



ToxTalk

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**SOFT 2005 Annual Meeting
NASHVILLE, TENNESSEE
(MUSIC CITY, USA)**

October 17-21, 2005

**Host: Louis Kuykendall
SITE: Renaissance Nashville Hotel**

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 it directly to the ToxTalk Editor.

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

NEXT DEADLINE: before MAY 1ST, 2005



PRESIDENT'S MESSAGE

Graham Jones, Ph.D., DABFT

Greetings from the frozen north! The Washington, DC, meeting last August seems so long ago. Back then my front lawn was still green, but it has been covered in snow for most of the past 4-5 months – such is life in Alberta! However, this is the first opportunity I have had since taking office at the beginning of the year to wish you well for 2005 and thank you for having confidence to allow me to serve as the President of SOFT. I would also like to thank Past-President Dan Isenschmid for his sterling work in 2004 (and indeed his work on the Board since 1996), and to also thank retiring board members Tony Costantino, Rod McCutcheon and Mike Baylor for their service over the past three years!

SOFT has become a vigorous organization of over 700 members, representing forensic toxicologists from the U.S., Canada, and a rapidly growing number of other countries. Indeed, SOFT is rapidly becoming an international organization. Testament to that is the highly successful joint FBI/SOFT/TIAFT meeting in Washington, DC, hosted by Marc LeBeau and his colleagues. That meeting was the largest meeting ever involving SOFT with more than 1,100 total registrants and nearly half of them SOFT members. Thanks Marc!

With the successful conclusion of the Washington meeting, we are looking forward to the next SOFT meeting in Nashville, Tennessee, October 17 – 21, 2005. While it is likely to be a little smaller in size than the Washington meeting, we are still projecting over 500 registrants, so plan to be there! Louis Kuykendal and his local team are working hard to put together an excellent program. You can already find preliminary information in this issue of **ToxTalk**, which noted the proposed workshops in the last issue. Also check the SOFT web site (www.soft-tox.org) for up-to-the minute information.

One of the earliest duties the incoming president must perform is appointing committee chairs. SOFT is very active in many professional areas, as can be seen by the list of committees elsewhere in this issue. Over the coming months you will hear more about the SOFT activities. While several of the committees perform "housekeeping functions" (e.g. Membership, Nominating, Budget/Audit), several are concerned with advancing the profession in some manner (Drugs and Driving, Drug Facilitated Sexual Assault, Continuing Education and Forensic Laboratory Guidelines).

Also being considered this year is whether SOFT, as an organization, should comment on the practice of performing "dose calculations" based on a postmortem blood concentration and published volume of distribution data. Several of us have grave concerns about the validity of such calculations and the potential they have to mislead the courts. Postmortem redistribution and incomplete distribution are just two of the factors that can invalidate such calculations. Consequently, the Board will discuss whether it would be in the best interest of the profession to issue a detailed "position statement" later in the year. If approved by the Board, the matter would, of course, be put to the membership at the annual business meeting this fall and ultimately published. More details should be available for publication in the next issue of **ToxTalk**.

Meanwhile, may the green grass and spring flowers come sooner rather than later. And to those who are already sweeping fallen flowers and leaves from around their swimming pools...I can only express envy... ☹

DON'T FORGET TO CHECK THE SOFT WEB SITE www.soft-tox.org

for the latest information regarding SOFT activities. *Unauthorized access or printing is protected by copyright laws.*

TOXTALK CONTACTS:

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"New Drugs" – Daniel Anderson at Danderson@lacoroner.org

"Case Reports" - Dr. Matthew Barnhill at mbarnhilljr@worldnet.att.net

"Drugs in the News" - Dr. Andrew Mason at form6tox@aol.com



SOFT 2005 Annual Meeting
NASHVILLE, TENNESSEE – MUSIC CITY, USA
October 17-21, 2005



HOST: Louis Kuykendall SITE: Renaissance Nashville Hotel

WORKSHOPS ☠ October 17-18

- #1 *Forensic Toxicology of Pesticides* (1/2 day) Chair: Maria Martinez
- #2 *Interpretive Pharmacogenomics and Proteomics for Forensic Toxicology* (1/2 day) Chair: Steve Wong
- #3 *Blood Alcohol Concentration Extrapolation Workshop* (1/2 day) Chair: Jennifer F. Limoges
- #4 *Receptor Site Theory and Drug Interactions* (1/2 day) Chair: Robert Sears
- #5 *Oral Fluids – Research and Application* (1/2 day) Chair: Mike Wagner
- #6 *Forensic Toxicology Update* (full day) Chair: John Cody
- #7 *From "Sample to Signal; Practical LC/MS¹": An introduction to fundamental LC/MS/MS technologies and practical practices in Forensic Toxicology.* Chair: H. Chip Walls
- #8 *The Postmortem "Blood Drug Screen": Analytical and Managerial Approaches* (full day) Chair: Alphonse Poklis
- #9 *Post Mortem Interpretation* (full day) Chairs Ann Marie Gordon & Rebecca Jufer
- #10 *Case Studies in DUI: Numbers, Signs, Symptoms and Beyond* (full day – 2 full-day sessions) Chairs: Michelle Spirk & Sarah Kerrigan ☠

