 81% rate of negative toxicology screens at delivery. Conclusion: High doses of methadone were not associated with increased risks of neonatal abstinence symptoms but had a positive effect on maternal drug abuse. Arbitrarily limiting methadone dose as a way of minimizing the risks of neonatal abstinence symptoms may be unwarranted. Copyright 2005, Mosby, Inc.

**Cardiovascular toxicities of performance-enhancing substances in sports. (review).**

Dhar R; Stout CW; Link MS; Homoud MK; Weinstock J; Estes NAM. *Mayo Clinic Proceedings* 80(10): 1307-1315, 2005. (91 refs.)

Athletes commonly use drugs and dietary supplements to improve athletic performance or to assist with weight loss. Some of these substances are obtainable by prescription or by illegal means; others are marketed as supplements, vitamins, or minerals. Nutritional supplements are protected from Food and Drug Administration regulation by the 1994 US Dietary Supplement Health and Education Act, and manufacturers are not required to demonstrate proof of efficacy or safety. Furthermore, the Food and Drug Administration lacks a regulatory body to evaluate such products for purity. Existing scientific data,

which consist of case reports and clinical observations, describe serious cardiovascular adverse effects from use of performance-enhancing substances, including sudden death. Although mounting evidence led to the recent ban of ephedra (ma huang), other performance-enhancing substances continue to be used frequently at all levels, from elementary school children to professional athletes. Thus, although the potential for cardiovascular injury is great, few appropriately designed studies have been conducted to assess the benefits and risks of using performance-enhancing substances. We performed an exhaustive OVID MEDLINE search to identify all existing scientific data, review articles, case reports, and clinical observations that address this subject. In this review, we examine the current evidence regarding cardiovascular risk for persons using anabolic-androgenic steroids including 2 synthetic substances, tetrahydrogestrinone and androstenedione (andro), stimulants such as ephedra, and nonsteroidal agents such as recombinant human erythropoietin, human growth hormone, creatine, and beta-hydroxy-beta-methylbutyrate. Copyright 2005, Mayo Clinic .

#### **Naloxone in opioid poisoning: Walking the tightrope. (review).**

Clarke SFJ; Dargan PI; Jones AL. *Emergency Medicine Journal* 22(9): 612-616, 2005. (81 refs.)

Acute opioid intoxication and overdose are common causes of presentation to emergency departments. Although naloxone, a pure opioid antagonist, has been available for many years, there is still confusion over the appropriate dose and route of administration. This article looks at the reasons for this uncertainty and undertakes a literature review from which a treatment algorithm is presented. Copyright 2005, BMJ Publishing.

#### **Prevalence and risk factors of syphilis infection among drug addicts.**

Scherbaum N; Baune BT; Mikolajczyk R; Kuhlmann T; Reymann G; Reker M. *BMC Infectious Diseases* 5: Article 33, 2005. (20 refs.)

Background: Recent epidemiological data show an increased trend of official estimates for syphilis infection in the general population. Many of the infected cases remain undetected leaving an underestimation of the true prevalence of syphilis in the general population, but also among subpopulations such as illicit drug users. There is limited epidemiological data published on the proportion and risk factors of syphilis infections associated with illicit drug abuse. Methods: Illicit drug addicts (n = 1223) in inpatient units in Germany were screened (2000-01) for syphilis and interviewed regarding patterns of drug

use and sexual behaviour. TPHA-test for initial screening and FTA-ABS-IgM test in TPHA-positive patients were used. Results: In total, TPHA-tests were positive in 39 (3.3%) and 7 patients (0.6%) were IgM positive. The prevalence rate for syphilis in males was 1.9% and for women it was 8.5%. Female patients were 4.56 (CI 95% 2.37-8.78) times more likely to have a positive TPHA test than males. Sexual behaviours such as high number of sexual partners, sex for drugs/money, sex on the first day were associated with syphilis infection only in women. Females with frequent sex for drugs or money had 4.31 (CI 95% 2.32-8.52) times more likely a reactive TPHA test than remaining patients. Neither the sociodemographic factors nor sexual behaviour were statistically significant associated with syphilis infection among men at all. Conclusion: Our data suggest the need for screening for syphilis among these illicit drug users in inpatient settings, in particular among sexual active women. This conclusion is corroborated by the finding of increasing numbers of syphilis infections in the general population. The identification of syphilis cases among drug addicts would give treatment options to these individuals and would help to reduce the spread of infection in this population, but also a spread into heterosexual populations related to prostitution. Copyright 2005, Biomedical Central Ltd.

#### **Reasoning deficits in ecstasy (MDMA) polydrug users.**

Fisk JE; Montgomery C; Wareing M; Murphy PN. *Psychopharmacology* 181(3): 550-559, 2005. (43 refs.)

