



ToxTalk

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Happy 2006 to All!

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SOFT 2006 Annual Meeting

AUSTIN, TEXAS

October 2 – 7, 2006



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 (Mesa, AZ – above). Non-members may now receive ToxTalk for \$15 per calendar year. Make your check payable to SOFT and mail to 5304 Widener Strip, Midland, TX 79707. Subscriptions expire each January.

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

NEXT DEADLINE: before FEBRUARY 1ST, 2006



PRESIDENT'S MESSAGE

Graham Jones, Ph.D., DABFT

This is my final message as President of SOFT - and one I write with mixed emotions. It has been another very successful year for us. The main event of the year, our annual meeting in Nashville, drew the largest attendance of any of our conferences that was not a joint meeting, with a total registration of just over 800 people. That number was second only to the joint SOFT/TIAFT/FBI meeting in Washington DC in 2004, and demonstrates that we are still very much a growing and successful professional organization. The success in Nashville was due in large part to the local hosts of the meeting from the Tennessee Bureau of Investigation, headed by Louis Kuykendall and Mike

Lyttle. I would personally like to thank Louis and Mike, in addition to Workshop Chair Peter Stout, Scientific Chair Ken Ferslew and the many TBI crew who assisted them. I also owe a great deal of thanks to at least three people who assisted the Nashville team in making this meeting the success it was: Vickie Watts, Meeting Resource Chair, who helped Louis and Mike recognize and meet the seemingly endless number of deadlines that precede our annual meeting; Lisa O'Dell, Exhibitor Liaison, who helped attract the tremendous commercial support we had; and Bruce Goldberger, our Webmaster, who worked tirelessly to make the online registration work. Many others volunteered their time to assist with registration and other tasks, and I am extremely grateful to them for that. Of course, my recognition of those contributing to the success of the Nashville meeting would not be complete without thanking organizers and presenters at the numerous workshops and scientific sessions.

Despite the overall success of the meeting in Nashville, one aspect was extremely disappointing to me and many others - the rejection of the volume of distribution position statement by the majority of those members present at the annual business meeting. (For those who were not in Nashville or have forgotten to what I am referring, see the March 2005 edition of **ToxTalk**. Essentially, adoption of the statement would have publicly expressed concern about the use of a pharmacokinetic formula for calculation of the dose of a drug ingested, based on a postmortem blood concentration and presumed volume of distribution). After adoption of the statement was moved, seconded and the issue opened up for discussion, three people spoke against the motion and two in favor. Interestingly, none of the speakers who spoke against the motion appeared to disagree with the content of the proposed statement. However, the general concern seemed to be with publicly taking a position against use of the volume of distribution equation for dose calculation out of fear the lawyers may use it against us in some future case which 'magically' it might be deemed useful. The formula has been inappropriately used on innumerable occasions, not just by our colleagues (who should know better), but by physicians, pharmacologists and pharmacists who are largely ignorant of the way blood concentrations of drugs can change after death. The problem is not that the formula will *always* miscalculate dose, but knowing on which occasions it might provide a reliable estimate. Unfortunately, rejection of the motion now means that SOFT is essentially "on record" as having tacitly endorsed use of the formula - something that I suspect (and sincerely hope) that the majority of people present at the meeting did not intend. While I do not take rejection of the statement personally, I am disappointed that the reasons for rejection seem to be so weak. All I can say is that if you feel as strongly as I do against the misapplication of the formula, lobby the SOFT board to have the issue reopened and voted on again - perhaps with more discussion this time. (Note: the entire SOFT board was on record as endorsing the statement and presenting it to the membership).

On a more positive note, I would like to remind the membership that ERA (Education Research Award) and YSMA (Young Scientist Meeting Award) scholarships are again available for the 2006 meeting in Austin. Be sure to read the information in this issue of **ToxTalk** and download application forms from the SOFT web site (www.soft-tox.org under the Education and Research tab). You may also contact the committee chair Dr. Phil Kemp (p_kemp@ocmeokc.state.ok.us) directly for further information.

I would like to conclude by thanking the membership for allowing me to serve as President during 2005 and the officers and board for their support during the past year. I wish incoming President Tim Rohrig and all of you the very best for 2006. ☺

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SOFT 2005 Annual Meeting NASHVILLE, TENNESSEE



Greetings from the 2005 SOFT Meeting Host

I am very happy to get one more chance to thank the many people who contributed to the overwhelming (and I mean that in every conceivable sense) success of the SOFT 2005 Annual Meeting in Nashville, TN. When I was first commissioned by the TBI to offer hosting a SOFT meeting in Nashville, I said, "I want to put on the best meeting, in all phases, that has ever been." A daunting task when considering some recent meetings. The Assistant Director gave it the nod, and away we went. In such a subjective arena as the "Best Ever", one can never really attain affirmation, but it is a good approach to hosting a meeting none-the-less. While I have never attended a "bad" SOFT meeting, I like to think we have made a good attempt at "Best Ever," no matter where this meeting ranks relative to others.

Our success is due, I believe, to the original mission of this meeting and the combined efforts of those I am about to thank. To the SOFT membership at large, thank you for such wonderful attendance and support. At every turn our members, and especially our Officers and Board of Directors, were assisting in the meeting by teaching workshops, giving posters and papers, or just helping with the day-to-day grunt work that goes on behind the scenes. Even after a decade of membership, I am still amazed at how open, friendly, and close-knit our society is in comparison to other organizations of a similar structure. SOFT is truly unique in this respect and should cling to the ideals that allow this supportive nature to continue.

A huge thank you to our terrific sponsors and exhibitors. They came through, as always, and our meeting cannot exist in its present format without them. I would also like to thank the many non-members who attended, whether friends, spouses, students, or other scientists. Your presence added much to the meeting and, hopefully, you gained much from it. Certain individuals must also be noted for special thanks. Mike Lytle (Treasurer), Peter Stout (Workshop chair), Ken Ferslew (Scientific chair), and Bruce Goldberger (Website Administrator) worked diligently from start to finish over the last four years toward the success of this meeting. These four men are not only terrific leaders, but valued friends. They are much admired by me. Our Meeting Resource Chair, Vickie Watts, and Exhibitor Liaison, Lisa O'Dell did masterful work at their respective posts as they have for many SOFT meetings in the past. Their work on this meeting, as well as future meetings, is much appreciated. My fellow TBI Tox cohorts and friends, Kelly Hopkins (Materials chair), Jeff Crews (Social Events chair), Dawn Swiney (Secretary), John Harrison (Volunteer Labor chair), Jennifer Hall (Give-Aways chair), and April Hagar and Leslie Goodloe (So-SOFT co-chairs) deserve much praise, as they handled their many tasks in the usual complete and efficient manner to which I have become so accustomed, that I often forget just how remarkable the Tox unit is at the TBI. And, in case you didn't notice, they make their work environment fun and enjoyable, and that attitude spread throughout the meeting. I miss being around them.

Thanks to the others who do not fall into any easily defined category, such as Howard Taylor (Continuing Education), Frank Wallace (Audio/Visual), and Chip Walls (Master of Ceremonies), Pat Monforte (ToxTalk), and past hosts and experienced members like Kent Hall, Dan Isenschimid, Brad Hepler, Bob Zettl, Amanda Jenkins and Laurel Farrell. Your help was just what was needed, when it was needed - thank you. There are certainly others deserving of thanks, and I hope they understand that an omission here is not indicative of my appreciation, only of the pressure to get this in on time.

On a personal note, I have been assigned to a post with the U.S. Marshals for the next two years to chase fugitives, so I probably will not be involved to any great extent with SOFT in the foreseeable future. I would like to take the opportunity to wish all my friends in the Society the best that life has to offer and express how grateful I am for having you guys in my corner. Stick & move, bob & weave, fight the good fight! *Louis Kuykendall, 2005 SOFT Meeting Host* ☺

MEETING WORKSHOPS OVERWHELMING SUCCESS!

Submitted by Peter Sout, Ph.D., 2005 Meeting Workshop Chair

Thank you to all who were involved with workshops, including the chairs, faculty and attendees. The chairs and co-chairs listed below put together an excellent program of 10 workshops, including one two-day workshop. For a perspective of what the chairs and participants accomplished, between the workshops there were 71 faculty participants presenting over 170 hours of material. There were 1,126 registrants for the workshops.

The workshop faculty and chairs have again provided excellent quality workshops for the attendees. It warrants repeating - thank you to all who participated in this increasingly significant portion of the meeting.

A special kudos and appreciation to all the workshop chairs:

Maria Martinez ☺ Steven Wong ☺ Jennifer Limoges ☺ Robert Sears ☺ Michael Wagner
Colleen Scarneo ☺ H. Chip Walls ☺ John Cody ☺ Amanda Jenkins ☺ Alphonse Poklis
Carl Wolf ☺ Ann Marie Gordon ☺ Rebecca Jufer ☺ Michelle Spirk ☺ Sarah Kerrigan



GREAT MEETING – GREAT WORKSHOPS – GREAT CORPORATE SUPPORT – GREAT FRIENDS – GREAT TIME!



ATTENTION: 2005 WORKSHOP ATTENDEES:

Please Complete the Survey at <http://www.soft-tox.org/docs/SOFT%202005%20workshop%20survey.pdf>

To promote continuous improvement of the workshops presented at SOFT meetings, above is a link to a survey regarding the workshops at the Nashville meeting. This survey is designed to be general, but there is a space provided for specific comments about individual faculty or workshops. Please take a moment to provide your feedback. There are also questions related to future meetings, and your responses to these are very valuable. The intention is to have a survey for each workshop next year.

