

Acute poisoning: Understanding 90% of cases in a nutshell. (review).

Greene SL; Dargan PI; Jones AL. *Postgraduate Medical Journal* 81(954): 204-216, 2005. (203 refs.)

The acutely poisoned patient remains a common problem facing doctors working in acute medicine in the United Kingdom and worldwide. This review examines the initial management of the acutely poisoned patient. Aspects of general management are reviewed including immediate interventions, investigations, gastrointestinal decontamination techniques, use of antidotes, methods to increase poison elimination, and psychological assessment. More common and serious poisonings caused by paracetamol, salicylates, opioids, tricyclic antidepressants, selective serotonin reuptake inhibitors, benzodiazepines, non-steroidal anti-inflammatory drugs, and cocaine are discussed in detail. Specific aspects of common paediatric poisonings are reviewed. Copyright 2005, Fellowship of Postgraduate Medicine.

Are maternal smoking and stress during pregnancy related to ADHD symptoms in children?

Rodriguez A; Bohlin G. *Journal of Child Psychology and Psychiatry* 46(3): 246-254, 2005. (70 refs.)

Background: There are some indications that maternal lifestyle during pregnancy (smoking and stress) contributes to symptoms of ADHD in children. We prospectively studied whether prenatal exposure to maternal smoking and/or stress is associated with ADHD symptoms and diagnostic criteria (according to DSM-IV) in 7-year-olds. Methods: Nulliparous Scandinavian women were consecutively recruited at their first prenatal health care visit and assessments of smoking and stress were collected at gestational weeks 10, 12, 20, 28, 32, and 36. Children were followed up at 7 years old. We obtained full data for 72% of the sample: ADHD symptoms were rated by 74% of mothers (n = 290) and 96% of eligible teachers (n = 208). Attrition analyses showed no differences on key variables between participants and non-participants at follow-up. Results: Results of multiple regression analyses showed prenatal exposure to smoking (beta = .16, p < .01) and stress (beta = .18, p < .01) were independently associated with later symptoms of ADHD. Results: of logistic regression analyses

showed that fulfillment of the diagnostic criteria for ADHD was related to exposure to prenatal stress (beta = .68, p < .01) especially in boys. The results were not confounded by sociodemographic factors or birth outcomes. Conclusions: This study provides evidence that prenatal exposure to stress and smoking is independently associated with later symptoms of ADHD in human children, particularly for boys. Because stress and smoking are relatively common during pregnancy, and yet preventable, these results are of public health significance. Copyright 2005, Blackwell Publishing Co.

Association of ambulatory blood pressure and dietary caffeine in adolescents.

Savoca MR; MacKey ML; Evans CD; Wilson M; Ludwig DA; Harshfield GA. *American Journal of Hypertension* 18(1): 116-120, 2005. (17 refs.)

Background: Although relatively little is known about the responsible factors, there is an increased prevalence of essential hypertension in youth. Our previous research using casual blood pressure (BP) suggests a role for caffeine intake. The objective of this study was to assess the association between caffeine intake and ambulatory BP patterns among adolescents and to replicate our previous findings that compared caffeine intake to BP values obtained at a single time point. Methods: Eighty-two African-American and non-Hispanic white adolescents (15 to 19 years old) with normal systolic BP selected foods and beverages for a 4-day sodium-controlled diet. Subjects were stratified into three groups based on the amount of caffeine in these foods. Ambulatory BP measures (24-h) were recorded during 1 day of the 4-day diet. The effects of ethnicity, caffeine, and the interaction of ethnicity and caffeine on BP were assessed for daytime and nighttime hours controlling for gender and body mass index. Results: The level of dietary caffeine was positively associated with daytime systolic BP (F-2,F-76 = 3.1, P = .05, partial R-2 = 0.07) and daytime diastolic BP (F = 3.53(2,76), P = .03, partial R-2 = 0.07). Caffeine's effect on systolic BP was most pronounced for African-American subjects. These results replicated our earlier findings. There was no association between caffeine intake and nighttime BP. Conclusions: This investiga-

tion replicates and extends our previous Findings: that caffeine consumption impacts the BP of adolescents, during the daytime when sympathetic nervous system responses dominate BP control. Controlled studies that examine the pressor effects of caffeine intake at levels typical of the dietary patterns of today's adolescents are needed. Copyright 2005, Elsevier Science, Inc.

