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# Physician's Alcohol NEWSLETTER



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## Animal studies show effects of alcohol on neural tissue

Several animal studies involving the effects of alcohol on neural tissue were reported at the 5th Annual Meeting of the Society for Neuroscience held in New York City November 2-6, 1975. Brief reports from the conference follow:

### Low doses of ethanol depress some central catecholaminergic systems

The effect of acute administration of ethanol on the turnover of brain norepinephrine (NE) and dopamine (DA) was studied in rats by N. G. Bacopoulos, M.D., of the Department of Pharmacology, University of Iowa. In one series of experiments, rats were injected intraventricularly with <sup>3</sup>H-tyrosine. Two hours after ethanol injection, the specific activities of NE and DA in the telencephalon were reduced by 50%. The specific activity of NE in the brain stem was the same in control and ethanol-treated rats. The specific activity of tyrosine and the endogenous levels of NE and DA were not altered by ethanol. The turnover of NE and DA in four brain regions was estimated by inhibiting the synthesis of catecholamines with  $\alpha$ -methyl-p-tyrosine, 15 min. after ethanol or saline injection. During the first two hours of ethanol intoxication the turnover of hypothalamic NE and striatal DA reduced significantly. A slight but nonsignificant decrease of NE turnover was observed in the frontal cortex.

The results indicate that a depression of some central catecholaminergic systems may be associated with the effects of low doses of ethanol.

### Brain areas show differential responses to ethanol

W. R. Klemm, Department of Biology, Texas A&M University, reported studies with rabbits using implanted electrodes to test the hypothesis that ETOH differentially affects neurons in

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## 26th Annual Meeting of American Association for the Study of Liver Diseases

### New work on hepatic proteins, immunologic tests, other advances reported at Liver Disease meeting

Chronic ethanol consumption interferes with the export of proteins from the liver, probably at the level of the microtubular system, and results in hepatic protein accumulation, Enrique Baraona, Maria A. Leo, Stephen A. Borowsky, and Charles S. Lieber of the Bronx VA Hospital and Mount Sinai School of Medicine told the 26th Annual Meeting of the American Association for the Study of Liver Diseases. The meeting was held in Chicago November 4-5, 1975.

### NOBLE NAMED NIAAA DIRECTOR



Ernest P. Noble, M.D., Ph.D., of the University of California at Irvine, has been appointed Director of the National Institute on Alcohol Abuse and Alcoholism. Dr. Noble replaces Dr. Morris Chafetz, who resigned September 1. Dr. Noble's outstanding contributions to alcoholism research, particularly in the effects of ethanol on the brain, have frequently been reported in PAN.

Before his appointment to NIAAA, Dr. Noble was professor in the Department of Psychiatry and Human Behavior at UC, Irvine. He was also professor of psychobiology and pharmacology at the university, and director of neurochemistry at its College of Medicine. In addition, he was a staff psychiatrist at the Orange County Medical Center.

Their research with rats showed that the hepatomegaly that appears after long-term feeding of ethanol results in accumulation of protein that is quantitatively as important as the increase in lipid. The bulk of protein accumulates in the soluble fraction of the cell. Hepatic albumin and transferrin concentrations increase and colchicine-binding protein decreases, thus suggesting an intrahepatic retention of export proteins. The authors suggest that the hitherto unrecognized accumulation of proteins in the liver reveal a potentially important new site of the hepatotoxic action of ethanol.

Brief reports from the meeting follow:

### Immunologic test distinguishes alcoholic from viral hepatitis

A new immunologic test, which can confirm the diagnosis of alcoholic hepatitis without biopsy, was described by T. Chen, N. Kanagasundaram, S. Kakumu, A. Luisada-Opper, and C. M. Leevy of the College of Medicine and Dentistry of New Jersey in Newark. The test can distinguish alcoholic from viral hepatitis and also from other liver conditions such as obstructive jaundice, inactive cirrhosis, and nutritional disorder.

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Dr. Noble received his doctoral degree from Oregon State University in 1955 and his M.D. from Case Western Reserve University in 1962. He has served as consultant to NIAAA and has been closely involved with federal efforts to combat alcoholism. He is chairman of the publication committee of AMSA.

## EDITORIAL

Welcome, Dr. Noble!