Thank you for your time and your responses will have an impact on improving the meetings to better serve the needs of the membership. If you have questions, please contact me at pstout@rti.org. (submitted by Dr. Peter Stout) ☺

2005 EXHIBITORS DECLARE THE NASHVILLE MEETING ANOTHER SUCCESS ! !

submitted by Lisa O'Dell, SOFT Exhibit Coordinator

Many of you conduct business with various companies who exhibit at and sponsor events during our annual meeting. What you may not know is the exhibitors absolutely cherish SOFT meetings. I cannot tell you how many compliments were received from exhibitors regarding the warmth our membership continues to show them year after year, the superior quality of the meeting and how much they look forward to SOFT meetings. In fact, many say our meeting is the best one they attend during the year. It is truly amazing to me that three new exhibitors sought me out specifically to share how welcome they felt, how much they enjoyed the meeting and how great of a success it was for them. All said they will return next year. Comments like these show me that YOU are top quality people. Thank you and many, many thanks to this year's exhibitors and sponsors.

Following is a list of remarkable companies that supported SOFT at this year's 35th anniversary meeting by exhibiting, sponsoring and advertising. As you know, their financial assistance is vital to the continued success of our annual meetings. Please take a moment to recognize which companies as well as how many support our organization through their enduring commitment year after year. Truly, it is an extraordinary list.

- Acro Biotech, Agilent Technologies, Alternative Biomedical Solutions, American Solutions for Business, Andwin Scientific, Applied Biosystems, Axiom Diagnostics, Beckman Coulter, Biochemical Diagnostics, BioMed Resource, BioRad Laboratories, Biotage, Branam Medical Corporation, Campbell Science Corporation, Capitol Vial, Inc., Cerilliant Corporation, ChemWare, Clinical Controls International, CMI, Common Cents Systems, Cozart plc, Dade Behring, Data Unlimited International, Domnick Hunter, Excalibur Lab Specialists/ DCI, Express Diagnostics, Forensic Magazine, GenTech Scientific, GERSTEL, Hamilton Company, Humana Press, Immunalysis Corporation, International Diagnostic Systems, JEOL USA, Journal of Analytical Toxicology, Lin-Zhi International, Lipomed, Lynn Peavey Company, Microgenics Corporation, MicroLiter Analytical Supplies, National Medical Services, Neogen Corporation, OraSure Technologies, Parker Hannifin, Perkin Elmer Life and Analytical Sciences, Pharmaceutical Press, Quality Assurance Service, Randox Laboratories, Regis Technologies, Restek Corporation, Roche Diagnostics, Rudolph Research Analytical, Sciteck, Shamrock Glass Company, Shimadzu Scientific Instruments, Spectrum Chemicals & Laboratory Products, SPEware Corporation, Teledyne Tekmar, Thermo Electron, United Chemical Technologies, UTAK Labs, Varian, Venture Labs, VertiQ Software, Wampole Laboratories and Waters Corporation ☺

2005 MEETING BREAKS ALL ATTENDANCE RECORDS!

Submitted by Vickie Watts, SOFT Meeting Resource Chair

The 2005 Annual Meeting in Nashville, Tennessee, was successfully conducted with a record attendance of almost 800 registrants at the Marriott Renaissance Hotel on October 17 through 21st with Louis Kuykendall serving as Meeting Host and Mike Lyttle as Meeting Treasurer. Through the efforts of Workshop Chair Peter Stout, the program included eleven focus-oriented workshops with again an outstanding attendance of 1,126 workshop registrations. The Scientific Chair, Ken Ferslew prepared a program that included 112 abstracts with presented as platform and 59 as poster presentations. The annual meeting attendance breakdown of 797 registrations included 310 members, 265 nonmembers, 164 vendors and 10 students and 48 accompanying person registrations. Of the 797 registrations, 739 were pre-registered and 58 registered onsite. The meeting was supported by 16 exhibitor booth registrations. Through the efforts of our exhibitor liaison, Lisa O'Dell, the exhibitor booth registrations and sponsorship came in at a total of \$158,000, which allowed SOFT to offer members a registration fee of only \$195 for the week of events and receptions. ☺



SOFT 2006 Annual Meeting

AUSTIN, TEXAS

October 2 – 7, 2006



Welcome to the Home of SOFT 2006 – Austin, TX

We are excited to have SOFT come to Austin in 2006 for its first visit to Texas. The meeting will be held at the Hilton Austin beginning Tuesday, October 2nd through Saturday October 7th. The meeting will begin one day later in recognition of Yom Kippur. The hotel is located near the lively "6th Street" dining and entertainment area with museums, the State Capitol, lake trails and shopping within walking distance. The "Dillo" trolley system provides transportation to each of these venues at no cost for those desiring less exercise. The final social event will be an evening at the beautiful new Texas History Museum. The heart of our organization is the science. We are planning a stimulating and informative collection of workshops, posters and platform presentations.

Weather

The remnants of a hot Texas summer can last into October, but the average daytime highs are in the 70's. The Hilton pool is outside and Barton Springs (Brrr...) is open year around so you may want to bring the swim gear or some shorts for a walk along Town Lake. Lows should be in the 50's or higher.

Hotel Accommodations

The meeting will be held at the Hilton Austin located downtown at 500 East 4th Street. The direct telephone line is 512-482-8000. Room rates for the convention will be \$125 single/double. Information (Group Code) for obtaining the convention rate when registering online will be provided in the future.

Airport and Transportation

Austin-Bergstrom International airport is located less than 10 miles from downtown. Taxi cabs or shuttles are the primary mode of transportation from the airport to hotels. Parking fees at the Hilton are \$11 to \$16 (self park vs. valet). Transportation in the downtown area, including the campus of the University of Texas is provided at no cost via the "Dillo" trolley system.

For meeting updates, go to

www.soft-tox.org

Explore Austin

Relax, Refresh, And Rejuvenate! Whether you enjoy being active hiking, boating, cycling or golfing or you just want to chill by the lake, you'll find a lot to do in this friendly, eclectic city. Surrounded by the Texas hill country and its sparkling rivers and lakes, Austin is the seat of state government, and is home to seven universities, a vast array of museums, galleries, and shops as well as local and state parks. Nicknamed "The Live Music Capital of the World" its varied music venues will have you tapping your feet. After all, it is host to two internationally attended festivals - South by Southwest Film and Music conference as well as Austin City Limits. A few of the local points of interest include the Capitol, Lyndon Baines Johnson Presidential Library and Museum, Barton Springs, Zilker Botanical Gardens, Lady Bird Johnson Wildflower Center, and the "SOCO" district which helps maintain the "Keep Austin Weird" motto. Sunset viewing from the Oasis restaurant on Lake Travis is always a treat. Less than two hours away, experience wineries, popular state parks, and one of Texas' first Germ settlements, Fredericksburg. Plan extra leisure time when you visit because AUSTIN is a place you'll want to EXPLORE.

SOFT 2006 COMMITTEE MEMBERS

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SOFT 2006 ANNUAL MEETING

October 3 – 7, 2006 (Tuesday through Saturday)
AUSTIN, TEXAS - "Live Music Capitol of the World"

Austin Hilton Hotel

Host: Rod McCutcheon

PRELIMINARY PROGRAM

Sunday, October 1, 2006

- Pre-Conference Tours
- Satellite Organization Meetings

Monday, October 2, 2006

- Pre-Conference Tours
- Satellite Organization Meetings
- Registration Opens (2:00pm – 6:00pm)

Tuesday, October 3, 2006

- Continental Breakfast (7:00am – 8:30am)
- Registration (7:00am – 6:00pm)
- Workshops (8:00am – 5:00pm)
- Lunch – on your own
- Board mtgs., Committee mtgs., Exams
- Dinner – on your own

Wednesday, October 4, 2006

- Continental Breakfast (7:00am – 8:30am)
- Registration (7:00am – 6:00pm)
- Workshops (8:00am – 5:00pm)
- Lunch – on your own
- Board mtgs., Committee mtgs., Exams
- Exhibits Setup (noon– 5:00pm)
- Exhibits Open (6:30pm – 8:00pm)
- Welcoming Reception (6:30pm – 8:00pm)
(Reception in Exhibit Hall)
- Elmer Gordon Forum (8:00pm – 10:00pm)
- Nite Owl Reception (10:30pm – 12:30am)

TO APPEAR IN THE NEXT ISSUE OF TOXTALK:

**Call for papers & Registration Worksheet
Hotel code & Hotel Registration Deadline**

Thursday, October 5, 2006

- SOFT Fun Run/Walk (6:30am – 8:00am)
- Continental Breakfast (7:00am – 08:30am)
- Registration (7:30am – 5:30pm)
- Exhibits open (9:30am – 3:30pm)
- Plenary/Scientific Session (8:30am – 10:00pm)
- Poster Session (10:30am – noon)
- Lunch with Exhibitors (noon– 1:30pm)
- Scientific Session (1:30pm – 3:00pm)
- SOFT Business Meeting (3:30pm – 5:30pm)
- "A Taste of Austin" Reception
Exhibitor's Happy Hour (6:00pm – 7:30pm)
- "Explore Austin" (on your own; 7:30 - ??)