Effects of prenatal alcohol exposure on attention and working memory at 7.5 years of age.

Burden MJ; Jacobson SW; Sokol RJ; Jacobson JL. *Alcoholism: Clinical and Experimental Research* 29(3): 443-452, 2005. (50 refs.)

Background: A broad range of attentional and neuropsychological impairments have been demonstrated in children with fetal alcohol exposure. This study was designed to investigate which specific aspects of attentional function are most directly affected by moderate to heavy doses of prenatal alcohol exposure. Methods: A total of 337 black children who were aged 7.5 years and recruited prospectively to over-represent prenatal alcohol exposure at moderate to heavy levels were assessed on a diverse battery of neuropsychological tests. Principal components analyses were used to replicate and extend Mirsky et al.'s (1991) four-component model of attention. The relation of prenatal alcohol exposure to empirically derived attentional constructs was examined. Results: Both the replicated and the extended attentional models produced solutions similar to the original Mirsky et al. model, reflecting elements of encode (working memory), shift, and focused and sustained attention, as well as a distinct component reflecting impulsivity. Adverse effects of maternal drinking across pregnancy were found primarily for working memory, and these effects were exacerbated when mothers were aged 30 or older at the time of the child's birth. Conclusions: These data confirm previous studies using diverse methods that suggest that working memory may be the most important aspect of attention that is adversely affected by prenatal alcohol exposure. Copyright 2005, Research Society on Alcoholism.

Effects of prenatal cigarette and marijuana exposure on drug use among offspring.

Porath AJ; Fried PA. *Neurotoxicology and Teratology* 27(2): 267-277, 2005. (41 refs.)

The present study investigated whether maternal cigarette smoking and marijuana use during pregnancy were associated with an increased risk of initiation and daily/regular use of such substances among one hundred fifty-two 16- to 21-year-old adolescent

offspring. The participants were from a low risk, predominately middle-class sample participating in an ongoing, longitudinal study. Findings indicated that offspring whose mothers reported smoking cigarettes during their pregnancy were more than twice as likely to have initiated cigarette smoking during adolescence than offspring of mothers who reported no smoking while pregnant. Offspring of mothers who reported using marijuana during pregnancy were at increased risk for both subsequent initiation of cigarette smoking (OR=2.58) and marijuana use (OR=2.76), as well as daily cigarette smoking (OR=2.36), as compared to offspring of whose mothers did not report using marijuana while pregnant. There was also evidence indicating that dose-response relationships existed between prenatal exposure to marijuana and offspring's use of cigarettes and marijuana. These associations were found to be more pronounced for males than females, and remained after consideration of potential confounds. Such results suggest that maternal cigarette smoking and marijuana use during pregnancy are risk factors for later smoking and marijuana use among adolescent offspring, and add to the weight of evidence that can be used in support of programs aimed at drug use prevention and cessation among women during pregnancy. Copyright 2005, Elsevier Science.

Developmental differences in childhood motor coordination predict adult alcohol dependence: Proposed role for the cerebellum in alcoholism.

Manzardo AM; Penick EC; Knop J; Nickel EJ; Hall S; Jensen P. *Alcoholism: Clinical and Experimental Research* 29(3): 353-357, 2005. (41 refs.)

Background: The Danish Longitudinal Study of Alcoholism has identified a number of early biological indicators that predicted alcohol dependence 30 years later. In light of recent evidence linking deficits of the cerebellum to certain neuropsychiatric disorders often comorbid with alcoholism, we hypothesized that developmental deficits in the cerebellar vermis may also play a role in the initiation of adult alcohol dependence. The present study evaluated whether measures of motor development in the first year of life predict alcohol dependence three decades later. Methods: A total of 241 subjects of the original 330 infants who were entered into this study completed the 30-year follow-up (12 had died). The subjects were men who were drawn from a large birth cohort born in Copenhagen, Denmark, from 1959 to 1961. A comprehensive series of measures were obtained on each subject before, during, and shortly after birth as well as at 1 year of age. Muscle tone at birth and day 5

as well as 1-year measures of motor coordination-age to sitting, standing, and walking-were examined. A DSM-III-R diagnosis of alcohol dependence and a measure of lifetime problem drinking served as the 30-year outcome variables. Results: Several measures of childhood motor development significantly predicted alcohol dependence at 30 years of age. These included deficits in muscle tone 5 days after birth, delays in the age to sitting, and delays in the age to walking. Conclusions: Relationships found between adult alcoholism and early delays in motor development offer support for the theory that cerebellar deficits may play a causal role in the addiction process. Copyright 2005, Research Society on Alcoholism.