The arduous task of selecting a new Director of NIAAA has resulted in a felicitous choice. Mr. James Isbester, the careful, industrious, and highly professional administrator of ADAMHA, has picked someone who has the enthusiastic backing of all devoted to improvement of our knowledge and handling of alcoholism. That man is Dr. Ernest Noble.

Dr. Noble's experience, in the biochemistry and neurochemistry laboratories, in the clinical wards, and among innovative study groups forms a remarkable framework for his new job. He knows radioactive trace studies, cell culture, and microassay techniques; but he also knows how to diagnose and care for people. There are few psychiatrists with such a grounding in the physical aspects of disease.

Perhaps the most significant part of his research experience has been his association with Nobel prize winner Julius Axelrod, whose brilliant research on the chemistry of the function of neurons may provide many keys to unlock the alcohol problem.

To cap these imposing credentials, we find a modest and unassuming man, eager to learn, untouched by bravado, brimming with physical stamina and intellectual vigor.

In addresses before the NIAAA council, and in his appearance at the NCA board in January, he has enunciated a fitting slogan—the motto of his projected tenure—"Excellence with Compassion."

He is faced by a clamoring for cutbacks in funds, for consolidation in all directions, and even for eradication of the concept of the disease and the word "alcoholism." We know he will resist these attacks on sound thinking and sound policy. In all his endeavors, his colleagues of the American Medical Society on Alcoholism stand with him—prepared to move forward in full support of a national leadership which promises to be intelligent, caring, and healing for the alcoholic.

FAS

## Applications open for Rutgers Summer School

The 34th annual session of the Rutgers Summer School of Alcohol Studies will be held June 20-July 9, Ronald L. Lester, Executive Director, has announced. The criteria for admission to the school are: (1) having professional qualifications or (2) being employed in some alcohol problem areas at the time of ap-

## Scholarships available for Rutgers Summer School

A. E. BENNETT SCHOLARSHIP FOR ALCOHOL STUDIES—June 20-July 9, 1976, tuition, room, board at physicians institute, Rutgers Center for Alcohol Studies, New Brunswick, N.J., open to physicians, including medical students. Apply: American Medical Society on Alcoholism, 2 Park Avenue, New York, New York 10016.

## MEETINGS

JANUARY 25-27—Seminar for community educator in drug and alcohol programs. Sponsored by Physician Education Project of The Institute of the Pennsylvania Hospital and the Department of Psychiatry of the University of Pennsylvania Medical School. This is the first of three goal-oriented conferences. The second, for education and training specialists in treatment facilities, will be held FEBRUARY 27-29; the third, for physicians involved in medical education, will be held MARCH 26-28. For information, contact Barbara Y. Hankin, Physician Education Project, 111 North 49th Street, Philadelphia, Pa. 19139.

MARCH 25-29—Third National Drug Abuse Conference, New York City. Information from Dr. Joyce H. Lowinson, National Drug Abuse Conference 1976, 1500 Waters Place, Bronx, New York 10461.

MAY 9-10—"Work in Progress in Alcoholism 2" — Medical-Scientific-NCA/AMSA Session of NCA-National Forum, co-sponsored by AMSA, Shoreham Americana Hotel, Washington, D.C. Information from NCA, 2 Park Avenue, New York, N.Y. 10016.

MAY 12-14—Great Lakes Forum on Primary Prevention, Peek 'N Peak Resort, Clymer, N.Y. Information from Richard W. Loring, Room 204, Medical Arts Building, 225 West 25th Street, Erie, Penn. 16502.

JUNE 7-12—22nd International Institute on the Prevention and Treatment of Alcoholism, Vigo, Spain. Information from ICAA, Case Postale 140, Ch-1001 Lausanne, Switzerland.

plication; and (3) at least two years of continuous sobriety in the case of a recovered alcoholic. Mr. Lester urged that applications be submitted as early as possible. Information and application forms are available from Linda J. Allen, Secretary; Summer School of Alcohol Studies, Rutgers University, New Brunswick, N.J. 08903.

## BOOKS

**Biochemical Pharmacology of Ethanol.** Edited by Edward Majchrowicz. New York and London: Plenum Publishing Corp., 1975.

Prominent contributors discuss a variety of topics, including genetic determinants of alcohol addiction, mammalian liver alcohol dehydrogenases, and effects of alcohol on brain metabolism. A pharmacological comparison between alcohol and marijuana is also presented.