Friday, October 6, 2006

- Continental Breakfast (7:00am – 8:30am)
- Registration (7:00am – 5:00pm)
- Exhibitor Feedback Meeting (8:00am – 9:30pm)
- Exhibits open (9:30am – 1:30pm)
- Plenary/Scientific Session (8:30am – 10:00pm)
- Poster Session (10:30am – noon)
- Lunch with Exhibitors (noon– 1:30pm)
- Exhibits breakdown (1:30pm – 3:30pm)
- Scientific Session (1:30pm – 03:00pm)
- Poster Session (3:30pm – 5:00pm)
- Presidents Reception (6:30pm – 10:30pm)

Saturday, October 7, 2006

- Continental Breakfast (7:30am – 9:00am)
- Registration (7:30am – 9:00pm)
- Closing Scientific Session (9:00am – 11:00am)
- NSC Executive Board (11:30am – 1:30pm)
- NLCP Inspector Training (2:00pm – 6:00pm)
- Post-Conference Tours

ATTENTION VENDORS

Look forward to seeing our "regulars" in Austin – you know who you are and what to do! However, if you have not participated in a SOFT meeting and wish to take advantage of an opportunity to present your products and/or services to hundreds of forensic toxicology professionals representing laboratories from all over the world, contact SOFT Exhibit Coordinator Lisa O'Dell at NomadLee9@aol.com for details. ☎



CALL FOR CASE NOTES:



INHALANTS – Part 2

Editorial Staff: Matthew Barnhill, Ph.D. mbarnhilljr@worldnet.att.net

Case Report Involving Multiple CNS Depressants in Urine. Mark Stoltman and Anil Solanky, Phoenix Police Department Laboratory Services Bureau, 620 W. Washington St., Phoenix, AZ. 85003.

A 46-year-old white male was arrested for DUI drugs. A citizen phoned police after following the suspect and seeing the driver bounce off a curb. When the officer pulled the suspect over he was on a freeway riding on a shredded tire almost down to the rim. The suspect appeared sluggish with blood-shot, watery and droopy eyes and had what was described as very slurred speech. A Drug Influence Evaluation was performed by a DRE (Drug Recognition Expert) with the Phoenix Police Department. Remarkable DRE findings include 6/6 cues on HGN plus vertical nystagmus. Walk and turn test was stopped when the suspect nearly fell over and said, "I can't do this". One-leg stand was stopped by the Officer after the suspect put his foot down 3 times quickly. He estimated the passage of 30 seconds in 71 seconds saying that he "arrived at 30 seconds by counting but that it was actually closer to 40 seconds because he was counting fast". When asked what time it is now the suspect said 11am. The actual time was 3am, a difference of 8 hours. He had a circular sway as he stood; muscle tone was flaccid and body temperature was 95.5 degrees F. The suspect stated that he might be diabetic because he has blurry vision; however, he had not been to a doctor in the last 8 years. The opinion of the evaluator was CNS Depressant.

Toxicology results: Preliminary screen on EMIT was positive for Benzodiazepines and cocaine metabolite. Further Acid/Base screening and subsequent confirmation by GC/MS confirmed the following drugs in urine, ng/ml:

Temazepam: 5100 Oxazepam: 1000 Lorazepam: 5 Cocaine: 31000 Benzoylcegonine 850000

Below cut-of: Benzotropine, Olanzapine, Thioridazine, Trihexylphenidyl, Valproic acid, Venlafaxine, Norvenlafaxine and Clonazepam

Results from urine give little information about driving impairment. Case reports are, however, real-world doses w/ personalized data and detailed actual effects from first hand accounts. Was the subject's ability to operate a motor vehicle impaired? In the final analysis, the driving history, symptoms of impairment and observations by the Officer are the expected effects of the drugs found in this case. Toxicology findings confirm the DRE opinion of CNS Depressant.

A Fatality Involving Cantharidin Contained in a Traditional Folk Medicine. Nial Harding, Principal Forensic Analyst Forensic Chemistry Laboratory, Johannesburg, South Africa

A male of unspecified age was given a traditional medicine to drink to "purge" his stomach. After taking the medicine, the subject vomited blood and died shortly afterwards. A post-mortem blood sample was taken and the traditional medicine was confiscated from the suspect. Both were subjected to a solid phase extraction as follows:

Phosphate-buffered saline, adjusted to pH 6, was added to the samples. The samples were then placed in an end-over-end mixer for 30 minutes, centrifuged, filtered and placed on a RapidTrace for the solid phase extraction using Waters HLB cartridges. The elution solvent was methanol:ammonium hydroxide (99:1) followed by acetonitrile. The eluent was evaporated to dryness and reconstituted in 0.5 mL of methanol.

Both samples were screened on Waters Integrity System [LC-MS (EI)] and resulting spectra searched against NIST library. We couldn't detect anything of interest in the blood, but the medicine contained Cantharidin. Confirmation was achieved by running the sample and a standard on a different column.

No information was available as to how the medicine was prepared. However, black particles were noted, most likely from beetles containing cantharidin.

The failure to detect cantharidin in the blood could be attributed to a number of factors:

1. The cantharidin could have caused an allergic response and cause of death could have been due to suffocation (no autopsy report available).
2. Cantharidin is insoluble in water. While we managed to extract the relatively large amounts in the medicine, it is quite conceivable that we didn't extract the small amounts that could have been present in the blood.

The Thermabeam Mass detector can detect substances down to low ppm level. It could be that the cantharidin is present below the detection limit of the Thermabeam.

The Forensic Toxicology Drug Testing Laboratory at Fort Meade, MD recently modified an existing GC/MS procedure used to confirm the presence of 6-monoacetylmorphine (6-MAM) in urine. This procedure, initially developed at the Navy Drug Testing Laboratory at Great Lakes, IL (DoD Triservice Meeting, 2002), involves extraction with a solid-phase column followed by subsequent derivatization with pentafluoropropionic anhydride (PFPA). During our evaluation of this method it was noticed that the recovery of the 6-MAM from both acetonitrile and aqueous solutions was far less than that recovered from urine-based specimens.

For other drugs analyzed in our laboratory, urine-based specimens consistently exhibit similar or slightly lower abundances than non-extracted specimens having the same quantity of drug initially present, since some analyte is inevitably lost at the extraction stage. Because non-extracted samples prepared in an organic solvent are simply evaporated and derivatized without any prior extraction, these are not subject to the same loss of analyte that would otherwise occur. In addition, other substances present in the urine matrix can sometimes interfere with otherwise efficient recovery of drug when using solid-phase extraction techniques. At sufficiently high levels, these constituents of urine may block interaction of the analyte with the sorbent, resulting in loss of retention of the analyte. For these reasons, it is unusual and rather unexpected to find non-extracted samples as well as simple aqueous solutions repeatedly exhibiting low recovery of drug when compared to urine specimens for which an extraction step has been included.

To help identify the source of the problem, two separate experiments were conducted. In the first of these, certified negative urine (Roche Abuscreen) was passed through a Cerex Polychrom Clin II solid-phase extraction column, washed, then eluted with solvent (ethyl acetate:methanol:ammonium hydroxide (40:10:1)). The urine extract (the column effluent) was collected, combined with the non-extracted 6-MAM (dissolved in acetonitrile), dried down at 43°C, derivatized with PFPA, dried down again, and reconstituted in ethyl acetate before injection onto an Agilent 6890A GC/5973 MSD. In the second experiment, the inside of a standard borosilicate glass test tube was first rinsed with 200 µL of BSTFA (bis(trimethylsilyl)trifluoroacetamide), and the tube dried down at 43°C prior to a solution of 6-MAM in acetonitrile being introduced into the tube as a non-extracted sample. At that point, the sample was treated following standard procedure.

In both cases these modifications resulted in increased GC/MS signals at levels comparable to those obtained from urine-based 6-MAM specimens. Adding urine extract immediately before the first dry-down step, or simply silanizing the test tube beforehand with BSTFA was successful in eliminating losses that had been occurring to non-extracted samples. Our observations suggest that the unusually low 6-MAM signal intensities noted initially were the result of analyte loss on the untreated borosilicate glass tubes, and that either the silanization process or the coating of the glassware with residue from the urine extract (as evidenced by a yellow film that forms during the dry-down) was sufficient to prevent 6-MAM from irreversibly adhering to the glass surfaces. These findings explain why loss of 6-MAM is not observed for urine samples, but readily occurs with water- and acetonitrile-based samples.

The results reported here provide an interesting example of how a biological matrix may occasionally actually enhance, rather than inhibit, analyte recovery. This is far less common than seeing the opposite effect where the matrix can contribute substantially to loss of material during sample preparation. Even so, urine specimens do vary somewhat in their composition, and the findings from our study, though consistent, are based on a single batch of pooled urine. While there were no observed instances of significant loss of 6-MAM from any of the urine samples examined by us, use of silanized glassware may still be of benefit in assuring that adsorptive losses are minimized whenever analyzing for this particular drug.

**This work was supported by the Department of the Army. The opinions expressed are solely those of the authors and do not necessarily reflect the views of the Department of Defense or the Department of the Army.*

A DUI Case Involving Cocaine and Isopropanol Jennifer M. Wanat, Illinois State Police, Westchester, IL 60154

The confirmation method performed by the Illinois State Police for the presence of benzoylecgonine in urine is conducted by extracting the benzoylecgonine from the urine and derivatizing with iodopropane. The resulting product, propylbenzoylecgonine, is analyzed by gas chromatography/mass spectrometry. Keeping this procedure in mind, the following DUI case is presented.