Neurocognitive consequences of marihuana: A comparison with pre-drug performance.

Fried PA; Watkinson B; Gray R. *Neurotoxicology and Teratology* 27(2): 231-239, 2005. (49 refs.)

In determining the effects of regular marihuana use on neurocognition, abilities within specific relevant cognitive domains prior to regular drug use have not been available. The present study examined effects of current and past regular use of marihuana in subjects for whom predrug performance had been ascertained in a prospective, longitudinal fashion. A total of 113 young adults, assessed since infancy, were evaluated using neurocognitive tests for which commensurate measures were obtained prior to the initiation of marihuana smoking. Marihuana users, determined by urinalysis and self-report, were categorized as light (< 5 joints per week) and heavy (\geq 5 joints per week) current users and former users, the latter having used the drug regularly in the past (\geq 1 joint per week) but not for at least 3 months. A third of the subjects were using marihuana on a regular basis at the time of assessment with half being heavy users. Among former, regular users, approximately half had been smoking 5 or more joints per week. Overall IQ, memory, processing speed, vocabulary, attention, and abstract reasoning were assessed. After accounting for potentially confounding factors and pre-drug performance in the appropriate cognitive domain, current regular heavy users did significantly worse than non-users in overall IQ, processing speed, immediate, and delayed memory. In contrast, the former marihuana smokers did not show any cognitive impairments. It was concluded that residual marihuana effects are evident beyond the acute intoxication period in current heavy users after taking into account pre-drug performance but similar deficits are no longer apparent 3 months after cessation of regular use, even among former heavy using young adults. Copyright 2005, Elsevier Science.

Fetal alcohol spectrum disorder: Canadian guidelines for diagnosis.

Chudley AE; Conry J; Cook LL; Looock C; Rosales T; LeBlanc N. *Canadian Medical Association Journal* 172(5 Supplement S): S1-S21, 2005. (53 refs.)

The diagnosis of fetal alcohol spectrum disorder (FASD) is complex and guidelines are warranted. A subcommittee of the Public Health Agency of Canada's National Advisory Committee on Fetal Alcohol Spectrum Disorder reviewed, analysed and integrated current approaches to diagnosis to reach agreement on a standard in Canada. The purpose of this paper is to review and clarify the use of current diagnostic systems and make recommendations on their application for diagnosis of FASD-related disabilities in people of all ages. The guidelines are based on widespread consultation of expert practitioners and partners in the field. The guidelines have been organized into 7 categories: screening and referral; the physical examination and differential diagnosis; the neurobehavioural assessment; and treatment and follow-up; maternal alcohol history in pregnancy; diagnostic criteria for fetal alcohol syndrome (FAS), partial FAS and alcohol-related neurodevelopmental disorder; and harmonization of Institute of Medicine and 4-Digit Diagnostic Code approaches. The diagnosis requires a comprehensive history and physical and neurobehavioural assessments; a multidisciplinary approach is necessary. These are the first Canadian guidelines for the diagnosis of FAS and its related disabilities, developed by broad-based consultation among experts in diagnosis. Copyright 2005, Canadian Medical Association.

Seizures reported in association with use of dietary supplements.

Haller CA; Meier KH; Olson KR. *Clinical Toxicology* 43(1): 23-30, 2005. (46 refs.)