**Alcohol, Drugs and Traffic Safety. Proceedings of the Sixth International Conference on Alcohol, Drugs, and Traffic Safety, Toronto, September 8-13, 1974.** Edited by S. Israelstam and S. Lambert. Toronto: Addiction Research Foundation of Ontario, 1975. 939 pp.

Ninety-three papers on the epidemiology of alcohol and drug-related traffic accidents; pharmacological, physiological, and psychological aspects relevant to driving impairment; analytical aspects; control and prevention; and public education and information.

**The Right to be Different: Deviance and Enforced Therapy.** By Nicholas N. Kittrie. Baltimore: Penguin Books, 1974. 443 pp. \$3.25.

A paperback edition of the 1971 study of legal aspects of enforced therapy of social deviants, including alcoholics.

**The Impaired Physician.** Chicago: American Medical Association, Department of Mental Health, 535 North Dearborn Street, Chicago, Ill. 60610. 54 pp.

An interpretive summary of the AMA Conference on "The Disabled Doctor: Challenge to the Profession," held April 11-12, 1975.

**Is Alcoholism Hereditary?** By Donald Goodwin, M.D. New York: Oxford University Press, 1976.

Intended for general audiences, this book presents both sides of the argument on genetic determinism of alcoholism.

**10th Annual Conference, Association of Halfway House Alcoholism Program of North America, Inc., Hot Springs, Arkansas, June 8-11, 1975.** 89 pp.

Available from Association of Halfway House Alcoholism Programs of North America, Inc., 786 East Seventh Street, St. Paul, Minn. 55106.

**Alcohol Intoxication and Withdrawal Experimental Studies II.** Edited by Milton M. Gross. Vol. 59 in *Advances in Experimental Medicine and Biology*. New York and London: Plenum Publishing Corporation, 1975.

Noted researchers review recent work in human and animal studies, in a companion volume to *Experimental Studies I*.

# More reports from Liver Disease meetings

(Continued from page 1)

ers. The test is based on the recognition of autoantibodies to alcoholic hyalin (AH) which are present in the serum of patients with alcoholic hepatitis.

## High incidence of liver disease found in cases of alcoholic pancreatitis

The incidence of liver disease in patients with alcoholic pancreatitis is similar to that reported in chronic alcoholics without pancreatitis, and higher than previously thought, reported S. K. Dutta, et al. of the Department of Gastroenterology, Baltimore VA Hospital and University of Maryland. All patients with a diagnosis of pancreatitis in the hospital in 1973 and 1974 were reviewed, and all 50 cases with clear documentation were chronic alcoholics. A 16% incidence of histopathological evidence of cirrhosis and 30% incidence of biochemical and clinical evidence of chronic liver disease is much higher than that reported in the literature.

## Hair root analysis shows degree of recovery

A simple hair root analysis can assess the nutritional status of liver diseased patients said E. A. Richman and F. L. Iber of the VA Hospital and University of Maryland. The hair root synthesizes protein rapidly with about 24 hours required for turnover of the germinative matrix. Patients with nearly normal hair roots have recovered more rapidly than those with abnormal hair roots.

## Cell-mediated immunity to alcoholic hyalin can be transferred

Cell-mediated immunity to alcoholic hyalin is specific and transferable; and

measures to improve immunologic reactivity may be helpful in patients with alcoholic hepatitis who exhibit a marked decrease in immune competence, according to N. Kanagasundaram and C. M. Leevy.

## Corticosteroid treatment of active alcoholic liver disease inconclusive

A controlled trial of corticosteroid treatment in 43 patients with active alcoholic liver disease, assigned to groups on the basis of clinical severity and within each group to corticosteroid treatment or placebo therapy for 30-32 days showed that surviving patients (6 died) showed overall improvement with a tendency to more frequent improvement with CS. Preliminary analysis has not yet revealed statistically significant differences between treatments, said W. C. Maddrey et al. of the Johns Hopkins Medical School.

## Brief Reports

- According to S. Matsuzaki and C. S. Lieber of the Bronx VA Hospital and Mount Sinai School of Medicine, the insensitivity of the nonADH pathway to inhibitors of ADH and catalase, the similarity of its Km for ethanol with that of MEO and the activating effect of high ethanol concentrations suggest that the adaptive increase of hepatic ethanol oxidation after chronic ethanol consumption is due to the enhanced activity of MEOS.