An officer responded to a head-on collision accident in which the suspect, a 46 year old female, had a strong odor of an alcoholic beverage on her breath. Blood and urine samples were collected at the hospital and submitted to the laboratory for drug and volatile analysis. The blood was analyzed for volatiles by headspace gas chromatography and determined to contain 0.015 g/dL ethanol, 0.051 g/dL acetone, and 0.110 g/dL isopropanol. The blood was not analyzed for drugs. The urine screened positive for cocaine metabolite by EMIT. Toxi-Lab indicated cocaine, nicotine and cotinine. A Toxi-A extract analyzed by gas chromatography/mass spectrometry revealed the presence of nicotine, cotinine, ibuprofen, caffeine, chlorpheniramine, cocaine, methylecgonine, cocaethylene, benzoylecgonine and propylbenzoylecgonine. Apparently, co-ingestion of isopropanol and cocaine by the suspect allowed the formation of propylbenzoylecgonine *in vivo*.

Three Deaths involving Atomoxetine (Strattera™) Carol L. O'Neal, PhD and Lucy Sale, Dept. of Forensic Science, Fairfax, VA, Frances P. Field, MD and Kathryn Haden, MD, Office of the Chief Medical Examiner, Fairfax, VA

In a four-month interval (November 2004 to February 2005), our office had 3 cases involving atomoxetine. We had not detected atomoxetine in any cases prior to these. Two cases were classified as suicides, one of which was an overdose. The third case was an accidental overdose in which atomoxetine was detected along with other drugs.

Atomoxetine concentrations

Gender /Age	Blood mg/L	Liver mg/Kg	Gastric mg/total	Other drugs detected Blood concentrations - mg/L	Cause/Manner Of Death
M 17	16 (vena cava)	240	85	Paroxetine < 0.1 Lamotrigine present	Overdose/ Suicide
F 24	0.26 (inferior vena cava)	4	< 0.7	Diphenhydramine 0.41* Trazodone 0.37 Diazepam 0.48 Nordiazepam 0.90 Methadone 0.30 Paroxetine 0.77	Multiple Drug Overdose/ Accidental
F 20	0.49 (cardiac)			Fluoxetine 0.43 Diphenhydramine 0.10	Hanging/ Suicide

*Concentrations for the other drugs in the liver and gastric were determined but are not reported.

Atomoxetine was quantitated by alkaline extraction and GC-NPD analysis and confirmed by full-scan GC-MS. Ethanol was not detected in the 3 cases.

Case Histories:

1. A 17-yr-old male with a history of depression and ADHD had been on Strattera™ for over a year and was currently taking 80mg qd. After an argument with his parents he left home and was found dead the next day. No suicide note was left. There were no recent indications of suicidal ideations although there was one prior suicide attempt (drugs-Ambien™) one year before. He had been prescribed Paxil™ one month prior to death.
2. A 24-yr-old female with a history of opioid dependence, excessive alcohol and migraines had been prescribed methadone, trazodone and oxycodone as well as Strattera™ and Paxil™. She reportedly had been drinking and smoking marijuana the prior evening then was found unresponsive in bed the following morning. It was not known how long she had been taking Strattera™ and Paxil™.
3. A 29-yr-old old female with a history of depression and 2 previous suicide attempts had been hospitalized 1 month prior for an overdose. Her therapist prescribed fluoxetine and Strattera™ for depression. She was discovered dead by parents who reportedly checked on her every half hour. It was reported that she had not been compliant with her medications.

Atomoxetine is a selective norepinephrine reuptake inhibitor used for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) and eliminated primarily by oxidative metabolism by cytochrome P450 2D6 (CYP2D6) with subsequent glucuronidation. A small percentage of the population are poor metabolizers of CYP2D6 metabolized drugs. The reduced activity in this pathway results in 10-fold higher AUCs, 5-fold higher peak plasma concentrations and slower elimination of atomoxetine compared with individuals with normal enzyme activity (1). One study (2) has shown that drugs that are potent inhibitors of CYP2D6 increased the AUC and peak plasma concentration and slowed elimination in normal individuals resulting in pharmacokinetics similar to poor metabolizers of CYP2D6 substrates. The PDR warns that coadministration of potent inhibitors of CYP2D6 such as paroxetine and fluoxetine will result in a substantial increase in atomoxetine plasma exposure and that dosing adjustments may be necessary. It is interesting to note that in each of these cases a CYP2D6 inhibitor was also detected. It is not known if there were any adjustments made to the atomoxetine dosages of the decedents as indicated by the PDR.

1. **Physicians Desk Reference**, 58th ed. Thomson PDR, Montvale, NJ, 2004, 1850-54.
2. D.J. Bell, C.S. Ernest, J.M. Sauer, B.P. Smith, H.R. Thomasson and J.W. Witcher. *Effect of potent CYP2D6 inhibition by paroxetine on atomoxetine pharmacokinetics.* **J Clin Pharmacol.** 2002 Nov; 42(11): 1219-27. ☞

JAT/SOFT SPECIAL ISSUE MANUSCRIPTS MUST BE SUBMITTED THROUGH www.jatox.com

Select the option in a dropdown menu for submission to the "Special Issue"

DEADLINE - March 16, 2006: Title and Abstract Submission Due to Guest Editor

LEVAMISOLE: An Unusual Finding in a Cocaine Related Fatality

Jaime Lintemoot, LA County Dept. of Coroner, 1104 N. Mission Rd., Los Angeles, CA 90033 (jlintemoot@lacoroner.org)

The Los Angeles County Coroner's Toxicology Laboratory recently encountered an interesting case. The decedent, a 44-year-old female, was discovered unresponsive on the floor of her secured bathroom. She had a history of anxiety, high blood pressure, depression, cocaine use and an abusive ex-husband. A half-empty prescription bottle of Alprazolam and a two-inch section of plastic straw with possible drug residue were recovered from the scene. Based on the circumstances of the case, the Deputy Medical Examiner deferred the cause of death for toxicology.

Toxicological Findings:

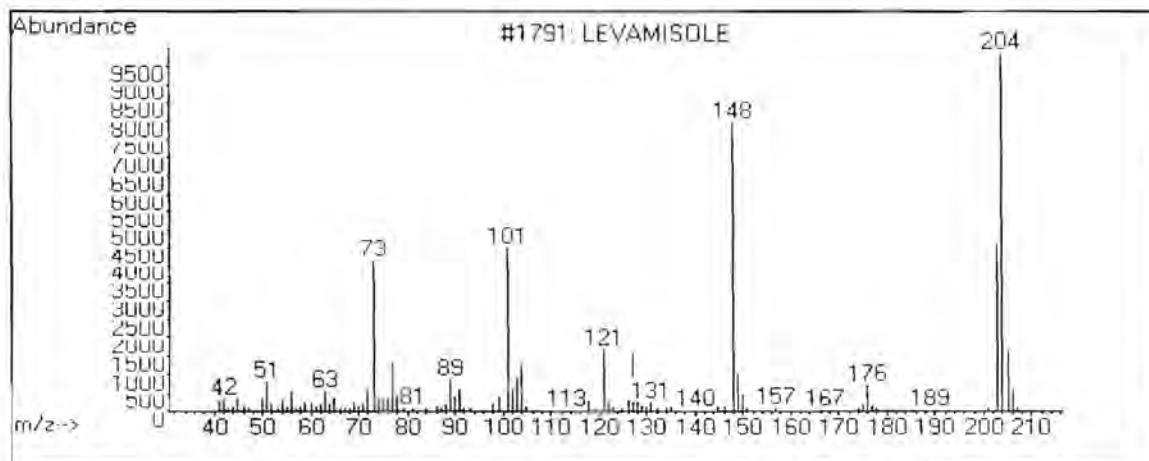
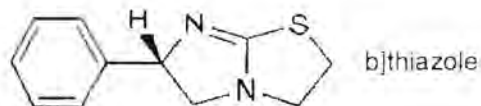
	Heart Blood	Femoral Blood
Cocaine	5.9 ug/mL	6.8 ug/mL
Benzoyl-ecgonine	22 ug/mL	16 ug/mL
Metoprolol	0.18 ug/mL	---
Sertraline	0.18 ug/mL	---
Norsertaline	0.65 ug/mL	---
Alprazolam	ND	---
* Levamisole	2.8 ug/mL	2.2 ug/mL

* **Levamisole** is primarily used in veterinary medicine to control parasites in livestock. It is supplied in oral tablets/pastes/gels/boluses, soluble powder, feed premixes, topical solutions and injectable solutions. Levamisole has also been used as an adjuvant treatment for malignant disease in humans. In Canada it is marketed by Janssen Pharmaceuticals under the trade name Ergamisol[®] for use in colon cancer treatment. Ergamisol[®] is supplied as a 50mg base oral tablet. Levamisole is not commercially available in the United States for human consumption.

Based on the indications for use of Levamisole and the limited availability in the United States, the presence of Levamisole was not consistent with the decedent's history. Further toxicological analysis was performed and examination of the plastic straw revealed the presence of Cocaine and Levamisole. It is speculated that the Levamisole was used as a cutting agent in this case. The final cause and manner of death were determined to be Cocaine Intoxication, Accident.