SCIENTIFIC PROGRAM ☠ October 19-21

CALL FOR PAPERS – ABSTRACT SUBMISSION DEADLINE: JUNE 3rd

Abstracts must be submitted online through the SOFT website (www.soft-tox.org) or electronically to Dr. Kenneth Ferslew, SOFT 2005 Program Chair (ferslew@etsu.edu). Notification of acceptance will be made by July 31st.

☠ SOCIAL PROGRAM ☠

Wednesday (Oct. 19) – Welcome Reception on **GENERAL JACKSON'S SHOWBOAT!**
Thursday (Oct. 20) – President's Reception

Vendors, as well as accompanying persons who desire access to the scientific sessions and all the perks and benefits offered with a full meeting registration except the abstract book, are offered a reduced registration fee. Full registrants bringing a SO-SOFT may choose to only purchase additional reception tickets but must register by October 7th. (SO – SOFT: persons who accompany their significant others to SOFT meetings and for whom this is solely a social event.)

HOTEL: Renaissance Nashville Hotel, situated downtown in the very center of Nashville's dual-personality as "The Athens of the South" and "Music City, USA". Group code: "SFTSFTA" (revised) Special SOFT rate: \$149 single/double. Do not delay your reservations if you want to guarantee your room in this great hotel.

AIRPORT SHUTTLE: GreyLine Airport Shuttle Service. \$12.00 one way; \$18.00 round trip (\$15.00 round trip for groups of 4 or more). Shuttle schedule: from the airport – 6:00am-11:00pm every 15 min. / from the hotel – 4:00am – 7:00pm on the hour & half hour

REGISTRATIONS – ON THE WEBSITE ONLY WWW.SOFT-TOX.ORG

Registration Deadlines: September 9th (souvenir t-shirt!) Late Registration: October 7th (no t-shirt, extra \$100!)
No pre-registration accepted after October 7th – onsite registration only

MEETING REGISTRATION AND ALL OTHER INFORMATION GO TO WWW.SOFT-TOX.ORG
FOR INFORMATION ON MANY NASHVILLE ATTRACTIONS GO TO WWW.MUSICCITYUSA.COM



SOFT 2005 ANNUAL MEETING – OCTOBER 17-21

NASHVILLE, TENNESSEE
Renaissance Nashville Hotel



Use this worksheet to complete your
ONLINE – ONTIME registration at the
SOFT WEBSITE <http://www.soft-tox.org>
On-site registration only after October 7th

Name (last) _____ (first) _____ Degree _____
 Name to appear on badge _____
 Title _____ Agency _____
 Address _____
 Telephone _____ Fax _____ E-mail _____
 Accompanying Person(s) _____

MEETING MEETING REGISTRATION:

	Member	Non-Member	Qty.	TOTAL
FULL MEETING REGISTRATION (Late Fee Applies after 9/02/05)	\$195	\$295	_____	\$ _____
Includes: Admission to scientific sessions, Abstract Book, SOFT Pack, shirt, Coffee Breaks, Continental Breakfasts, Welcoming Reception, Luncheons, Tuesday Happy Hour, Elmer Gordon Forum, and President's Reception *Enter shirt size online				
LATE REGISTRATION 9/03/05 TO 10/07/05 (on-site registration only after 10/07)	\$295	\$395	_____	\$ _____
ON-SITE REGISTRATION (only option after 10/07)	\$295	\$395	_____	\$ _____
FULL-TIME STUDENT (Proof of full-time status required) Admission to scientific sessions– NO abstract book, SOFT pack, Welcoming Reception or President's Reception	\$95	\$95	_____	\$ _____
ACCOMPANYING PERSON (ea.) with full meeting registrant only before 9/02	\$175	\$275	_____	\$ _____
Includes all the above except Abstract Book *Enter shirt size online 9/03 – 10/07	\$275	\$375	_____	\$ _____

ADDITIONAL TICKETS: not available after Oct. 7, 2005

President's Reception (Thurs)	\$70	\$90	_____	\$ _____
Welcome Reception – General Jackson Dinner Showboat (Wed)	\$95	\$115	_____	\$ _____

OPTIONAL WORKSHOPS:

Workshop #1: Forensic Toxicology of Pesticides. (½ day)- Tues a.m.	\$60	\$75	_____	\$ _____
Workshop #2: Interpretive Pharmacogenomics and Proteomics for Forensic Toxicology. (½ Day)- Mon (am)	\$60	\$75	_____	\$ _____
Workshop #3: Blood Alcohol Concentration Extrapolation.(½ day)- Mon a.m.	\$60	\$75	_____	\$ _____
Workshop #4: Receptor Site Theory & Drug Interactions. (½ day)- Mon p.m.	\$60	\$75	_____	\$ _____
Workshop #5: Oral Fluids – Research and Application. (½ day)- Tues p.m.	\$60	\$75	_____	\$ _____
Workshop #6: From "Sample to Signal; Practical LC/MS ^{MS} ": An introduction to fundamental LC/MS/MS technologies and practical practices in forensic Toxicology. (½ day) Mon p.m.	\$60	\$75	_____	\$ _____
Workshop #7: FTCB- forensic Toxicology Update. (Full day) – Tues	\$120	\$150	_____	\$ _____
Workshop # 8: The Postmortem "Blood Drug Screen": Analytical and Managerial Approaches. (Full day) - Mon	\$120	\$150	_____	\$ _____
Workshop # 9: Post Mortem Interpretation. (Full Day) - Tues	\$120	\$150	_____	\$ _____
Workshop # 10a: Cases Studies in DUID: Numbers, Signs, Symptoms, and Beyond. (1 st Full day) - Mon	\$120	\$150	_____	\$ _____
Workshop #10b: Case Studies in DUID - Continued. (2 nd Full day) - Tues	\$120	\$150	_____	\$ _____
ABFT Breakfast (ABFT Diplomates and Specialists only)	\$25	\$25	_____	\$ _____

ID BADGE WILL BE REQUIRED FOR ALL FUNCTIONS.

TICKET REQUIRED FOR PRESIDENT'S RECEPTION.

TOTAL \$ _____

+LATE FEE applies for all registrations received after **Friday, September 2, 2005.**

Deadline for registration online at <http://www.soft-tox.org> is **Friday, October 7, 2005.** **Payment via the SOFT Registration website** – a secure site, which accepts most major credit cards or payment through routing of checks drawn on a US bank or International Bank.

IMPORTANT - Refund policy: Refunds will be honored upon written request prior to 09/03/05 minus a \$100 fee. **NO refunds after 09/03/05.**

The Group Code for the Renaissance Nashville Hotel is: **SFTSFTA**

2005 SOFT MEETING COMMITTEE

Organizing a meeting the size and scope of SOFT is an arduous challenge. The Meeting Committee relies on SOFT members for assistance, so contact someone below and offer your help.

Conference Chair: Louis Kuykendall (louis.kuykendall@state.tn.us)

Conference Treasurer: Mike Lyttle (Mike.Lyttle@state.tn.us)

Scientific Chair: Dr. Kenneth Ferslew ((ferslew@etsu.edu)

Workshop Chair: Dr. Peter Stout (pstout@aegislabs.com)

Conference Secretary: Dawn King

Social Chair: Jeff Crews

Materials Chair: Kelly Hopkins

Volunteer Coordinator: John Harrison

So-SOFT Chair: April Hagar

Vendors interested in participating in the SOFT 2005 Annual Meeting in Nashville, TN, should contact Lisa O'Dell at NomadLee9@aol.com for details. ☒

PRESIDENT JONES ANNOUNCES SOFT COMMITTEE CHAIRS FOR 2004

Awards	Philip Kemp
Budget, Finance & Audit	Robert Turk
Bylaws	Yale Caplan
Continuing Education	Ann Marie Gordon
Drug-Facilitated Sexual Assault	Marc LeBeau
Drugs and Driving	Sarah Kerrigan
Ethics	Aaron Jacobs
JAT SOFT Special Issue	Jeri Roper-Miller
Laboratory Guidelines	Lee Hearn
Meeting Resource	Vickie Watts
Membership	Diana Wilkins
Nominating	Daniel Isenschmid
Policies and Procedures	William Anderson
Publications (ToxTalk)	Joseph Monforte
Web-Site	Bruce Goldberger

Members interested in any of these committees are encouraged to contact the chairpersons noted. ☒

REMINDERS:

EDUCATIONAL RESEARCH & YOUNG SCIENTIST MEETING AWARDS

Award: a complimentary basic SOFT meeting registration fee plus \$1,000 to offset travel expenses to the 2004 SOFT Meeting

Deadline: April 3, 2005 Successful applicants will be announced by June 1st

Application Materials: see the soft website for instructions and forms www.soft-tox.org

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

SOFT/JAT SPECIAL ISSUE DEADLINES: March 16 – Abstracts March 30 – Completed Papers