- Investigating the mechanism of alcohol inhibition of protein synthesis with guinea pig hearts and rabbit livers, M. Oratz et al. of New York University School of Medicine found that alcohol

interferes with hepatic albumin production but not with cardiac muscle protein synthesis. While acetaldehyde depresses both protein production systems, the polysomes responsible for protein production in these two organs are not disaggregate. A separate mechanism responsible for the alterations in protein production caused by alcohol and acetaldehyde must be postulated.

- Lymphocytes sensitized to alcoholic hyalin are directly cytotoxic and also elaborate factor(s) which kill Chang liver cells, said S. Kakumu and C. M. Leevy of the College of Medicine and Dentistry of New Jersey. Lymphocyte hypersensitivity in alcoholic hepatitis contributes to hepatocyte destruction and may explain progression of the disease despite abstinence and provision of a nutritious diet.

- Alcoholic fatty liver is associated with abnormalities of plasma lipoprotein composition and metabolism, said S. M. Savesin, et al. of the University of Tennessee College of Medicine.

- In alcoholic cirrhosis with chronic fibronolytic activity, a very low grade disseminated intravascular coagulation with an exaggerated fibrinolysis is the probable cause of CFA, said C. Thuot et al. of the University of Montreal.

- Alcohol per se in the absence of irreversible liver disease might be responsible for the abnormalities of fluid and electrolyte metabolism present in alcoholics, said D. H. Van Thiet et al. of the University of Pittsburgh Department of Medicine.

- S. R. Weiss et al, of the University of Miami School of Medicine suggest that changes in the metabolism of hypothalamic releasing factors or pituitary hormones may be involved in the pathogenesis of the endocrine abnormalities observed in alcoholic cirrhosis.

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## 25% of teenagers are problem drinkers

More than a quarter of the nation's teenagers are problem drinkers, according to a national study of 13,000 youths in 450 schools. 28% of the students reported that they were drunk at least four times in the last year or that their drinking got them in trouble with peers or superiors, behavior that constitutes a drinking problem.

The surveyors also found that one-fourth of the 13-year-olds could be classified as moderate drinkers, one who drinks lightly once a week or drinks more heavily on occasion.

The study was conducted for NIAAA by the Research Triangle Institute; the project director was J. Valley Rachal.

# RESEARCH AND REVIEW

## Ethanol lowers arterial oxygen saturation during hypoxia

Ethanol administered to nine fasting, healthy adult male volunteers diminished their respiratory gas exchange, causing lower alveolar and arterial oxygen pressures during normoxia and mild hypoxia. It also reduced arterial oxygen saturation during mild hypoxia. James E. Hansen and John R. Claybaugh, of the Clinical Investigation Service, Tripler Army Medical Center, Honolulu, suggest on the basis of these results that carbohydrates are preferable to ethanol and fats as nutrients during limited oxygen transport situations, such as high-altitude, carbon monoxide exposure, or during heavy exertion, and for patients with cardiovascular or pulmonary disease. (*Aviation, Space, and Environmental Medicine* September 1975, pp. 1123-27.)

## MAST test detects hidden alcoholics in general medical population

A modified MAST screening test for alcoholism detected hidden alcoholics in a population of 100 randomly selected patients in a medical population at the Rochester Medical Hospital. The test was also administered to 100 patients in an alcoholism treatment unit. According to Wendell M. Swenson, Ph.D. and Robert M. Morse, M.D., Department of Psychiatry and Psychology, both groups of patients were equally candid in their responses. However, the patient's spouse tended to be the most valid source of objective assessment of alcoholism. (*Mayo Clin. Proc.*, April 1975, Vol. 50, pp. 204-08.)

## Propranolol reduces tremor in alcoholic withdrawal

Intravenous propranolol administered to four chronic alcoholics in severe withdrawal reduced tremor size and frequency—in one subject tremor size fell by 95% in 30 min. For all subjects the initial small dose of intravenous propranolol produced the largest decrease in tremor, while subsequent injections were found to be correspondingly less effective. Duane H. Zilm, et al., of the Clinical Institute of the Alcohol and Drug Addiction Research Foundation, Toronto, suggests that the action of propranolol may blockade the peripheral beta-receptors. (*Annals of Internal Medicine*, Vol. 83, No. 2, August 1975, pp. 234-35.)