Objectives: Research has shown ecstasy users are impaired in thinking and reasoning. The present study sought to explore the possibility that syllogistic reasoning errors in ecstasy users were due to an inability to construct a model of the premises due to working memory limitations. Methods: Twenty-nine ecstasy users and 25 nonuser completed abstract syllogistic reasoning problems. Pairs of premises were provided, and participants were required to generate conclusions that followed from them. Results: On easier problems, both groups performed well above chance although nonusers had significantly more correct responses. On the more difficult problems, errors by nonusers were characterised by incorrect conclusions suggesting that while nonusers have the working memory capacity to construct a single model of the premises, this is not an exhaustive representation and usually results in an erroneous conclusion. On the other hand, for all problem types, ecstasy users, rather than produce incorrect responses, were more likely to fail to generate a conclusion.

Conclusions: The present results are consistent with the possibility that ecstasy users with their reduced working memory capacity may experience difficulty in constructing even a single model of the premises. While this might be attributable to effects of 3,4-methylenedioxymethamphetamine neurotoxicity, many of the ecstasy users in the present study were polydrug users. Thus, possibility other drugs including cannabis and cocaine might contribute to the present results cannot be excluded. Copyright 2005, Springer.

**The severity of toxic reactions to ephedra: Comparisons to other botanical products and national trends from 1993-2002.**

Woolf AD; Watson WA; Smolinske S; Litovitz T. *Clinical Toxicology* 43(5): 347-355, 2005. (53 refs.) Objective. Ephedra is a botanical product widely used to enhance alertness, as a weight loss aide, and as a decongestant. Its reported adverse effects led the Food and Drug Administration (FDA) to ban ephedra-containing products in the United States in 2004. This study's purpose was to compare toxicity from botanical products containing ephedra to nonephedra products. Methods. The Toxic Exposure Surveillance System (TESS), a national poison center database, was utilized to determine the number and outcomes of cases involving botanical products reported from 1993-2002. Cases listing both a botanical product and any other drugs or chemicals were excluded a priori. Ten-year hazard rates (moderate outcomes + major outcomes + deaths per 1000 exposures) were used to compare botanical product categories. Results. There were 21,533 toxic exposures with definitive medical outcomes reported over the 10 yrs where a botanical product was the only substance involved. Of these, 4,306 (19.9%) had moderate or major medical outcomes and there were two deaths, for an overall hazard score of 200 per 1000 exposures. The number of ephedra reports to poison centers increased 150-fold over the 10-yr period. The hazard rate for products that contained only ephedra was 250 per 1000 exposures and 267 per 1000 exposures for products that contained ephedra and additional ingredients; whereas the hazard score for only nonephedra botanical products was 96 per 1000 exposures. The rate ratios for multibotanical products with ephedra (RR 1.33; 95% C.I. 1.27-1.40) and for single-ingredient ephedra products (RR 1.25; 95% C.I. 1.11-1.40) were both two to six times higher than those of other common botanical products. Yohimbe-containing products had the highest hazard score. Conclusion. Ephedra-containing botanical products account for a significant

number of toxic exposures with severe medical outcomes reported to poison centers. Hazard rate analysis suggests poison center-reported events involving ephedra-containing botanical products were much more likely to result in severe medical outcomes than those involving nonephedra-containing botanical products. These data support recommendations by policymakers that the sale of ephedra should be prohibited to protect consumers. Our data suggest that the botanical product, yohimbe, may also be associated with unacceptably high risks of toxicity and should receive close scrutiny from health policymakers. Copyright 2005, Taylor & Francis, Inc.

**Time for tea, anyone?**

Turner M; McCrory P; Johnston A. *British Journal of Sports Medicine* 39(10): e37, 2005. (2 refs.)

There have been suggestions that urine samples positive for benzoylecognine, the diagnostic metabolite of cocaine, may be the result of consumption Mate de Coca, a commercially available tea made from coca (Erythroxyton coca) leaves. The Jockey Club in Great Britain commissioned research into this subject as several jockeys have tested positive for benzoylecognine over the past few years. Urine samples collected at various time points within 24 h after ingestion of a 250 ml infusion of Mate de Coca tea were analysed using three different methods. All samples tested positive for benzoylecognine. Copyright 2005, BMJ Publishing Group.

**Topiramate prevents ecstasy consumption: A case report.**

Akhondzadeh S; Hampa AD. *Fundamental & Clinical Pharmacology* 19(5): 601-602, 2005. (8 refs.)

The case of an ecstasy consumer, who started to discontinue ecstasy under topiramate treatment is presented here. Ecstasy includes several substances, with similar effects, the best-known one being 3,4-methylenedioxymethamphetamine (MDMA). The psychopathological sequelae in humans are relatively poorly understood. Treatment is complicated by the lack of documented studies. Topiramate is an anti-epileptic drug with a broad spectrum of antiseizure effects, appearing to result from several neurostabilizing pharmacological mechanisms including facilitation of GABAergic transmission and inhibition of glutamatergic activity at AMPA/kainate receptors, both of which appear to be important modulators of the brain reward system, thus it was postulated that topiramate might be an effective treatment for reducing MDMA consumption through the attenuation of MDMA-induced. Copyright 2005, Blackwell.