

Silver Anniversary "1970 - 1995" Celebrating 25 Years

PRESIDENT Vina Spiehler, Ph.D., DABFT 422 Tustin Newport Beach, CA 92663 714-642-0574 FAX: 714-642-2852

VICE PRESIDENT H. Chip Walls, B.S. Toxicology Lab - Room 706 600 S. State St. Syracuse, NY 13202 315-435-3802 FAX: 315-435-8439

**SECRETARY** Vickie W. Watts, M.S. Manage Police Crime Laboratory I. Robson Nusa, AZ 85202 602-644-2077 FAX: 602-644-2478

#### **TREASURER**

Joseph J. Saady, Ph.D., DABFT Virginia Commonwealth University Medical College of Virginia Station Richmond, VA 23298-0165 804-828-8165 FAX: 804-828-7722

ADDITIONAL DIRECTORS W. Lee Hearn, Ph.D. Barry S. Levine, Ph.D., DABFT Marilyn A. Huestis, Ph.D. Michael L. Smith, Ph.D., DABFT J. Robert Zettl, B.S., M.P.A. ex officio:

Mark B. Lewis, DABFT (Past President) Joseph R. Monforte, Ph.D., DABFT (ToxTalk Editor)

1995 Annual Meeting Host Yale H. Caplan, Ph.D., DABFT National Center for Forensic Sciences vision of Met Path Laboratories Sulphur Spring Rd. Baltimore, MD 21227 410-536-1700 FAX: 410-536-1617

## Society of Forensic Toxicologists, Inc.

P.O. Box #5543, Mesa AZ 85211-5543 Telephone/ FAX: 602-839-9106

# ToxTalk

VOLUME 19, No. 3

**SEPTEMBER 1995** 

EDITOR: Joseph R. Monforte, PhD DABFT EDITORIAL BOARD: H. Chip Walls, BS, Jim Wigmore, BSc, Carl Selavka, PhD PUBLISHER: Patricia Mohn-Monforte

## FROM THE EDITOR'S DESK.

Joseph R. Monforte, Ph.D., DABFT

Special "thanks" to the contributors to this issue who met the early submission deadline. Don't forget, meeting registrations received after September 9th will be subject to a late fee. The SOFT bylaws require that certain information be received by the members at least 30 days before the annual business meeting. Since all U.S. members receive ToxTalk through bulk mail, this early mailing will ensure that you receive ToxTalk to avoid the meeting registration late fee and the bylaws requirements will be met. At the time of this printing, not all inserts were available. They will be included with this issue, if they are received by the mail date, or you will receiving a special mailing

I would like to recognize Dr. Carl Selavka and his colleagues at National Medical Services for consistently providing a "Case Note" for each issue of ToxTalk. I am particularly pleased that other members are submitting case notes and encourage all members to do so.

#### IN THIS ISSUE

**REGULAR FEATURES:** 

Journal Club & Professional Calendar & Elmer Gordon

Blutalkoholkonzentration & President's Message

**TECHNICAL NOTES:** 

Case Notes: Case Clothes'd (Selavka/Middleberg),

Testing a Drug Addict's Hair for Pholcodine (Cirimele et al)

Cocaine Overdose or ??? (Williams et al)

Tuberculosis: Health and Safety in the Forensic Lab (Marker)

Bibliography: Biological Hazards II (Isenschmid)

OF SPECIAL INTEREST: Nominating Committee Slate

**INSERTS:\*** 

1995 SOFT Meeting Information & Registration Form (Caplan)

Minutes of the 1994 SOFT Annual Business Meeting (Watts)

\*If available at time of mailing

ToxTalk is mailed quarterly (bulk mail) to members of the Society of Forensic Toxicologists, Inc. It is each member's responsibility to report changes of address to the SOFT mailing address (above). Non-members may now receive ToxTalk for \$15 per calendar year. Mail a check, payable to SOFT, to the ToxTalk Editor.

All members and others are encouraged to contribute to ToxTalk. Mail material to: Joseph R. Monforte, Ph.D., DABFT, ToxTalk Editor, 846 Smoki Drive (H.P.), Prescott, AZ 86301 Phone/FAX: 520-717-0617 (after 11 a.m. E.S.T.)

**DEADLINES:** Feb. 1, May 1, Aug. 1, and Nov. 1.

NEXT DEADLINE: November 1, 1995

SOFT is a supporting organization of the American Board of Forensic Toxicology

## PRESIDENT'S MESSAGE

## Vina Spiehler, Ph.D., DABFT

I look forward to seeing you all in Baltimore the week of October 9, 1995. This year the SOFT Annual meeting fills the entire week with workshops on Monday and Tuesday, scientific sessions Wednesday and Thursday, and, on Friday after the business meeting, a symposium on the forensic toxicologist as an expert witness. I hope you will all attend. Our annual meetings provide the best means for realizing the most important goals of our Society.

The SOFT Bylaws list nine objectives of the organization:

- "1.) Provide an organization of professional forensic toxicologists, defined as those qualified scientists engaged in the analysis of body fluids and tissues for drugs and/or poisons and in the interpretation, in a judicial context, of the information generated by such analysis.
- 2.) Promote the establishment and acceptance of uniform qualifications and requirements for the certification and/or licensure of forensic toxicologists by an independent body, and to support mechanisms for their certification and periodic recertification.
- 3.) Stimulate research and development in the field of forensic toxicology.
- 4.) Provide a forum for the discussion and exchange of professional experiences between forensic toxicologists and among forensic toxicologists and others engaged in the administration of justice, in other governmental functions, and in other allied fields.
- 5.) Promote further education and training in forensic toxicology.
- 6.) When appropriate and upon request, to provide impartial boards of review for cases involving differences of professional opinion in the field of forensic toxicology.
- 7.) When appropriate and upon request, review and make recommendations on pending or existing legislation which appears to relate to the field of forensic toxicology provided such legislative activity is germane to the common business interests of the corporation.
- 8.) Consider and act upon administration and career problems affecting forensic toxicology as a profession, and promote the welfare of forensic toxicologists.
- 9.) Promote and assist in 1) the continued development of the field of forensic toxicology and 2) bringing about adequate availability of forensic toxicology services to units of government, organizations and persons in need thereof."