## Nine-year-old suffers from DT's

A nine-year-old American Indian boy was admitted to the emergency room of a small New Mexico hospital suffering from symptoms which on later investigation turned out to be DT's. Living only with his alcoholic father, he had been a steady drinker for three years, and his youth may have made him more susceptible to this reaction, not commonly seen in adults with a short drinking history. Duane Sherwin, M.D., and Beverly Mead, M.D. of the Department of Psychiatry, Creighton University School of Medicine, Omaha, Nebraska, who reported the case, suggest that the use of alcohol by children is more common than most physicians realize. (*American Journal of Psychiatry*, Vol. 132, No. 11, November 1975, pp. 1210-12.)

## Disulfiram hepatotoxicity

Howard J. Eisen, M.D. and Allen L. Ginsberg, M.D., George Washington University School of Medicine, report a case of a patient who had two episodes of severe hepatic dysfunction after two separate exposures to disulfiram. Viral causes seem unlikely. Such reactions may be extremely rare or, the authors suggest, drug-related hepatic disease may have been overlooked because of the high prevalence of alcoholic liver disease in the population treated with disulfiram. (*Annals of Internal Medicine*, Vol. 83, No. 5, November 1975, pp. 673-75.)

## Surgeon counsels alcoholics after life-saving operation

Dr. Marshall J. Orloff, chairman of surgery at the University of California at San Diego, has developed a strong personal counseling program as part of the medical management of cirrhotic patients recovering from surgery for ruptured esophageal varices. According to Dr. Orloff, the bond between a patient and the surgeon can link them as a team to combat drinking more effectively than conventional rehabilitation methods. If a patient fails to keep a scheduled appointment, he is phoned by a full-time secretary whose sole responsibility is follow-up. If that is not successful, the surgeon will visit the patient's home and track him down. The persistent efforts have shown good results. (*Medical World News*, October 20, 1975, pp. 31-32.)

## Case study of fetal alcohol syndrome reported in Ireland



The case of D.B., an eight-month-old baby boy with symptoms of fetal alcohol syndrome has been reported by R.G.G. Barry and S. O'Nuallain of St. Finbarr's Hospital, Cork. The photograph shows a hairy forehead, heavy eyebrows, epicanthic folds, anteverted nostrils, and visible tongue. D.B.'s mother is a chronic alcoholic.

## British GP's unaware of alcohol problems

General practitioners in the city of Manchester, England, probably have little idea of the number of alcoholics or problem drinkers in their practice, according to Rodney H. Wilkins, and D. B. Hore, of the Alcoholism Treatment Unit of Springfield Hospital in Manchester. They conducted a survey among 192 general practitioners who had referred at least one case of alcoholism to the Regional Alcohol Treatment Unit and asked them how many patients they regarded as problem drinkers or addicts in the light of given definitions. The overall response rate was low, and only a small number of general practitioners was willing to estimate the number of alcoholics in their practice.

## Impact of alcohol differs on alcoholics and nonalcoholics

Alcohol seems to have a sedating effect on nonalcoholics, whereas on alcoholics the effect is one of euphoria, said Dirk Revenstorff, et al. of the Max-Planck Institut für Psychiatrie, in discussing the determinants and criteria of problem drinking and alcoholism. People who prefer hard liquor in large quantities also suffer from loneliness. Certain ways of life seem to facilitate heavy drinking, for instance, passive use of leisure. The study sample consisted of 110 working- and middle-class men and women and 150 hospitalized alcoholics.

## Islam and alcoholism do not mix, Arab speakers declare

Islam successfully stamped out alcoholism among Muslims in the 7th century by a combination of effective religious and social sanctions and by gradual social change, claimed speakers at the International Council on Alcohol and Addictions held November 29-December 5, 1975, at Bahrain, in the Arabian Gulf. The conference was co-sponsored by the International Council on Alcohol and Addictions and the Pan Arab Organization of Social Defense (Cairo) and the Ministry of Health, Bahrain.

Dr. Malik Badri of the University of Riyadh, Saudi Arabia, noted that a revolutionary change in attitude toward *Khamr* (all intoxicating materials) was effected in a group of people in whom alcoholism and excessive drinking had become an established tradition and a psychological necessity. Punishment and further treatment were the basis of the Islamic therapy. Dr. Gamal Mady Abul Azayem, Secretary General of the Egyptian Association for Mental Health, said that legal prohibition came as a final stage after prohibition by example and by persuasion. However, alcohol and drug dependence today is a problem in Muslim countries.