Background. Seizures in persons using dietary supplements (DS) have been reported through the Food and Drug Administration's (FDA) MedWatch system, but not formally reviewed. Methods. Sixty-five cases of DS-associated seizures reported to MedWatch from 1993 to 1999 were obtained through the Freedom of Information Act and independently evaluated by three reviewers for probability of causation based on temporal relationship, biological plausibility, and underlying risk factors. Our aims in this review were 1) to assess the probability of causation in each case; 2) to characterize the patterns of use and types of supplements involved in cases of seizures; and 3) to identify trends that may explain potential risks factors for dietary supplement-related

seizures. Results. Twenty seizures were judged as probably related, 13 possibly related, and 10 as unrelated to DS use. Five cases were not seizures, and 17 cases contained insufficient information. In the 20 probably related cases, 19 involved ephedra, 14 involved herbal caffeine, and in one case, the supplement contained no herbal constituents but an array of elemental salts. Ephedra was also associated with 7 of the 13 possibly related cases, and caffeine was contained in 5 of these supplement products. Creatine, St. John's wort, and ginkgo biloba were other DS implicated in possibly related seizure events. Seizures were associated with hypoglycemia in 3 cases, and secondary to stroke in 2 cases and cardiac arrest in 2 cases. Weight loss (45%) and athletic performance enhancement (30%) were the most often cited reasons for supplement use. In most cases, DS use was within manufacturers' guidelines. Conclusion. Ephedra was implicated in 27 of 33 DS-associated seizures reported to the FDA over a 7-year period, further underscoring that significant health risks are associated with use of this herbal product. Copyright 2005, Taylor & Francis, Inc.

The health and psycho-social consequences of ketamine use.

Copeland J; Dillon P. *International Journal of Drug Policy* 16(2): 122-131, 2005. (125 refs.)

Ketamine is a non-competitive NMDA receptor antagonist that acts as a dissociative anaesthetic with analgesic and amnesic properties. Ketamine has broad areas of application and is a rapidly acting, relatively safe analgesic and anaesthetic agent, particularly for children and is widely used in veterinary practice. Ketamine can induce schizophrenic-like symptoms in healthy adults and schizophrenic patients. It has a wide margin of safety and there are very few cases of pure ketamine overdose recorded, with the majority of deaths due to the dangerous activities or contexts of its use. Information on ketamine is not routinely collected in population surveys and morbidity and mortality data collections. Levels of use in the general population, however, appear to be very low with higher levels in groups with access to the drug, medical and veterinarian professionals, and party drug users. There are a number of potential ketamine effects that may be seen as adverse or harmful, with growing evidence of the physical and psychological symptoms of ketamine dependence among recreational ketamine users. A withdrawal syndrome, including psychotic features, is beginning to be described. The use of ketamine with other neurotoxic drugs, such as alcohol, should be

avoided. Increased rates of high risk sexual and injecting behaviours in association with ketamine use, however, have been reported by gay men and marginalised youth in the US. In conclusion, ketamine does not appear to currently pose a significant public health risk, however, at the individual level the usual harm minimisation strategies should be observed. Copyright 2005, Elsevier Science.

Unintentional methadone-related overdose death in New Mexico (USA) and implications for surveillance, 1998-2002.

Shah N; Lathrop SL; Landen MG. *Addiction* 100(2): 176, 2005. (32 refs.)

Aims: To determine death rates from methadone over time, to characterize methadone-related death and to discuss public health surveillance of methadone-related death. Design: We analyzed medical examiner data for all unintentional drug overdose deaths in New Mexico, USA, between 1998 and 2002. Measurements: Age-adjusted death rates for methadone-related death, logistic regression models for likelihood of methadone-related death among all unintentional drug overdose deaths and bivariate comparisons within methadone-related death. Findings: Of 1120 drug overdose deaths during this period, there were 143 (12.8%) methadone-related deaths; the death rate decreased over the time period, averaging 1.6 per 100000. Of 143 methadone-related deaths, 22.4% were due to methadone alone, 23.8% were due to methadone/prescription drugs (no illicit drugs), 50.3% were due to methadone/illicit drugs and 3.5% were due to methadone/ alcohol. These groups were significantly different in demographics, health history and circumstances of death. Of 79 decedents (55.2%) with a known source of methadone, 68 obtained methadone through a physician prescription (31 for methadone maintenance treatment (MMT), 27 for managing pain and 10 had unknown reason for prescription). Conclusions: Methadone-related death rates and the proportion of methadone-related death among all drug overdose deaths decreased in New Mexico from 1998 to 2002. It is important for surveillance of methadone-related death to assess multiple drug causes, not just underlying cause. Also, methadone for pain management must be examined alongside MMT and when possible, methadone co-intoxication should be described in the context of other drugs causing death. Copyright 2005, Society for the Study of Addiction to Alcohol and Other Drugs.