The annual meeting in Baltimore obviously meets objective 4 by providing a forum for scientific, informal and fun (ToxCrock) exchanges between forensic toxicologists and, since our meetings are attended by many non-members, between forensic toxicologists and others. In addition, the two days of workshops provide concentrated continuing education and training, meeting objective 5.

In reviewing the abstracts coming in this month, it is apparent that the opportunity to present papers and posters at the annual SOFT meeting also stimulates research and development in the field of forensic toxicology (objective 3). Our members have come up with amazing new procedures, cases and findings. Our vendors have some really novel products and methodologies which they will unveil in Baltimore. Preston Publications is publishing a special double Silver Anniversary Issue of the SOFT Special Issue of the Journal of Analytical Toxicology for this meeting and will have copies available in Baltimore. Special Issue Editors Vickie Watts and Thomas Simonick have done an outstanding job of recruiting an abundance of significant manuscripts for this issue.

Further, the SOFT Annual Meeting is the venue for the American Board of Forensic Toxicology (of which SOFT is a sponsoring organization) to give the certification exam, hold its board meeting, and convene a breakfast gathering of ABFT Diplomates. This promotes objective 2, which some say was the generative idea behind the establishment of the Society of Forensic Toxicologists twenty-five years ago.

Objective 8 is being addressed by Yale Caplan and his team organizing the Baltimore meeting with the Friday symposium on the expert witness role of the forensic toxicologist. The keynote speakers on "Meeting the Challenge of Substance Use and Abuse in America" of the opening program may address objective 7.

So you can see that our annual meeting in 1995 will fulfill five out of nine of our Society's objectives. It will be a lot of fun and all your friends will be there. I hope that you can come and be a part of it. See you in Baltimore!

S.O.F.T. BOARD MEETING MONDAY - OCTOBER 9th - 11:30 A.M.

## SOFT ANNUAL MEETING

October 9-14, 1995

Silver Anniversary Meeting Sheraton Inner Harbor Hotel

#### **PROGRAM OUTLINE:**

09/01/95 Deadline for registration without late fee penalty

09/11/95 Hotel registration deadline - but register early to guarantee a room!

Sheraton Inner Harbor 410-962-8300 (\$129 single, \$139 double)

10/01/95 Deadline to register for meeting by mail

10/09/95 Workshops 1 & 2

10/10/95 Workshops 3, 4, 5 & 6

Welcoming Reception

10/11-13 Scientific Program

10/12/95 ABFT Breakfast

10/13/95 SOFT Annual Business Meeting

For further information contact:

Yale H. Caplan, Ph.D., Corning National Center for Forensic Science

1901 Sulphur Spring Road, Baltimore, MD 21227 Telephone: 410-536-1485

ND YOUR VOICE AT THE SOFT MEETING: Plans are underway for another SOFT sing-a-long. If you have a favorite song you would like to sing or have included in the sing-a-long at the 25th Anniversary SOFT Meeting in Baltimore, please send your request to:

Daniel Isenschmid, Ph.D.
Wayne County Medical Examiner's Office
1300 E. Warren
Detroit, MI 48207
or FAX to: 313-833-2534

October is a popular time in Baltimore - so reserve your hotel room early!

## **ABFT News**

All ABFT Forensic Toxicology Diplomates and Toxicology Specialists are invited to attend the ABFT Annual Breakfast on Thursday, October 12th (during the SOFT meeting in Baltimore). Complete the appropriate line on the SOFT meeting registration form. New certificants will be recognized.

Sixty-two Diplomates have recently been requalified and will receive new ABFT certificates during the annual breakfast.

A new ABFT Directory is being prepared. If you have changed your address or telephone or fax numbers, contact the ABFT Administrative Office immediately.

Forensic toxocologists interested in certification by the American Board of Forensic Toxicology should contact:

ABFT Administrative Office P.O. Box 669, Colorado Springs, CO 80901-0669 Telephone: 719-636-1100

#### FROM THE HEALTH AND SAFETY COMMITTEE

Members: Daniel Isenschmid (Chair), John Cody, Laurel Farrell and Elizabeth Marker

In this issue of ToxTalk the Health and Safety Committee is pleased to include an article about tuberculosis and the second installment of a series of bibliographies of health and safety related topics. Please feel free to submit comments suggestions to: Daniel Isenschmid, Ph.D., Wayne County Medical Examiners Office, 1300 E, Warren, Detroit, MI 48207

#### TUBERCULOSIS: HEALTH AND SAFETY IN THE FORENSIC LABORATORY

Submitted by: Elizabeth Marker, Ph.D.

Tuberculosis (TB), after a thirty year decline, has shown an eighteen percent increase in incidence since 1985. Of particular concern are Mycobacterium tuberculosis which show resistance to two or more of the antibiotics used in treatment. The groups considered to be a high risk for active disease include blacks, Hispanics, Asian and Pacific islanders, native Americans, intravenous drug users, the elderly and people with compromised immune systems such as those with HIV1. Many of these groups closely correspond to the constituency of Medical Examiner/Coroner systems. It is important, therefore, that forensic laboratory staff recognize potential risks for exposure to TB.