Levamisole Analytical Information

- Synonym: leva (l)-Tetramisole
- Chemical Name: (6S)-2,3,5,6-Tetrahydro-6-phenylimidazo[2,1-b]thiazole
- Chemical Formula: C₁₁H₁₂N₂S•HCl
- Molecular Weight: 204.3
- Formula Weight: 240.8
- pK_a: 8.0
- Levamisole is extracted using a basic liquid-liquid chlorobutane extraction with an acid back extraction.
- Levamisole is easily detected on the GC/NPD and GC/MS.
- Elution Order: Doxylamine, LEVAMISOLE, Chlorpheniramine



Note: Although this is one of the first documented postmortem cases, the Drug Enforcement Administration Southwest Laboratory has encountered Levamisole as an adulterant to cocaine over the past few years. ⚡



DRUGS IN THE NEWS

ToxTalk Editorial Staff: Andrew P. Mason, Ph.D., DABFT, DABCC-T

Send your media items of interest to SOFTToxTalk@aol.com



Diphenhydramine (DPH) Related Fatalities In Infants And Young Children

Submitted by Andrew P. Mason, Ph.D., DABFT, DABCC-TC, ToxicoLogics, Ltd., Boone, NC. form6tox@aol.com

A new case was recently concluded where diphenhydramine (DPH) was used by a caregiver in a day-care setting for "chemical restraint" of a young child (see report number 5, below). In conjunction with this, I thought it might be interesting to summarize information that relates to similar cases.

Report #1: Dr. Andrew Baker reported on five fatal cases, all from "caregiver custody situations" (Baker AM, et al., *J Forensic Sci.*, 48/2: 425-8, (2003)). He provided the following data.

No.	Age weeks	Sex	Wt. kg	Blood Source	Conc., mg/L	Cause of Death	Manner of Death	Legal Follow-up
1.	6	F	3.6	Unspecified	1.6	DPH	Undetermined	None
2.	8	F	4.5	Heart, IVC	1.5, 1.3	DPH	Accident	Yes
3.	9	M	5.4	Unspecified	1.6	DPH	Homicide	Yes
4.	12	F	7.3	Unspecified	1.1	DPH	Homicide	Yes
5.	12	M	7.2	Unspecified	1.1	DPH	Homicide	Yes

Report #2: One fatal case was reported where a 5-month-old 7.3 kg female with a history of perimortem aspiration died after being administered DPH (Abstract #15, Mason, AP, et al., SOFT Annual Meeting, Atlanta GA, October 2002). This was a "caregiver custody" case as well. DPH concentrations were 0.14 mg/L in aorta blood, 0.12 mg/L in vena cava blood, and 0.1 mg/kg in liver. Factors that hindered prosecution included the low blood and tissue concentrations, the lack of comparable concentration data, and the assigned cause (SIDS) and manner of death (natural). The caregiver plead guilty to 3 misdemeanor charges, including child abuse and neglect, assault on a child less than 12 years old, and operating an unlicensed day care facility. She served an active prison sentence of 120 days.

This report cited one case where an infant was exposed in-utero. At birth, the 3.7 kg female neonate exhibited severe respiratory (apneic) and CNS depression, but recovered with intensive medical support. Chord blood contained 0.64 mg/L of DPH (Miller AA, *J Perinatol*, 20/6: 390-1, (2000)).

This report also provided information from 5 other cases of DPH-related toxicity in young children cited in the literature. None of these were from "caregiver custody" situations. Many other cases of toxicity were found for older children, but these five were closest in age to the decedent. Cases one and five are postmortem blood concentrations. The other three cases (serum/plasma concentrations) apparently survived with necessary support. The citations are provided below for additional information.

No.	Age (months)	DPH mg/L	Admin. Route	Reference
1.	15	10	PO	Goetz, et al., <i>Am J Emerg Med</i> , 8/4: 321-2, (1990).
2.	19	2.0	PO, Dermal	McGann KP, et al., <i>J Fam Pract</i> , 35/2: 213-4, (1992).
3.	24	1.5	PO, Dermal	Chan CY, et al., <i>DICP (Ann Pharmacother)</i> , 25/2: 130-2, (1991).
4.	30	2.0	Dermal	Reilly JF, et al., <i>J Emerg Med</i> , 8/1: 59-61, (1990).
5.	34	12.8	PO	Lindsay CA, et al., <i>Crit Care Med</i> , 23/4: 777-81, (1995).

Report #3: Dr. Amanda Jenkins reported another case of a DPH-related fatality for an infant in a "caregiver custody" situation (Abstract #K36, Proceedings of the AAFS Annual Meeting, Chicago IL, February 2004, p. 322). The 17-month-old 11.8 kg female child was found dead in a crib. The caregiver reportedly found the child in an unresponsive state with a portion of a bed sheet tangled around her neck. Toxicological examination revealed postmortem blood DPH concentrations of 0.49 (heart), 0.27 (femoral) mg/L. Her gastric content contained a total of 0.36 mg of DPH. The only other significant postmortem findings were "red petechiae over the left mastoid region and a linear transverse aggregate of red petechiae over her right anteriolateral neck." The cause of death was determined to be asphyxia due to entanglement with the bed sheet, with a contributing condition being "recent ingestion of DPH." "Homicide" was assigned as the manner of death.

Report #4: Dr. Jeanne Beno (Monroe County Medical Examiner's Office, Rochester, NY) provided information regarding an incident where a 3 year-old female died after DPH administration by her parents. She was described as coming from a "problem home". She was returned to her parents' care about a month prior to her death, after being in foster care for a period of about 2 years. A week prior to her death she was seen at a local ED for burns on her back from a "curling iron". She allegedly became several days prior to her death with nausea and vomiting. The family alleges they were giving her DPH for palliative reasons. They allege she continued to vomit, and they continued DPH administrations because they were concerned that she had vomited all the medication. She presented at the hospital with symptoms consistent with DPH toxicity, and died shortly thereafter. Heart blood was 1.06 mg/L, vitreous fluid was 0.36 mg/L, urine was 2.1 mg/L, and liver was 5.1 mg/kg. Her cause of death was determined to be myocarditis, with a contributing factor being DPH toxicity. Her manner of death was reported as "undetermined." No criminal charges were filed; however, after the death social services apparently initiated procedures to remove the remaining children from the home.

Report #5: A one-year old boy was found unresponsive (January 31, 2003) at a licensed day care facility in Laurel, Montana. The child could not be resuscitated. Originally, a pathologist noted a possible abnormality in the child's heart and assigned a natural manner. However, toxicological analysis of the child's blood revealed a DPH concentration of 0.6 mg/L. Subsequent investigations detected "elevated concentrations" of DPH in blood specimens taken from three other children who received care at the center. In August 2004, one of the caregivers at the center admitted giving DPH to the deceased child and to other children to "manage their sleep." She plead guilty to negligent homicide and one count of criminal endangerment in exchange for a suspension of other charges and a reduced sentence. However, just a few days prior to sentencing the defendant withdrew her plea and asked for a jury trial. At trial, the defendant denied giving the children unauthorized medications, but admitted buying 63 bottles of generic DPH elixir during the 23 months prior to the death of the child. A jury convicted her of one count of negligent homicide and two counts of felony criminal endangerment. She was sentenced to a prison term of 20 years for the negligent homicide charge with 15 years suspended, and two consecutive 10-year prison terms on the criminal endangerment charges. Trial testimony was notable for the appearance of many expert witnesses, both for the State and for the defense, who provided contradictory interpretations of the significance of the toxicology findings in the decedent. (Information for this entry was taken from various news sources, AM).

Report #6: Marinetti et al., published a compilation of antihistamine concentration data from 10 infant fatalities in the latest special (October) issue of JAT, 29/7: 738-43, (2005). The article reports one infant death where diphenhydramine was detected in blood (0.14 mg/L), but this was apparently unrelated to the cause of death. This article also contains drug concentration information for 9 other drugs and alcohol detected in these 10 fatalities.

N.B. For additional information regarding the interpretation of postmortem DPH concentrations in adults, see the Abstract #K3, Levine BS, Moore KA, in Proceedings of the AAFS Annual Meeting, Chicago IL, February 2004, p.301. ☞

ToxTalk SEEKS NEW STAFFER FOR "DRUGS IN THE NEWS"

Recently, Dr. Andrew Mason notified me that he has accepted a new commitment and can no longer remain on the Editorial Staff of **ToxTalk**. He has accepted a similar role with another publication.

On behalf of the membership, I want to thank Dr. Mason for his many contributions to ToxTalk. Since joining the Editorial Staff, he has contributed to every issue of **ToxTalk** and has always submitted his articles in a timely manner. His outstanding contribution to this issue is representative of his usual efforts. Thanks Andy, for the time and effort you have donated to the Society.

This leaves a vacancy on the Editorial Staff. See box below!

OPPORTUNITY TO BECOME A MEMBER OF THE TOXTALK EDITORIAL STAFF

Interested in serving as the Editorial Staff member responsible for "Drugs in the News"?

Mission: Collect information distributed by the media (TV, published articles . . .) on items of interest to SOFT members, encourage others to submit such items to you, compile the information and submit to **ToxTalk** by the stated deadlines.

Contact ToxTalk Editor Joseph Monforte at SOFTToxTalk@aol.com

NEW SUGGESTED DFSA DETECTION LIMITS FROM THE DRUG-FACILITATED SEXUAL ASSAULT COMMITTEE

Marc LeBeau, Chairman, SOFT Drug-Facilitated Sexual Assault Committee

Enclosed in this issue of **ToxTalk** is a guidance document for laboratories performing analyses of samples from alleged drug-facilitated sexual assault (DFSA) victims. This document was recently completed by the SOFT DFSA Committee and developed to improve the consistency in results generated by toxicology laboratories that analyze urine samples from DFSA cases.