### Experimental program has long-term impact on skid-row alcoholics

Skid-row alcoholics who were assigned to treatment in a three-week hospital-based experimental program showed a more significant change in alcoholic behavior at 15-month follow-up than did alcoholics assigned to conventional treatment in another facility. However, at 5- and 10-month follow-ups, the experimental program was inferior on this factor. The study was conducted by Allan Wilson, John White, and Donald E. Lange, Department of Psychiatry, University of Manitoba. Only the alcoholic behavior factor was found to be a significant measure of difference between the two types of treatment. The clinical judgments of psychiatrists, nurses and social workers were found to be poor predictors of post-treatment prognosis.

### Alcoholism mortality higher in wet counties of North Carolina

The alcoholism mortality rate in the "wet" counties of North Carolina, where alcoholic beverages are legally available, is double that in the "dry" counties, according to a study by Kathryn Magruder, M.P.H., Director of Research and Evaluation, Sandhills Mental Health Center, Pinehurst, N.C. However, a causal connection between alcohol mortality and

## Further reports from Neuroscience meeting

(Continued from page 1)

specific brain regions. Tentative results support the hypothesis. Some brain areas were relatively insensitive to ETOH, even in larger doses; other areas showed conspicuous short-latency multiple-unit activity to even the lowest dose.

### Acoustic responses correlate with alcohol blood levels in rats

Electrophysiological experiments performed in conscious rats implanted with permanent electrodes in the head of the caudate nucleus and within the substantia nigra showed that alcohol attenuated the averaged acoustic evoked response with direct correlation to the alcohol levels in the blood. Different responsiveness was observed in the caudate nucleus as compared to the substantia nigra. The study was reported by T. Rujirekaguwat et al. of The University of Texas Medical School.

### Alcohol combined with d-amphetamine prolongs impaired behavior in rats

Unexpected interactions between alcohol and d-amphetamine were reported by Richard H. Rech and Mary K. Vomachka of the Department of Pharmacology, Michigan State University. Amphetamines have generally been classed as analeptics that would counteract effects of CNS depressants such as alcohol. However, their study using rats indicates that d-amphetamine combined with alcohol or other CNS depressants may intensify and prolong impaired behavior. The complete spectrum of interactions is peculiar to this drug pair and is not duplicated with combinations involving related stimulants and depressants.

### Efficacy of various drugs in T-maze discrimination task

In a T-maze discrimination task ex-

perimental program has long-term impact on skid-row alcoholics

### Adequate data needed to organize treatment program

To organize a comprehensive alcoholism treatment program, adequate data are needed, including: prevalence of alcoholism; ratio of identified/unidentified cases; type of alcoholics in treatment population; function and efficacy of existing treatment facilities; and characteristics of unidentified cases. Also needed, said Dr. B. D. Hore, Consultant Psychiatrist of the Alcoholism Treat-

ment Unit, University of Manchester, are a central coordinating agency and a committed belief by individual agencies in the value of the work of others.

### Ethanol acts presynaptically to impair goldfish M-cell

Intra- and extracellular recordings were obtained from the goldfish Mauthner cell (M-cell) and after addition of 1-2% ethanol to the water respiring the fish by D. S. Faber and M. R. Klee of the Research Institute on Alcoholism, Buffalo. They concluded that the block of collateral inhibition occurs at the excitatory synapses between the M-cell axon collaterals and these interneurons. Additional observations suggest that ethanol acts presynaptically at that site.

### Brain ethanol and acetaldehyde levels in rats related to self-stimulation behavior

T. D. Tyler and C. K. Erickson of the Department of Pharmacology and Toxicology of the University of Kansas School of Pharmacy reported that 2-3 hours after ethanol vapor was withdrawn from rats, self-stimulation behavior began. Ethanol and acetaldehyde disappeared from the brain over a longer period of time. They concluded that the declining brain ethanol and acetaldehyde levels were temporally related to resumption of self-stimulation.

ment Unit, University of Manchester, are a central coordinating agency and a committed belief by individual agencies in the value of the work of others.

### Computers used to support treatment

J. H. Lowinson and J. Philips, U.S.A., described the developments in the application of computer technology in support of quality treatment. Some direct developments include pharmacy support systems and on-line patient activity systems. Other developments have been indirect, such as evaluation and accounting systems.