TB is spread in the general population by close and prolonged exposure to droplet nuclei containing the bacteria. These aerosol droplets form when a living patient coughs, sneezes, spits or even sings. The chance of infection is dose dependent: the greater the exposure to droplet nuclei, the greater the risk. The droplets are from 1-5 microns in size, small enough to remain suspended in the air and to be carried by ambient air currents. In the forensic area, exposure is by aerosolization of body fluids during an autopsy or during preparation of samples for analysis.

in the autopsy room, droplets can be generated by compression of the chest during the procedure and through the use of saws. In the laboratory, aerosols can be produced during tissue homogenization or any procedure which forcibly mingles sample and air such as pressurized "blow out" of transfer pipettes with automated pipettors. Protection against these hazards involves the use of engineering controls and appropriate work practices. Engineering controls include proper ventilation of rooms and use of ventilating hoods. The autopsy room, with large amounts of aerosols, should have negative pressure and direct ventilation to the outside. In the laboratory, laminar flow hoods with HEPA filters should be used for all processes which produce significant amounts of aerosolization, such as homogenizing specimens,

The balance of laboratory safety relative to TB involves administrative controls and common sense. The proper us of universal personal protection (barrier protection) should provide a reasonable degree of protection against all infectious hazards, including TB. However, dust or dust/mist masks have not been shown to protect against droplet nuclei; the only accepted respiratory barrier is a respirator with an HEPA filter. These masks are expensive and require periodic fit check testing. These respirators are in common use in autopsy rooms. In the laboratory, common sense would suggest that all procedures which could cause the formation of an aerosol be done in properly ventilated areas. The use of disposable glassware could reduce or eliminate any hazards associated with cleaning. Work areas should be periodically disinfected.

Finally, the tuberculin skin test should be administered at least once per year to all personnel directly involved with

autopsy specimens. A positive test requires further medical evaluation .

Tuberculosis is preventable. By using good laboratory practice and appropriate protective equipment the risk of infection to laboratory personnel can be reduced to an acceptable minimum.

<sup>1</sup>Dooley, et al., Guidelines for Preventing the Transmission of Tuberculosis in Health-Care Settings, with Special Focus on HIV-Related Issues. Morbidity and Mortality Weekly Report, Centers for Disease Control, Dec. 1990, Vol. 39/ No. RR-17.

#### **BIBLIOGRAPHY: BIOLOGICAL HAZARDS (PART II)**

Submitted by: Daniel Isenschmid, Ph.D.

- W.A. Nichols. Management of occupation exposure to potential blood-borne infections. Considerations for development of office procedures to handle "needlestick injuries." Ark. Dent. 62 (3): 18-22 (1991).
- R.B. Otero. Universal precautions for handling body fluids. Therapeutic Drug Monitoring and Toxicology In-Service Training and Continuing Education 11 (7): 7-12 (1990). American Association for Clinical Chemistry, Inc. Washington, D.C.
- G. Pugliese. Occupational Safety and Health Administration moves blood-borne pathogen compliance to the front burner [editorial], Am. J. Infect. Control 20 (4): 167-169 (1992).
- P. Rodriques. Handling and disposal of infectious waste in the office setting. Orthop. Nurs. 10 (5): 24-26 (1991).

(continued next page)

#### BIBLIOGRAPHY: BIOLOGICAL HAZARDS (PART II) (continued)

- W.A. Rutala and D.J. Weber. Infectious waste mismatch between science and policy. N. Engl. J. Med. 325 (8): 578-582 (1991).
- 1. Sehulster, L.E. Mohrmann, and C.J. Francisco III. The physician's guide to medical waste regulations, Part II. Tex. Med. o/ (11): 21-23 (1991).
- L.M. Sehulster, L.E. Mohrmann, P. Garland et al. The physician's guide to medical waste regulations, Part IV. Tex. Med. 88 (10): 28-31 (1992).
- N. Slavik. Handling Medical Waste. Dent. Econ. 82 (6): 57-62, 64, 66 (1992).
- J.W. Smith, and R.L. Nichols. Barrier efficiency of surgical gowns. Are we really protected from our patients' pathogens? Arch. Surg. 126 (6): 756-763 (1991).
- P.L. Spechko. Management of health care workers exposed to blood and body fluids in the workplace. Nurse Pract. Forum 2 (2): 127-129 (1991).
- G. Thompson. Current issues related to the transmission of blood borne pathogens. Can. J. Infect. Control 7 (1): 17-18 (1992).
- J. Tulis and W.R. Thomann. Medical waste management. Federal perspective and North Carolina program. N.C. Med. J. 53 (7): 345-348 (1992).
- C.P. Whitcomb. Crime laboratory safety and the blood borne pathogen standard. Crime Lab. Digest. 20 (3): 53-55 (1993).
- G.S. Young, C.R. Mond, and A.D. Schwope. Personal protection is a vital issue in the fight against infection. Occup. Health Safety. 57 (9): 38, 41-43 (1988).

FREE SAFETY NEWS MAGAZINE: Compliance Magazine is a monthly safety magazine that contains many articles that may be useful to people with an interest in health and safety in the workplace. In addition to regular feature articles, the magazine features updates on Federal Regulations, news, and new products. The magazine is available free of charge (to qualified obscribers) by writing to Compliance Magazine, 17730 West Peterson Road, P.O. Box 159, Libertyville, IL 60048-0159 or ling (708) 362-8711, Fax (708) 362-9143.

FUTURE ARTICLES: Occupational Drug Exposure (Cody), Chernical Spills (Isenschmid).

#### Technical Notes: BLUTALKOHOLKONZENTRATION No. 10

Submitted by: J.G. Wigmore, B.Sc., Toxicology Section, Centre of Forensic Sciences, Toronto, Ontario, Canada

# ARE POSTMORTEM ALCOHOL DETERMINATIONS USEFUL IN CASES OF SEVERE HAEMORRHAGIC SHOCK TREATED WITH NUMEROUS BLOOD TRANSFUSIONS? G. Weiler, Blutalkohol 16:306-309, 1979

German title:

Ist bei protrahiertem Verblutungsshock trotz zahlreicher Bluttransfusionen ein postmortale Alkoholbestimmung noch sinnvoll?

A case report involving a 39-year-old female alcoholic who was, allegedly, in a highly intoxicated state when she fell on broken beer bottles on the ground and suffered severe flesh wounds. Massive bleeding occurred from the wounds, and the woman lost consciousness after 15 minutes. Emergency treatment was commenced 30 minutes later at the hospital. The patient never recovered consciousness and died 12 hours later.

During the course of the treatment, the woman received 1 L of a blood substitute and 8.5 L of blood. An autopsy was conducted 29 hours after death. Due to the above circumstances, it was thought that the determination of blood alcohol concentration would be of little use. However, the postmortem alcohol concentration of the femoral blood was 0.150 g/100mL (blood water content 84%) and of the bile, 0.170 g/100mL.