The final product consists of a list of the most prevalent drugs associated with DFSA over the past five years (as well as some drugs known to potentiate the effects of these DFSA drugs), their most significant metabolites, and suggested "maximum" detection limits for each. Note that each of the listed detection limits is based upon published methods using analytical instrumentation considered standard in most laboratories today. Emphasis must also be placed on these being maximum detection limits. The committee strongly encourages laboratories to test at even lower limits than these recommendations, if possible, with advanced technology that may be available. The goal of producing such a guidance document is to encourage laboratories to evaluate their current capabilities, make improvements to their capabilities (where possible), and to communicate to their customers if they cannot meet these detection limits. Questions or comments about this list can be directed to DFSA Committee Chair, Marc LeBeau (marc.lebeau@ic.fbi.gov).

The committee has also prepared a number of PowerPoint presentations designed for targeted audiences (e.g. law enforcement, healthcare professionals, toxicologists and general audiences such as college campuses and civic groups). These presentations are available to all SOFT members who are invited to educate a group on drug-facilitated crimes. To receive a copy of one of the presentations, please contact Madeline Montgomery (madeline.montgomery@ic.fbi.gov).

The DFSA Committee continues to strive toward achieving its mission of training, collating and disseminating data, and facilitating research on DFSA issues. If you would like to volunteer your assistance to the committee, please contact any of the members. ☒

EXTRAPOLATIONS

Editorial Staff: Donald Kippenberger, Ph.D. (donald.kippenberger@amedd.army.mil)

Case of "Coco" Puffs, Not the Breakfast of Champions

Submitted by Roubert R. Roussel and Donald Kippenberger

At a trial at Ft. Sam Houston, Texas, an accused claimed that her positive result must have occurred when she accidentally smoked one of her son's cocaine-laced cigarettes. Skeptical of this explanation, a demonstration was performed first 'in camera' and then in the courtroom. The method of preparation was to grasp the middle of a filtered cigarette (Newport 100's) with several fingers and, with the open end pointing at the ground, rotate the cigarette until all the tobacco had fallen out. Then the son, using a house key and a sugar substitute to simulate powdered cocaine hydrochloride (COC), alternated the addition of COC and tobacco until the cigarette was completely repacked. The son indicated that he normally used cocaine hydrochloride and not 'crack.'

The method of smoking was to first bite off the filter and then smoke the cigarette in a normal manner. The son said that this method of cocaine abuse provided a 'buzz'. He did state that he had abused cocaine by insufflation and reported the well known effects one would report using this method of ingestion.

In addition we found an article from European Addiction Research 2003; 9:188 – 189, entitled 'Smoking Cocarettes, A Less Harmful Alternative of Cocaine Abuse?' We would be happy to supply an electronic version of this article to anyone. Emails are robert.roussel@amedd.army.mil. ☒

Have you recently read or heard a paper that you feel would be of particular interest to SOFT members?

Submit to Dr. Kippenberger at donald.kippenberger@amedd.army.mil

or mail to him at 30325 Bridlegate Dr., Bulverde, TX 78163

CALL FOR PAPERS: JAT / SOFT SPECIAL ISSUE 2006

Submitted by Marc LeBeau, Ph.D., 2006 JAT / SOFT Special Issue Editor (marc.lebeau@ic.fbi.gov)

As we near the end of 2005, we once again look back at a very busy, but productive year. I am very proud to work in the field of toxicology, because no matter how demanding our jobs become, toxicologists still find time to advance our capabilities and understanding of the complex challenges we encounter.

This past October, I was asked by 2006 SOFT president, Tim Rohrig, Ph.D., to serve as the guest editor of the 26th annual SOFT Special Issue of the Journal of Analytical Toxicology (JAT). Year after year the SOFT Special Issue of JAT is looked upon as one of the most prestigious publications in which to publish a toxicology-related manuscript. While it is a great honor to serve in this capacity, the success and high caliber of the SOFT Special Issues of JAT over the years has been due to more than one person. The success has depended upon dedicated colleagues (like you) who conduct the research, develop new methods, write manuscripts, and serve as reviewers of those manuscripts. It also depends upon the talented staff of the journal itself. Therefore, I would like to personally invite you to help me make the 2006 SOFT Special Issue of JAT live up to all of our expectations. You can help in two ways. First, you can submit a manuscript providing cutting-edge information for the field of forensic toxicology. Secondly, you can assist by volunteering to serve as a reviewer of these manuscripts.

As in years past, we expect a large number of manuscripts to be submitted for consideration. Therefore, it is important to understand that these manuscripts must be scrutinized based on originality, value to the field, technical content, and clarity. Complete author guidelines can be found at the JAT website (www.jattox.com) or from their editorial office at (847) 647-2900 ext. 1302.

Recently, JAT implemented an online manuscript submission policy. Therefore, all manuscripts for this Special Issue must be submitted through the JAT website. There will be an option in a dropdown menu for submission to the "Special Issue", so please make sure you select that option when submitting your manuscript.

I would also like to share with you the following timeline and deadlines that have been established to ensure that the 2006 SOFT Special Issue of JAT is produced on schedule:

March 16, 2006: Title and Abstract Submission Due to Guest Editor

March 30, 2006: Completed Manuscripts Due to Guest Editor

April - May 2006: Review of Manuscripts for Acceptance / Revisions by Authors

July - September 2006: Processing Manuscripts and Proofs, Final Production and Distribution to Subscribers of JAT

October 3-7, 2006: SOFT Annual Meeting and Distribution of Special Issue to Attendees

Please allow me to extend my gratitude in advance to all who will contribute to the success of this SOFT Special Issue of the Journal of Analytical Toxicology. Together we will make this issue another memorable contribution to the field of forensic toxicology. ☺

NOTICE TO NON-MEMBER SUBSCRIBERS

ToxTalk subscriptions are for the calendar year, and this is the last **ToxTalk** issue to be distributed for 2005. If you wish to continue, or initiate, a subscription to **ToxTalk**, send your check in the amount of \$15.00 and payable to SOFT to:

ToxTalk, 5403 Widener Strip, Midland, TX 79707

Purchase orders or credit card payments are not accepted.
This may be the only notice distributed

REMINDER TO MEMBERS: Pay your SOFT dues to ensure your continued subscription to **ToxTalk**!

DEADLINE FOR THE NEXT ISSUE OF TOXTALK: FEBRUARY 1, 2006

WE'D LIKE TO HEAR FROM YOU!

ABFT NEWS

Submitted by Yale H. Caplan, Ph.D., DABFT, President, American Board of Forensic Toxicology

At the annual Certificant Meeting and Certificate Ceremony held at the SOFT meeting in Nashville, President Caplan on behalf of the Board presented the Board's 4th Distinguished Service Award to Alphonse Poklis, Ph.D., DABFT. Al has served as a Director of the Board for 15 years and was responsible for the Board's Examination and Education Committee for most of his tenure. The award recognizes Al's efforts in promoting and exemplifying the practice of certification in forensic toxicology. Dr. Poklis joins Kurt Dubowski, Joseph Monforte and Richard Shaw, the prior recipients.

New Diplomate (DABFT): Qiyuan Peng, Ph.D.

New Forensic Toxicology Specialists (FTS-ABFT): Saffia Sakinedzad, MD; Matthew Stillwell, MA; and David Clay, BA.

Emeritus Diplomates: Diplomates who are fully retired from the practice of forensic toxicology may petition the Board for Emeritus status. The following have been approved this year: Patricia H. Field, Everett T. Solomons, Naresh C. Jain, James C. Valentour, Subnash G. Jejurkar, Charles L. Winek, Mark B. Lewis, Bernard Shi-Pin Yen and Wayne O. Pierce

Diplomates re-qualified in 2005: Ronald C. Backer, William Lowry, Jesse H. Bidanset, Joseph E. Manno, David L. Black, Barbara R. Manno, Lee M. Blum, Michael P. McGee, Robert O. Bost, Joel R. Milzoff, Eugenia Brazwell, Joseph R. Monforte, Edward J. Briglia, Karla A. Moore, Yale H. Caplan, Ashraf Mozayani, Joe L. Castorena, Sunil K. Niyogi, Siu C. Chan, Michael A. Peat, Anthony G. Costantino, Alphonse Poklis, Anthony P. D'Addario, Joseph J. Saady, Francis M. Esposito, Theodore J. Siek, Donald L. Frederick, John W. Soper, Dean F. Fritch, Vina R. Spiehler, James C. Garriott, Marina Stajic, Horace E. Hamilton, E. Howard Taylor, C. Nicholas Hodnett, Lowell C. Van Berkorn, Walter Hrynkiw, Gary H. Wimbish, and Gary W. Kunsman.