# Traffic safety and alcohol: Reports from London and San Diego

Experimental DWI subjects who attended a four-session Alcohol Safety School showed a change in attitudes toward nonoffender norms, James J. Breslin, Director of the Safe Driving Clinic of the NCA-Delaware Valley Area, Inc., and Robert Breinholt, Ph.D., University of Pennsylvania, told the 5th International Association for Accident and Traffic Medicine, held in London September 1, 1975. The study also supported the hypothesis that DWI offenders who are problem drinkers hold more extreme attitudes than offenders who are social drinkers. The findings do not indicate that attitudes are more resistant to change the higher a subject's alcohol impairment level.

## Alcohol and drug involvement in driving hazards compared

A two-year study of drug use and driving risk among high school students, conducted by the Addiction Research Foundation of Ontario, shows that drinking and driving is 9 to 60 times as common as any type of drug use and driving. Data were collected covering 12 drugs in an anonymous questionnaire. Overall, drugs such as hallucinogens, tranquilizers and stimulants are relatively unimportant compared to alcohol in the accidents of high school students. However, Dr. Reginald Smart, associate research director of ARF, pointed out that two or three times as many users of LSD, other hallucinogens, or tranquilizers report accidents under their influence as users of alcohol under alcohol influence. He said, "Any social or legislative changes which resulted in increased drug use would be likely to lead to higher accident rates for them."

## Tranquilizers and driving ability

Patients on long-term tranquilizer treatment can be allowed to drive in some instances, said T. Ueno, Professor of the Department of Legal Medicine of Nihon University, Tokyo. Tests in which a normal adult was given Diazepam 2 mg three times a day for three days showed that the visual acuity was impaired to the same extent as drinking a bottle of beer in 20 minutes.

## Other Reports

- Alcohol concentrations are virtually the same in whole blood taken into fluoride, heparin and EDTA sample tubes as those in serum or plasma, said P. J. Morrison et al. of the Department of Forensic Medicine, Guy's Hospital Medical School, London.

- Tests of skills related to driving tested on the morning after drinking showed some impairment of visual abilities and judgments of time and movement, but simulator performance was not affected, said D. J. M. Vorster, et al. of the National Institute for Personnel Research, Johannesburg, South Africa. The EEG showed a persistence of mild changes suggestive of a continued effect of alcohol on brain function.

- A cake composed of fructose and cacao butter supplemented by thiamine, riboflavin, ascorbic acid, tocopherol, and retinol produced a significant increase in the rate of ethanol metabolism and had a clear "sobering up" effect on 20 obese drivers, said B. S. Simic et al. of the University of Belgrade.

- A simple portable device to capture breath alcohol in the field—the CO-SWEEP PRESERVIAL—was described by Naresh C. Jain of USC School of Medicine, Los Angeles.

## American association for automotive medicine meetings

Alcohol was implicated in a substantial number of fatal crashes involving tractor trailers in Maryland in 1970-73, Susan P. Baker, M.P.H. of the Johns Hopkins School of Hygiene and Public Health told the 19th Conference of the American Association for Automotive Medicine held in San Diego November 20-22, 1975. The findings are of particular importance because collisions involving such large vehicles are more likely to have serious consequences than other motor vehicle crashes.

In the series of 150 crashes studied, 25 tractor trailer drivers and 63 drivers

of other vehicles died and were tested for alcohol. About one-third in each group had blood alcohol concentrations of 0.10% by weight or more. Of 17 tractor trailer drivers apparently responsible for crashes, 8 had illegal alcohol concentrations (0.10% or more). Only 2% of the surviving drivers were charged with driving while intoxicated or impaired.

Ms. Baker recommended implementation of federal standards calling for quantitative tests for alcohol, where practicable, for all drivers (including surviving drivers) in crashes fatal to other persons. Drivers licensed to drive such vehicles should be examined periodically to determine their fitness, and might be tested for alcohol under certain circumstances either by the employer or by the police or personnel at weigh stations.

## Drunk drivers compared to alcoholics

Drunk drivers who are not alcoholics nevertheless show considerable differences in psychosocial characteristics from a comparable group of social drinkers, said Melvin L. Selzer, M.D. and Amiram Vinokur, Ph.D. of the Highway Safety Research Institute, University of Michigan. The results of a self-administered questionnaire given to three groups—drunk drivers, outpatient alcoholics, and normal controls—showed that 40-50% of the drunk drivers were alcoholics on the basis of their Brief MAST scores. Even those that did not score on the alcoholic range, however, scored higher than the control group on such measures as depression, paranoid thinking, aggressive feelings and acts, and lack of self-esteem.

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