The author states that although a precise back calculation of the BAC at the time of the accident is not possible, the C of the deceased must have been considerably higher than the postmortem BAC and is consistent with her degree of intoxication. He concludes that postmortem determinations of alcohol in the blood and other biological material in cases of haemorrhagic shock with extensive blood transfusion and long survival times may be promising and can yield useful information. \$\\^2\$

## Case Notes: TESTING A DRUG ADDICT'S HAIR FOR PHOLCODINE

Submitted by: V. Cirimele, P. Kintz and P. Mangin, Institut de Medecine legale, 11, rue Humann, 67085 Strasbourt (France)

A hair specimen was obtained from a drug addict who claimed that he stopped heroin intake a month before and toopholcodine, a potent antitussive agent.

Hair was analyzed according to the P. Kintz procedure (1). Briefly, the hair sample was cut as close to the skin as possible, in the vertex posterior region, and washed twice in methylene chloride. Strands of hair were cut into two pieces for segmental analysis: first, the 1 cm-proximal root segment representing approximately a growth of one month and the second, the 3 cm-distal root segment. The two segments were pulverized separately in a ball mill and 50 mg were incubated in 1 ml 0.1 N hydrochloric acid, 16 hours at 56 degrees C. in the presence of deuterated internal standards (codeine-, morphine- and 6-monoacetylmorphine-d3). After neutralization, the homogenate was extracted with 10 ml chloroform/2-propanol/n-heptane (50:17:33, v/v) under alkaline conditions (pH 8.4). After aditation and centrifugation, the organic phase was purified by extraction with 5 ml 0.2 N hydrochloric acid, and, finally, the aqueous phase was re-extracted with 5 ml of chloroform (pH 8.4). After evaporation of the organic phase to dryness, the residue was derivatized by silylation (35 ul BSTFA + 1% TMCS) and a 1.5 ul portion was injected into a GC/MS system (Hewlett Packard 5890 gas chromatograph coupled to a 5971 mass spectrometer). The flow of carrier gas (helium, purity grade N55) through a 30 m x 0.25 mm HP-5MS capillary column was 1.0 ml/min. The column oven temperature was programmed to rise from an initial temperature of 60 degrees C, kept for 1 min., to 295 degrees C at 30 degrees C/min and kept at 295 degrees C for the final 6 min. Splitless injection, with a split-valve offtime of 0.75 min., was employed. The detector was operated in electronic impact mode, at 70 eV, with an ion source temperature of 190 degrees C. After identification, selected ion monitoring (m/z 374 for codeline-d3 and m/z 100-114 for pholocodine) was used to calculate the response factor of pholocodine against codeine-d3.

Pholocodine was not detected in the distal segment of hair but was present at a concentration of 0.71 ng/mg of hair in the proximal segment. This compound was also detected in human beard and head hair, using GC/MS, by Maurer and Fritz (2), but was not quantitated. Here, we report for the first time quantitative results for pholocodine in human hair using GC/MS. In both proximal and distal segments, codeine (6.52 and 7.25 ng/mg), morphine (0.37 and 1.14 ng/ms) and 6-monoacetylmorphine (1.69 and 1.41 ng/mg) were also detected, clearly indicating that the drug addict was lying about his drug abuse history.

- P. Kintz, A. Tracqui and P. Mangin: What constitutes a positive result in hair analysis: proposal for the establishment of cut-off values. Forensic Sci Int 70:3-11, 1995.
- H.H. Maurer and C.F. Fritz: Toxicological detection of pholocodine and its metabolites in urine and hair using radio immunoassay, fluorescence polarisati immunoassay, enzyme immunoassay and gas chromatography-mass spectrometry. Int J Leg Med, 104:43-46, 1990

#### Case Notes: COCAINE OVERDOSE OR ???

Submitted by: Robert D. Williams\*, Ph.D., Cherly M. Hammon, M.S., and James L Ferguson. \*Ohio State University Medical Center, Columbus, OH.

The toxicology laboratory at Ohio State University Medical Center received serum and urine specimens obtained form a 9-month-old male infant suffering from respiratory distress in the intensive care unit of another local hospital. The specimens were submitted for stat comprehensive drug analysis. No additional information was provided regarding suspected agents. The specimens were subjected to a combination of IA, GC (with FID) and HPLC procedures. In the serum, salicylate and acetaminophen were present at 2.1 mg/dl and 5.1 ug/ml, respectively. Ranitidine and lidocaine were detected in the urine specimens.

The following month, a report appeared in the local newspaper indicating that the parents of this 9-month-old infant were in jail charged with felony child endangerment by allowing their child to ingest a fatal overdose of cocaine which was detected at autopsy. The parents initially denied any knowledge of contact between their baby and cocaine. Then charges were issued stemming from testimony by the wife who later told investigators that the husband had a bag of cocaine which he left on the coffee table. She stated that the infant was in a walker "and the baby got into it."

The report appeared inconsistent with our findings and, therefore, upon notification, the Franklin County Coroner's Office launched an investigation. With the assistance of the local hospital, it was determined that the cocaine detected at autopsy was a result of its administration as an anesthetic (1 cc of a 4% solution) for intubation in intensive care. The specimens submitted to OSUMC, which were negative for cocaine, had been collected after the infant's admission to the hospital and prior to administration of the cocaine anesthetic. A cerebral spinal sample collected by the hospital during the same period was also found to be negative for cocaine. Based on this information, the parents were released from jail after a grand jury declined to issue an indictment.

Each of the drugs detected was shown to have been administered by the hospital, thus the etiology initiating the infant's respiratory distress was indeterminate.