Forensic Toxicology Specialists re-qualified in 2005: Joseph Crifasi and Carole T. Trojan

There are presently 119 Diplomates, 23 Forensic Toxicology Specialists and 34 Emeritus Diplomates recognized by the Board

The Laboratory Accreditation Program has reached a milestone, exceeding 20 accredited laboratories to date. **The laboratories accredited in 2005 were:** National Medical Services, Willow Grove, Pennsylvania, Robert Middleberg, Ph.D., DABFT, Director; Forensic Toxicology Laboratory Medical Examiner's Office, San Diego, California, Iain McIntyre, Ph.D., Director; Forensic Toxicology Laboratory Washington State Patrol, Seattle, Washington, Barry Logan, Ph.D., DABFT, Director; Travis County Medical Examiner's Office, Austin, Texas, Brad J. Hall, Ph.D., DABFT, Director; and Oklahoma State Medical Examiner's Toxicology Laboratory, Oklahoma City, Oklahoma, Philip Kemp, Ph.D., DABFT, Director. ☺

2006 SOFT DUES DEADLINE 01/01/06

You should have received your SOFT dues notice for 2006. We encourage you to submit your dues on-line. Please note that we have enhanced the system which resulted in the repopulation of the SOFT on-line database, and as a result, all passwords have been reset. The process to obtain your new password is straight-forward. Please follow the link to the "Members Area", <http://www.soft-tox.org/?pn=memberhome>, and follow the link to "I forgot my password". The rest is obvious.

If you have a new e-mail address, please send SOFT WebMaster Bruce Goldberger a message and he'll update the database from the administrative interface (bruce-goldberger@ufl.edu).

If you have not received your dues notice, contact the SOFT Administrative Office at info@soft-tox.org ☺

SOFT-2005 FUN RUN/ WALK CHAMPIONS

1st place runner male: Rob (from Maricopa County, Phx)

1st place runner female: Teri Stockham

1st place walker: Phyllis Chandler

All three winners received digital pedometers donated by Agilent Technologies in support of the FunRun. Additional sponsorship for the Fun Run/Walk was received by Cerilliant Corporation, OraSure Technologies, Quality Assurance Service and Shamrock Glass Company. ☺

ANOTHER LOOK AT THE 2005 SOFT MEETING IN NASHVILLE, TN



SO-SOFT had a great time! See y'all again next year in Austin, TX!



In Memoriam: FREDRIC RIEDERS, Ph.D., DABFT

Willow Grove, PA 19090.

Dr. Fredric Rieders died at his home on Nov. 26, at age 83. Born in Vienna, Austria, Fredric Rieders emigrated alone at age 16 to the United States, became a U.S. citizen and served his country as surgical technician US Army. Dr. Rieders earned his Master's degree from New York University and, in 1952, his Ph.D. His illustrious 50+-year scientific career, including the founding and growth of National Medical Services, spanned more than five decades and is well known to forensic toxicologists. His numerous awards include the Alexander O. Gettler award, the Thomas Jefferson University Distinguished Alumnus Award, and just last year, an honorary doctorate from Arcadia University.

Fredric Rieders is survived by his wife, Betty-Jean, sons Eric and Michael, daughter Julia Satriano, and eight grandchildren. His third son, Carl, died in 1973 at age thirteen. Burial was private. Condolences and memorial contributions to the Forensic Mentors Institute (part of Fredric's Foundation) may be sent to

Michael Rieders, c/o NMS
2300 Stratford Ave.

Words from Dr. Irving Sunshine:

Fredric Rieders devoted his entire life to carefully designing a most unusual and beautiful mold. Envied by all who knew him, it has not and will not be duplicated.

As an impoverished immigrant to the United States, early on he recognized that a promising future depended on his acquisition of special expertise. He sought and found outstanding mentors, Professors Alexander Gettler, Heinrich Brieger and Charles Gruber, who honed and fine-tuned his developing competence.

His appointment as Chief Toxicologist in the Office of the Medical Examiner of Philadelphia, PA, began the development of a lifelong expertise. As the consulting toxicologist for a pathology laboratory, Fred purchased their state-of-the-art equipment at a bargain price when the group sustained financial problems causing them to disband. Thus National Medical Services was born.

By now our immigrant has traveled far and wide. Having shanghaied his family and associates



to take over the operations of NMS, Fred should have been satisfied. But no, not Fred, who began a new venture: The Fredric Rieders Family Renaissance Foundation, concerned with research and development and also training about 15 young and talented, but financially deprived, students annually through its summer program.

Few have contributed as much as has Fred. Many received more than his knowledge and support. His ever-present interest in people and concern for their well being was a treasure many received and enjoyed. But, after all, a finite end does come. So he broke the mold, and we cannot duplicate it, no manner how we try. ☹

CALL FOR TOXTALK MATERIAL

ToxTalk dedicated e-mail address: SOFTToxTalk@aol.com

Specific items should be sent to the appropriate **ToxTalk** staffer as noted below.

EDITOR – Dr. Joseph R. Monforte at
SOFTToxTalk@aol.com

“New Drugs” – Daniel Anderson at
Danderson@lacoroner.org

“Case Reports” – Dr. Matthew Barnhill at
mbarnhilljr@worldnet.att.net

PUBLISHER – Patricia Mohn-Monforte at
SOFTToxTalk@aol.com

“Drugs in the News” –
SOFTToxTalk@aol.com

“Extrapolations” – Dr. Donald Kippenberger at
donald.kippenberger@us.army.mil

All other items should be sent to SOFTToxTalk@aol.com

Mailing address: 5304 Widener Strip, Midland, TX 79707. (Do NOT send items to the SOFT Administrative Office!)

Please send items for the next issue of ToxTalk before February 1, 2006



Society of Forensic Toxicologists

AWARDS ANNOUNCEMENT

EDUCATIONAL RESEARCH AWARD

Description:

The education of specialists in the field of forensic toxicology continues to be a challenge. Forensic toxicologists are scientists who engage in the analysis of body fluids and tissues for the presence of drugs and chemicals and interpret these analytical results for judicial purposes. The ever-increasing sophistication of analytical methodologies and the enhanced knowledge of underlying physiological and pharmacological factors governing our understanding of the effects of these substances promise to add information to the judicial process that was not thought possible just a few years ago.

The Society of Forensic Toxicologists is dedicated to continuing effective education in this field and actively supports research projects that advance the foundations of the science in academic settings. The award will recognize students pursuing advanced degrees whose research has progressed to the point of presentation to the members of DFT.

Eligibility:

The Educational Research Award (ERA) is designed to recognize students pursuing advanced degrees (Ph.D. and M.S.) with research in an area relevant to forensic toxicology. Applications are competitive. Awardees may reapply. Abstracts must be for **oral** presentations and must be accepted by the scientific program committee for the current year's SOFT meeting.

Award: An award of **\$1,000 plus a complimentary basic SOFT meeting registration fee** will be made to offset travel expenses to the 2006 SOFT Annual Meeting (Austin, TX, Oct. 2-7, 2006)

Deadline: **April 3, 2006**
Successful applicants will be announced by June 1st

Application Materials: **SEE THE SOFT WEBSITE FOR INSTRUCTIONS AND FORMS**
www.soft-tox.org

Submission Address: Philip Kemp, Ph.D., DABFT, SOFT Awards Committee Chairman
Office of the Chief Medical Examiner
901 N. Stonewall, Oklahoma City, OK 73117

YOUNG SCIENTIST MEETING AWARD

Description:

As forensic toxicology continues to evolve, it has become increasingly clear that the bench level scientist is the indispensable and under-appreciated tool of the forensic laboratory. It is at the bench where the advancement of this complex science occurs. Unfortunately, often due to budget constraints, it is the bench scientist that gets left behind in the laboratory at SOFT meeting time. That is about to change!

The Society of Forensic Toxicologists is offering the Young Scientist Meeting Award (YSMA) for bench level scientists to undertake projects and get involved in the SOFT annual meeting. The YSMA will provide funding to offset meeting and travel expenses.

Eligibility:

The Young Scientist Meeting Award is designed to recognize bench level scientists working in the field of forensic toxicology. Any bench level scientist (B.S., M.S., or Ph.D.) with 5 years or less experience is welcome to apply. Applications are competitive. Awardees cannot reapply. Abstracts must be for **oral** presentations and must be accepted by the scientific program committee for the current year's SOFT meeting.

ELMER GORDON OPEN FORUM AN OPPORTUNITY FOR INFORMAL DIALOGUE

The "CSI Effect": David Khey is conducting a Ph.D. dissertation project and needs your input. There have been many intriguing arguments put forth by researchers, professionals and journalists explaining how American jurors' decision-making and expectations have become jaded by fictional depictions of forensic scientists on television. I am conducting a survey of forensic science professionals, and your response and time would truly be appreciated - it should not take more than 30 minutes of your time. This instrument is one of a three-part approach to define the true nature of the "CSI effect". If you have any questions regarding this dissertation project, contact Dkhey@ufl.edu. By clicking on this link, you agree to the informed consent under University of Florida IRB Protocol 2005-U-258.

SURVEY LINK: <http://www.surveymk.com/s.asp?A=102221327E96867>

Condolences to ToxTalk Editorial Staff member **Matthew Barnhill** on the recent death of his father, as well as **Laurel Farrell**, whose mother passed away.

Congratulations to **Joe and Diane Saady** who have joined the glorious ranks of Grandparents.