## Case Notes: Case Clothes'd

Submitted by: Carl M. Selavka, Ph.D., F-ABC, and Robert A. Middleberg, Ph.D., National Medical Services, Inc., 2300 Stratford Avenue, Willow Grove, PA 19090

In some extraordinary criminalistics cases, advantage can be made of the analytical power of current toxicological methods. One example involves extracting clothing and other porous materials which have become contaminated with biological fluids or adherent tissues during the commission of a crime or agonal struggle. Literature reports exist for the determination of drugs and metabolites in stains, especially cocaine/metabolites (see F.P. Smith and R.H. Liu, **J. Forensic Sci.** 31 (1986) 1269-73 for one case-study report). In recent years, we have performed testing in cases involving bloodstains in and on automobile surfaces (dashboards, headliners and carpeting), clothing and documents. Two recent cases illustrate the handling of these specimens and some of the unique interpretive precautions needed to adequately portray results.

In the first case, a truck driver was involved in a single-vehicle accident during which his foot was nearly severed. The question of possible toxicological contribution by amphetamines to driving impairment was raised since the driver's urine screened positive for amphetamines. Carpeting from the floorboards was contaminated with his blood, so the investigators collected portions of the stained carpeting, as well as a "comparison sample" from another area of the cab. (The term "comparison sample" is used instead of "control", adopting the convention used in fire debris examinations for "arson accelerants" to describe material on which there is no apparent stain or evidentiary pattern, but whose exact provenance [previous contamination, etc.] is not known). The samples were separately weighed, cut, extracted into pH 7.4 phosphate buffer, and these "elutions" were then extracted using methods designed for sympathomimetic amines. Extracts were tested using modified polyclonal enzyme immunoassay for amphetamines and dual-column GC-NPD/FID followed by GC/MS. The findings demonstrated that methamphetamine and ephedrine were present in the stained area of the carpet, with traces of amphetamine, while methamphetamine and ephedrine were also detected at lower levels on the comparison carpet sample.

In the second case, "man A" robbed "man B", during which B was stabbed but was not mortally wounded. Man A was charged with attempted homicide and robbery but claimed self-defense. He stated that man B was high on cocaine and had actually attacked him (man A) with a knife after man A had initiated the admitted strong-arm robbery. Since no toxicological samples were taken from either actor at or near the time of the crime(s), the investigators requested testing for cocaine/metabolites in the bloodstains on man B's clothing. A procedure similar to that descibed above was used to extract the stained areas of man B's shirt, and the findings demonstrated the presence of cocaine, benzoylecgonine and cocaethylene.

ese results led the prosecution to withdraw the attempted homicide charge against man A - but not for reasons of law related to man A (the "robber"). Instead, it happened that man B (the "victim") was on parole, and it was his fear that his parole officer would hear about his excursion from the straight and narrow and revoke his release, returning him to incarceration.

These two cases offer some insight into the use of toxicological techniques with bloodstained textiles. However, some caution is advised when attempting the testing, and especially when interpreting results:

- a. A negative finding can have many interpretations:
  - 1. There were no drugs/metabolites in the stain
  - 2. There were drugs/metabolites in the stain but they underwent decomposition
  - 3. There were (stable) drugs/metabolites in the stain, but they were not eluted using the methods employed
  - 4. The level(s) of drugs/metabolites were not high enough to be detectable
- b. A positive finding in the absence of testing of a comparison sample should be interpreted very carefully, due to the possibility for prior exposure of the evidence to drugs

With these caveats emptor'd, perhaps you will soon have an occassion to attempt testing in or on stained surfaces. If so - we hope that you are able to weave our experiences seamlessly into your case!

## **CALL FOR CASE NOTES**

Your case note should be about 1/2 page in length, no more than a full page. Material or a disk (using Microsoft Works/Word 2.0) may be mailed to: Joseph R. Monforte, Ph.D., DABFT, ToxTalk Editor 846 Smoke Dr. (H.P.), Prescott, AZ 86301

- or - Telephone/FAX: 520-717-0617 (after 11:30 E.S.T.)

Other items of interest to SOFT members are also welcome.

Next deadline: NOV. 1, 1995

#### **NOMINATING COMMITTEE OFFERS 1996 SLATE**

The following terms of office will end December 31, 1995: President Vina Spiehler, Vice President H. Chip Walls, Secretary Vickie W. Watts, and Directors W. Lee Heam and Barry S. Levine. The president and vice president each serve one-year terms, the secretary serves a two-year term, and directors serve three-year terms. The 1995 Nominating Committation consisting of immediate past-president Mark B. Lewis, B.S., DABFT (chair), Robert Bost, Ph.D., DABFT, and H. Horton McCurdy, Ph.D., DABFT offer to the members of the Society of Forensic Toxicologists the following nominees:

PRESIDENT: H. CHIP WALLS, B.S. H. Chip Walls received his BS in Chemistry/Biology from the University of Alabama at Birmingham in 1972. His professional experiences have covered 20 years in university, private and governmental laboratories providing post-mortem forensic toxicology, clinical toxicology, probation urine drug testing, and driving under the influence cases. His present position is Supervisor of the Forensic Toxicology laboratory of the Onondaga County Health Department in Syracuse, NY, which he has held since 1986. An active member of several toxicology organizations, he has chaired national committees, has organized workshops on forensic toxicology for annual meetings, and has been an invited speaker on drug detection in pregnancy. Mr. Walls has served SOFT as Vice President (1994), Board of Directors (1991-94), the Executive Board, Editorial Board of ToxTalk, numerous committees including Meeting Resources (chair), Finance, JCETT, Driving Under the Influence of Drugs, and Health/Safety. He was SOFT Special Issue Guest Editor of JAT (1992). He regularly attends and participates in annual SOFT meetings.

VICE PRESIDENT: VICKIE W. WATTS, M.S. Vickie W. Watts received her Master's degree in Forensic Toxicology from the University of Maryland and her B.S. degree in Chemistry from Augustana College in 1976 where she was Phi Beta Kappa. Ms. Watts has over 17 years experience in the field of forensic toxicology and is currently a Senior Forensic Toxicologist with the City of Mesa Crime Laboratory. She has received career and research awards from SOFT, AAFS, and CAT, is a member of the National Safety Council's Committee on Alcohol and Other Drugs, Past Chairman of the AAFS Toxicology Section, and Past President of the California Association of Toxicologists. Ms. Watts has served on or chaired a variety of committees for SOFT and served on the Board of Directors (1991-93). Ms. Watts was the meeting host for the 1993 SOFT/CAT Joint Meeting in Phoenix and is completing her term as the 1993-95 SOFT Secretary.

SECRETARY: MARILYN A. HUESTIS, Ph.D. Dr. Huestis received her B.S. in Biochemistry and M.S. in Clinical Chemistry. She received a full research scholarship and her Ph.D. from the University of Maryland. Dr. Huestis' more than twenty years experience in forensic and analytical toxicology includes Chief Toxicologist of Nichols Institute's San Diego Laboratory (1983-88), Research Staff Fellow Award of the Addiction Research Center (NIDA), and her current work as independent consultant with the National Laboratory Certification Program of the D.H.H.S., D.O.D. and other organizations. Dr. Huestis has accepted the position of Senior Research Scientist at the Addiction Research Center (NIDA, NIH) as of September 1995. She has published several papers, chaired numerous committees for SOFT (currently serving on the Board of Directors), AAFS, CAT, AACC and TIAFT.

DIRECTOR: DANIEL S. ISENSCHMID, Ph.D. (3-year term)

Dr. Isenschmid received a BS degree in Biology from Adelphi University and MS and PhD degrees in pathology and forensic toxicology, respectively, from the University of Maryland at Baltimore. He is the Chief Toxicologist at the Office of the Wayne County Medical Examiner in Detroit, MI. His SOFT activities include assistant moderator (1990), Education Research Award Committee (1994-present), the 1995 Meeting Committee, and will serve as chair of the 1996 Meeting Workshop Committee. He received the Irving Sunshine Award from the AAFS.

DIRECTOR: LAUREL J. FARRELL, B.A. (3-year term) Ms. Farrell received a BA degree in Chemistry from the University of Northern Colorado in 1979. She is the Supervising Chemist of the Toxicology Section of the Colorado Department of Health, SOFT activities include Drugs and Driving Committee, Health and Safety Committee, 1996 Annual Meeting co-host, Editorial Review Committee for the Special Edition of JAT (1992, 1994), and moderator and assistant moderator at numerous SOFT meetings. Ms. Farrell is an active member of several other professional organizations including AAFS, CAT, National Safety Council Committee on Alcohol and Other Drugs (Executive Board), TIAFT, SAFS, SWAT, and IACT. She is a College of American Pathologists - FUDT Laboratory Inspector.

DIRECTOR: WILLIAM LEE HEARN, Ph.D. (1-year term) In the event of Dr. Huestis's election as Secretary, the Nominating Committee proposes that the remainder of her term (1 year) be completed by Dr. Hearn. Dr. Hearn, current SOFT Director, received his BS in Chemistry from the University of Maryland (1967) and his PhD in Pharmacology from the University of Miami School of Medicine (1979). His current position is Laboratory Director at the Dade County Medical Examiner Department, Miami, FL, and holds faculty appointments at the University of Miami School of Medicine in the Departments of Cellular and Molecular Pharmacology, Pathology, and Epidemiology and Public Health. Dr. Hearn has 2 publications in scientific journals and book chapters, and has given numerous presentations at scientific meetings. \$

Reminder - only full members may vote at the SOFT Annual Business Meeting 10/13/95

Aggarwal SK, Kinter M, Herold DA Determination of selenium in urine by isotope dilution gas chromatography-mass spectrometry using 4-nitro-o-phenylenediamine, 3,5-dibromo-o-phenylenediamine, and 4-trifluoromethyl-o-phenylenediamine as derivatizing reagents Analytical Biochemistry 202(2):367-74 1992

Aggarwal SK, Kinter M, Herold DA Determination of copper in urine and serum by gas chromatography-mass spectrometry Analytical Biochemistry 194(1):140-5 1991

Aggarwal SK, Kinter M, Nicholson J, Herold DA Determination of tellurium in urine by isotope dilution gas chromatography/mass spectrometry using (4-fluorophenyl)magnesium bromide as a derivatizing agent and a comparison with electrothermal atomic absorption spectrometry Analytical Chemistry 66(8):1316-22 1994

Husain PA, Debnath J, May SW HPLC-based method for determination of absolute configuration of alpha-chiral amines Analytical Chemistry 65(10):1456-61 1993

Bowers G Jr., Fassett JD, White E5 Isotope dilution mass spectrometry and the National Reference System. [Review] Analytical Chemistry 65(12):475R-479R 1993

Davoli E, Fanelli R, Bagnati R Purification and analysis of drug residues in urine samples by on-line immunoaffinity chromatography/high-performance liquid chromatography/continuous-flow fast atom bombardment mass spectrometry Analytical Chemistry 65(19):2679-85 1993

Hachey DL, Patterson BW, Reeds PJ, Elsas LJ Isotopic determination of organic keto acid pentafluorobenzyl esters in biological fluids by negative chemical ionization gas chromatography/mass spectrometry Analytical Chemistry 63(9):919-23 1991

Giovannini MG, Pieraccini G, Moneti G Isotope dilution mass spectrometry: definitive methods and reference materials in clinical chemistry. [Review] Annali dell Istituto Superiore di Sanita 27(3):401-10 1991

Wood WG Immunoassay external quality assessment in the Federal Republic of Germany. [Review] Annali dell Istituto Superiore di Sanita 27(3):495-8 1991

Lombardero N, Casanova O, Behnke M, Eyler FD, Bertholf RL Measurement of cocaine and metabolites in urine, meconium, and diapers by gas chromatography/mass spectrometry Annals of Clinical & Laboratory Science 23(5):385-94 1993

Subramanian KS, Connor JW, Meranger JC Bone-lead analysis: development of analytical methodology for milligram samples [published erratum appears in Arch Environ Contam Toxicol 1993 Sep;25(3):411] Archives of Environmental Contamination & Toxicology 24(4):494-7 1993