Kudos to **DR. Marc Lebeau** who recently earned his doctorate. ☺

PROFESSIONAL CALENDAR

PREPARATIONS FOR FUTURE SOFT MEETINGS UNDERWAY

2006:

Tuesday, October 3 through Saturday, October 7, 2006

(Delayed one day due to Yom Kippur on Monday)

Hilton Austin, 500 East 4th Street, Austin, TX

512-482-8000

Host: Rod McCutcheon, Chief Toxicologist, Bexar County

Office of the Medical Examiner, San Antonio, TX

210-335-4040 rmccutcheon@co.bexar.tx.us

2007:

October 14-19, 2007

Research Triangle Park, North Carolina

Co-hosts: Jeri Roper-Miller and

Ruth Winecker

2008:

Phoenix, AZ – Vickie Watts

2009:

Oklahoma City, OK – Phil Kemp

Aug. 26-Sept. 1: THE INTERNATIONAL ASSOCIATION OF FORENSIC SCIENCES, Ljubljana, Slovenia. Contact info@iafs2006.com or go to www.tiaft2006.org

Jan 27-28: CALIFORNIA ASSOCIATION OF TOXICOLOGISTS, San Diego, CA. Workshop 1/27: *Pain, Pills & Prescriptions*; Meeting 1/28 *Unusual Case Reports*. Register by 1/13 to avoid late fees. June 9 & 10 - San Francisco, CA. Contact www.cal-tox.org or call 707-586-1143

Feb. 20-25: AMERICAN ACADEMY OF FORENSIC SCIENCES, Seattle, WA. Contact njackson@aafs.org

March 12-17: PITTCON 2006, Orlando, FL. Contact 222.pittcon.org

May 21-26, 2006 Borkenstein Course on Alcohol and Highway Safety: Testing, Research and Litigation. Contact dilindsay@indiana.edu or www.indiana.edu/~lawactn

April 2006: Borkenstein Course (see above) and "**The Effects of Drugs on Human Performance and Behavior.**" Contact dilindsay@indiana.edu or www.indiana.edu/~lawactn

SOUTHWESTERN ASSOCIATION OF TOXICOLOGISTS (SAT). Spring 2006 – Houston, TX; Fall 2006 Austin, TX (with SOFT) www.sat-tox.org

SOUTHWESTERN ASSOCIATION OF FORENSIC SCIENTISTS (SWAFS), Wichita, KS. swafs2005@swafs.us

Borkenstein Course on Alcohol and Highway Safety: Testing, Research and Litigation. Contact dilindsay@indiana.edu or www.indiana.edu/~lawactn ☺

12/18/05

Recommended Maximum Detection Limits for Common DFSA Drugs and Metabolites in Urine Samples

Target Analytes	Parent Drug	Trade Names / "Street Names"	Recommended Maximum Detection Limit
Ethanol:			
Ethanol	Ethanol	Alcohol, Ethyl Alcohol, "Booze"	10 mg/dL
GHB and Analogs:			
Gamma-Hydroxybutyrate	Gamma-Hydroxybutyrate	Xyrem , "GHB", Easy Lay", "G", "Georgia Home Boy", "Grievous Bodily Harm", "Liquid Ecstasy", "Liquid E", "Liquid G", "Liquid X", "Salty Water", "Scoop", "Soap"	10 µg/mL
	1,4-Butanediol	"1,4-BD", "Enliven", "Inner G", "Revitalize Plus", "Serenity", "SomatoPro", "Sucol B", "Thunder Nectar", "Weight Belt Cleaner", "White Magic"	
	Gamma-Butyrolactone	"GBL", "Blue Nitro", "G3", "Gamma G", "G.H. Revitalizer", "Insom-X", "Invigorate", "Remforce", "Renewtrient", "Verve"	
Benzodiazepines:			
Many benzodiazepines are biotransformed into glucuronide-conjugated metabolites. To improve detection limits and times, it is recommended that laboratories use instrumental techniques that will detect the glucuronide metabolites <i>or</i> hydrolyze urine specimens to free the conjugate before extraction.			
Alprazolam α-hydroxy-alprazolam	Alprazolam	Xanax , Niravam	10 ng/mL
Chlordiazepoxide	Chlordiazepoxide	Librium , Libritabs	10 ng/mL
Clonazepam 7-aminoclonazepam	Clonazepam	Clonopin, Klonopin , Rivotril	5 ng/mL
Diazepam	Diazepam	Valium , Diastat, Dizac,	10 ng/mL
Flunitrazepam 7-aminoflunitrazepam	Flunitrazepam	Rohypnol	5 ng/mL
Lorazepam	Lorazepam	Ativan	10 ng/mL
Nordiazepam	Diazepam, Chlordiazepoxide		10 ng/mL
Oxazepam	Oxazepam, Diazepam, Chlordiazepoxide, Nordiazepam, Temazepam	Serax	10 ng/mL
Temazepam	Temazepam, Diazepam	Normison, Restoril	10 ng/mL
Triazolam 4-hydroxy-triazolam	Triazolam	Halcion	5 ng/mL

Recommended Maximum Detection Limits for Common DFSA Drugs and Metabolites in Urine Samples

Target Analytes	Parent Drug	Trade Names / "Street Names"	Recommended Maximum Detection Limit
Marijuana:			
11-carboxy-THC	Tetrahydrocannabinol (THC)	Marinol , Dronabinol, "Marijuana", <i>Cannabis sativa</i>	10 ng/mL
Barbiturates:			
Amobarbital	Amobarbital	Amytal	25 ng/mL
Butalbital	Butalbital	Esgic , Fioricet , Fiorpap , Fiorinal	
Pentobarbital	Pentobarbital, Thiopental	Nembutal	
Phenobarbital	Phenobarbital, Primidone		
Secobarbital	Secobarbital	Seconal , Tuinal	20 ng/mL
Over-the-Counter Medications:			
Brompheniramine	Brompheniramine	Alatapp, Bromaline, Bromanate, Bromfed, Bromphen, Dimetane , Dimetapp , Myphetane, Polytine, Puretane,	10 ng/mL
Desmethylbrompheniramine			
Chlorpheniramine	Chlorpheniramine	Aller Chlor, Chlor-Trimeton, Coricidin, Deconamine, Efidac, Kronofed, Teldrin	
Desmethylchlorpheniramine			
Dextromethorphan	Dextromethorphan	Benylin, Romilar, Delsym	
Diphenhydramine	Diphenhydramine	Banophen, Belix, Benadryl , Dermarest, Excedrin PM, Hydramine, Sleepinal, Sleep-Eze 3, Tylenol PM, Unisom Sleep Gels	
Doxylamine	Doxylamine	Unisom, Bendectin	
Desmethyldoxylamine			
Anti-Depressants:			
Amitriptyline	Amitriptyline	Elavil, Endep	10 ng/mL
Nortriptyline			
Citalopram	Citalopram	Celexa, Cipramil	
Desmethylcitalopram			
Desipramine	Desipramine, Imipramine	Norpramin, Pertofrane	
Doxepin	Doxepin	Sinequan, Adapin, Zonalon, Prudoxin,	
Desmethyldoxepin			
Fluoxetine	Fluoxetine	Prozac, Sarafem	
Norfluoxetine			
Imipramine	Imipramine	Tofranil	
Paroxetine		Asinia, Paxil	

Recommended Maximum Detection Limits for Common DFSA Drugs and Metabolites in Urine Samples

Target Analytes	Parent Drug	Trade Names / "Street Names"	Recommended Maximum Detection Limit
Sertraline Norsertraline	Sertraline	Zoloft	
Narcotic and Non-Narcotic Analgesics:			
Codeine	Codeine		10 ng/mL
Fentanyl	Fentanyl	Actiq, Duragesic, Sublimaze, Innovar	
Hydrocodone	Hydrocodone	Anexsia, Hycodan, Lorcet, Lortab, Norco, Panacet, Vicodin, Zydone	
Hydromorphone	Hydromorphone	Dilaudid, Palladone	
Meperidine Normeperidine	Meperidine	Demerol, Mepergan	
Methadone EDDP	Methadone	Dolophine	
Morphine	Morphine	Avinza, Astramorph, Duramorph, Kadian, MSIR, MS Contin, Oramorph, Roxanol	
Oxycodone	Oxycodone	Oxycontin, Oxyir, Roxicodone, Percodan, Percocet, Percolone, Roxicet, Tylox	
Propoxyphene Norpropoxyphene	Propoxyphene	Darvocet, Darvon, Wygesic	
Miscellaneous Drugs:			
Carisoprodol	Carisoprodol	Soma	50 ng/mL
Clonidine	Clonidine	Catapres, Combipres, Clorpres, Duraclon	1 ng/mL
Cyclobenzaprine	Cyclobenzaprine	Flexeril	10ng/mL
Ketamine Norketamine	Ketamine	Ketalar	1 ng/mL
Methylenedioxyamphetamine	Methylenedioxyamphetamine		10 ng/mL
Methylenedioxymethamphetamine	Methylenedioxymethamphetamine		
Meprobamate	Meprobamate, Carisoprodol	Equagesic, Equanil, Micrainin, Miltown	50 ng/mL
Phencyclidine	Phencyclidine		10 ng/mL
Scopolamine	Scopolamine	Isopto Hyoscine, Scopace, Transderm Scop	
Valproic Acid	Valproic Acid	Depacon, Depakene, Valproate	50 ng/mL
Zolpidem	Zolpidem	Ambien	10 ng/mL

Recommended Maximum Detection Limits for Common DFSA Drugs and Metabolites in Urine Samples

Target Analytes	Parent Drug	Trade Names / "Street Names"	Recommended Maximum Detection Limit
Stimulants: While the below drugs do not possess the pharmacological effects typically associated with DFSA drugs, due to their popularity, it is recommended that screens for these drugs and metabolites be conducted at the detection limits listed or better.			
Amphetamine	Amphetamine, Methamphetamine	Adderall	50 ng/mL
Cocaine	Cocaine		50 ng/mL
Benzoylcegonine			
Methamphetamine	Methamphetamine	Desoxyn	50 ng/mL