Casanova OQ, Lombardero N, Behnke M, Eyler FD, Conlon M, Bertholf RL Detection of cocaine exposure in the neonate. Analyses of urine, meconium, and amniotic fluid from mothers and infants exposed to cocaine Archives of Pathology & Laboratory Medicine 118(10):988-93 1994

Leis HJ, Windischhofer W, Wintersteiger R Quantitative measurement of amphetamine in human plasma by gas chromatography/negative ion chemical ionization mass spectrometry using (2H5)amphetamine as internal standard Biological Mass Spectrometry 23(10):637-41 1994

Takatsu A. Nishi S Determination of serum creatinine by isotope dilution method using discharge-assisted thermospray liquid chromatography/mass spectrometry Biological Mass Spectrometry 22(11):643-6 1993

Cooper DA, Moore JM Femtogram on-column detection of nicotine by isotope dilution gas chromatography/negative ion detection mass spectrometry Biological Mass Spectrometry 22(10):590-4 1993

Reimer ML, Mamer OA, Zavitsanos AP, Siddiqui AW, Dadgar D Determination of amphetamine, methamphetamine and desmethyldeprenyl in human plasma by gas chromatography/negative ion chemical ionization mass spectrometry Biological Mass Spectrometry 22(4):235-42 1993

Fleishman DG, Nikiforov VA, Saulus AA Endogenous lithium determination in blood plasma and urine by isotope dilution mass spectrometry and preliminary isolation of lithium fraction using paper chromatography Biological Mass Spectrometry 21(2):80-4 1992

Lee WN, Byerley LO, Bergner EA, Edmond J Mass isotopomer analysis: theoretical and practical considerations Biological Mass Spectrometry 20(8):451-8 1991

Leis HJ, Malle E Deuterium-labelling and quantitative measurement of ketotifen in human plasma by gas chromatography/negative ion chemical ionization mass spectrometry Biological Mass Spectrometry 20(8):467-70 1991

Brown FR, Draper WM The matrix effect in particle beam liquid chromatography/mass spectrometry and reliable quantification by isotope dilution Biological Mass Spectrometry 20(9):515-21 1991

Stockl D, Reinauer H, Thienpont LM, De Leenheer AP **Determination of aldosterone in human serum by isotope dilution gas chromatography/mass spectrometry using a new heptafluorobutyryl derivative** Biological Mass Spectrometry 20(11):657-64 1991

Culea M, Palibroda N, Chiriac M, Moldovan Z, Abraham AD, Frangopol PT Isotope dilution mass spectrometry for procaine determination in biological samples Biological Mass Spectrometry 20(11):740-2 1991

Aggarwal SK, Kinter M, Herold DA Mercury determination in blood by gas chromatography-mass spectrometry Biological Trace Element Research 41(1-2):89-102 1994

Imai K, Fukushima T, Yokosu H A novel electrophilic reagent, 4-(N-chloroformylmethyl-N-methyl)amino-7-N,N-dimethylaminosulphonyl-2,1,3-benzoxadiazole (DBD-COCI) for fluorometric detection of alcohols, phenols, amines and thiols Biomedical Chromatography 8(3):107-13 1994

homa N, Davis PP, Edom RW, Fukuda EK Quantitation of the enantiomers of rimantadine and its hydroxylated metabolites in human plasma by gas chromatography/mass spectrometry Biomedical Chromatography 6(1):12-5 1992

Bechtold WE, Willis JK, Sun JD, Griffith WC, Reddy TV Biological markers of exposure to benzene: S-phenylcysteine in albumin Carcinogenesis 13(7):1217-20 1992

Ryan JJ, Hsu CC, Boyle MJ, Guo YL Blood serum levels of PCDFs and PCBs in Yu-Cheng children peri-natally exposed to a toxic rice oil Chemosphere 29(6):1263-78 1994

Hoffmann GF, Sweetman L, Bremer HJ, Hunneman DH, Hyanek J, Kozich V, Lehnert W, Nyhan WL, et al. Facts and artifacts in mevalonic aciduria: development of a stable isotope dilution GC/MS assay for mevalonic acid and its application to physiological fluids, tissue samples, prenatal diagnosis and carrier detection Clinica Chimica Acta 198(3):209-27 1991

Aggarwal SK, Kinter M, Herold DA Determination of lead in urine and whole blood by stable isotope dilution as chromatography-mass spectrometry Clinical Chemistry 40(8): 1494-502 1994

Thienpont LM, Van Nieuwenhove B, Stockl D, De Leenheer AP Candidate reference method for determining serum theophylline applied to target-setting in external quality assessment and routine method evaluation Clinical Chemistry 40(8):1503-11 1994

Graziano JH Validity of lead exposure markers in diagnosis and surveillance. [Review] Clinical Chemistry 40(7 Pt 2):1387-90 1994

Dasgupta A, Saldana S, Kinnaman G, Smith M, Johansen K Analytical performance evaluation of EMIT II monoclonal amphetamine/methamphetamine assay: more specificity than EMIT d.a.u. monoclonal amphetamine/methamphetamine assay Clinical Chemistry 39(1):104-8 1993

Goldberger BA, Darwin WD, Grant TM, Allen AC, Caplan YH, Cone EJ Measurement of heroin and its metabolites by isotope-dilution electron-impact mass spectrometry Clinical Chemistry 39(4):670-5 1993

Eckfeldt JH, Lewis LA, Belcher JD, Singh J, Frantz I Jr. Determination of serum cholesterol by isotope dilution mass spectrometry with a benchtop capillary gas chromatograph/mass spectrometer: comparison with the National Reference System's Definitive and Reference Methods Clinical Chemistry 37(7):1161-5 1991

Wilson DM, Liedtke RR Modified enzyme-based colorimetric assay of urinary and plasma oxalate with improved sensitivity and no ascorbate interference: reference values and sample handling procedures Clinical Chemistry 37(7):1229-35 1991

Thienpont L, Siekmann L, Lawson A, Colinet E, De Leenheer A Development, validation, and certification by isotope dilution gas chromatography-mass spectrometry of lyophilized human serum reference materials for cortisol (CRM 192 and 193) and progesterone (CRM 347 and 348) Clinical Chemistry 37(4):540-6 1991

Aggarwal SK, Kinter M, Fitzgerald RL, Herold DA Mass spectrometry of trace elements in biological samples. [Review] Critical Reviews in Clinical Laboratory Sciences 31(1):35-87 1994

Colinet E The development of reference methods in clinical chemistry. The contribution of the Community Bureau of Reference of the Commission of the European Communities European Journal of Clinical Chemistry & Clinical Biochemistry 29(4):237-40 1991

Bito LZ, Baroody RA The ocular pharmacokinetics of eicosanoids and their derivatives. 1. Comparison of ocular eicosanoid penetration and distribution following the topical application of PGF2 alpha, PGF2 alpha-1-methyl ester, and PGF2 alpha-1-isopropyl ester Experimental Eye Research 44(2):217-26 1987

Rolland-Cachera MF Body composition during adolescence: methods, limitations and determinants. [Review] Hormone Research 3:25-40 1993

Patterson D Jr., Isaacs SG, Alexander LR, Turner WE, Hampton L, Bernert JT, Needham LL Determination of specific polychlorinated dibenzo-p-dioxins and dibenzofurans in blood and adipose tissue by isotope dilution-high-resolution mass spectrometry Iarc Scientific Publications 108:299-342 1991

Tebb SA, Elia M Techniques for the measurement of body composition: a practical guide. [Review] International Journal of Obesity & Related Metabolic Disorders 17(11):611-21 1993

## ELMER GORDON OPEN FORUM AN OPPORTUNITY FOR INFORMAL DIALOGUE

**HOW OTHERS SEE US:** Al Poklis shares a coment from a student's evaluation after completing a rotation in ti toxicology laboratory: "The techs in Toxicology are very knowledgeable and readily share their experiences. The overview lecture on Day 1 was very helpful. While I was there, some techs were out sick, some equipment down, and a new tech was being trained, but everything was covered. I would rather have spent more time in Coagulation and less time in Toxicology. When you've seen one chromatogram you've seen 'em all."

ON THE MEND: We wish a speedy recovery to Leo DalCortivo from his recent surgery. \$\dagger\$

#### **CAREER OPPORTUNITIES**

Positions available are listed for the consideration of SOFT members. There is no fee for this service. The information will be repeated in the next issue only if the information is confirmed by the person who submitted it. (No items were submitted for this issue of ToxTalk.) \\$

Toxicologist I for M.E. lab, BS + 2 years experience in toxicology-related laboratory, or equivalent combination of training and experience. Duties include TLC, spectrophotometry, IA, MS, wet chemical procedures and court testimony. \$28,655-\$43,389/yr. Contact Dr. Teri Stockham, Chief Toxicologist, Broward County Medical Examiner's Office, 5301 S.W. 31st Ave, Ft. Lauderdale, FL 33312. Telephone: 305-964-0206.

Ph.D. experienced in development of assays for steroids using GC and LC separations and MS detectors, possible administrative and supervisory responsility. Non-tenure track researcher, UCLA School of Medicine sport drug testing lab. CV and 3 reference letters to R. L. Hilderbrand, Ph.D., OAL, UCLA Pharmacology Dept., Los Angeles, CA 90095-1735.

#### PROFESSIONAL CALENDAR

California Association of Toxicologists (CAT) quarterly meetings and workshops. For information contact Vickie Watts at 602-644-2077, FAX 602-644-2478. 8/4-5/95 Napa, CA (workshop on alcohol testing), 11/3-4/95 Yosemite, CA, 2/3/96 San Diego, CA, 5/4/96 Sacramento, CA, 8/3/96 San Diego, CA, 11/9/96 San Francisco, CA.

American Academy of Forensic Sciences (AAFS) annual meeting: Contact Brenda Papke, 719-636-1100. Future AAFS meetings: 2/19-24/96 Nashville; 2/17-22/97 New York City.

Analytical and Molecular Biological Techniques in Environmental Toxicology and Forensic Sciences: September 11-12, San Juan, Puerto Rico. Sponsored by Puerto Rico Chemists Assoc and the American Registry of Pathology, \$200. Contact Dr. Jose Centeno, AFIP, 14th & Alaska Ave. NW, Washington, DC 20306-6000. Ph 202-782-2839, Fax 202-782-9215

SOFT 25th Anniversary Meeting: October 9-14, Baltimore. Contact Dr. Yale Caplan, 1995 SOFT Meeting Host, Coming National Center for Forensic Science, 1901 Sulphur Spring Rd., Baltimore, MD 21227 (telephone: 410-536-1700; FAX 410-536-1617).

FUTURE S.O.F.T. MEETINGS: 1996 - Denver, CO \$

#### **REMINDER - S.O.F.T. CONTACT INFORMATION:**

- O VOICE MAIL & FAX 602-839-9106
- MAILING ADDRESS P.O. Box 5543, Mesa, AZ 85211-5543

Submit your items for ToxTalk to: Dr. Joseph Monforte, 846 Smoki Dr (HP), Prescott, AZ 86301

(ToxTalk print date: 7/19/95)



he 15th annual October special issue of the *Journal of Analytical Toxicology* will again be published in collaboration with the **Society of Forensic Toxicologists** (SOFT). The guest editors for this issue are Vickie Watts and Thomas Simonick.

Original manuscripts to be considered for publication should be directed to:

Vickie Watts or Thomas Simonick Mesa Police Department Crime Laboratory 130 N. Robson Mesa, AZ 85201

Telephone: (602) 644-2077 • FAX: (602) 644-2478

DEADLINES FOR SUBMISSION: March 17, 1995: Abstracts April 3, 1995: Completed Papers

Complimentary copies of this issue will be distributed at the JAT booth during the 1995 SOFT Annual Meeting (October 9–14, Baltimore, MD). For more information on the 1995 meeting, contact:

Yale H. Caplan, Ph.D. 3411 Philips Drive Baltimore, MD 21208

Telephone: (410) 536-1700 • FAX: (410) 536-1617