SOFT 2004 Special Issue Editor: Jeri Roper-Miller jerimiller@rti.org

ATTENTION MEMBERS: CONTACT INFORMATION CHANGES MUST BE RECEIVED BY THE SOFT ADMINISTRATIVE OFFICE, IN WRITING, NO LATER THAN APRIL 15 TO GUARANTEE INCLUSION IN THE 2006 DIRECTORY. TOXTALK IS NOT FORWARDED OR RETURNED BY THE U.S. POST OFFICE AND ADDITIONAL COPIES ARE NOT ALWAYS AVAILABLE. ☒



CALL FOR CASE NOTES: METHADONE



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

Fatal Methadone Intoxication in a 3-Year-Old Boy

Ghysel M-H, Salvadore S., Laboratoire de police scientifique, Lille, France

A 3-year-old boy was found dead after consuming 2 small bottles of his mother's methadone treatment. Blood, bile, and urine were sampled in the body of the small boy. 10ml of the (living) mother's blood was also collected. Immunoassay of the boy's urine by Triage-8® showed only the presence of methadone. Further screening by GC-MS and LC-DAD, gave results shown in the table below:

Drug	Mother	3 year old boy		
	Blood	Blood	Bile	Urine
Methadone	+	+	+	+
EDDP (methadone metabolite)	-	+	+	+
Nordiazepam	+	-	-	-
THC-COOH	+			
Caffeine	+	+	+	+
Theobromine	+			+
Cotinine				+

Quantification by GC-MS, (after extraction of blood by Toxi-Tube® A), using methadone D9 as the internal standard, gave results shown in the table below:

(µg/ml)	Concentration in (µg/ml)			
	Mother	3 year old boy		
	blood	Blood	Bile	Urine
Methadone	0.12	2.96	2.31	0.36
Nordiazepam	0.20	-	-	-

A Multiple-Drug Fatality Involving Methadone

Brenda K. Jay, Alabama Department of Forensic Sciences, Mobile, AL 36617, and Matthew T. Barnhill, Jr., Fairhope, AL 36532

When first seen at a methadone treatment center, the subject, a 24-year old male, reported that he was taking Loratab 10, Xanax, Dilaudid, fentanyl, Percocet and morphine. He stated that he had been taking these drugs for about twelve years and had last done so the day before. He was given an initial dose of methadone, 30 mg in liquid form. He appeared the next day for another 30 mg dose, followed on the third day by a 40 mg dose. He died approximately 12 hours after receiving this last dose. The postmortem femoral blood was positive for methadone, 0.38 µg/ml, fluoxetine, 0.11 µg/ml, norfluoxetine, 0.27 µg/ml, diazepam, 0.01 µg/ml, nordiazepam, 0.07 µg/ml, along with diphenhydramine, and olanzapine, less than 0.01 µg/ml, each. The urine was also positive for dihydrocodeine. Subsequent investigation revealed that the subject had been taking fluoxetine for depression, although he had not apprised the methadone treatment center of this fact. Cause of death was listed as multiple-drug overdose and the manner as accidental.

Fatal Methadone Intoxication in a 6-Year-Old Female

Ernest D. Lykissa, Expertox, Inc., Deer Park, TX 77536

A six-year-old female was found unresponsive in the morning by others in the house. Her postmortem urine was positive for methadone by EIA. Her blood tested positive by GC/MS for methadone, 0.2 µg/ml, and phenytoin, 2.0 µg/ml. The phenytoin was part of the victim's treatment for seizures. The victim's mother and her boyfriend were in a methadone treatment program. The circumstances of how the child came to have methadone are currently under investigation.

The Methadone Conundrum

Thomas C. Kupiec and Vishnu Raj, Analytical Research Laboratories, Inc., Oklahoma City, OK, and Phil Kemp, Office of the Chief Medical Examiner, Oklahoma City, OK

Introduction Methadone is a drug that is commonly used to treat withdrawal symptoms associated with opioid addiction. Over the past few years however, there has been a dramatic increase in methadone related deaths, with or without the presence of other drugs. Interpretations of postmortem methadone levels are compounded by unpredictable pharmacokinetics, postmortem redistribution, and an overlap between therapeutic and toxic levels.

History A 30-year-old male with a prior history of opioid dependence (5 yrs.) entered a Methadone Maintenance Program (MMT), where he was started on a methadone treatment regimen. Treatment was initiated at 30mg, and his dose was increased based on self-reported withdrawal symptoms, at the rate of 10mg per day, for the next 3 days, i.e., 40, 50 and 60mg. On the morning of day 5, he was unresponsive to stimuli, and was pronounced dead. The autopsy findings indicated pulmonary and cerebral congestion and edema, with toxic levels of methadone not in synchronization with reported dosage. The cause of death was ruled as methadone toxicity, and the manner of death was ruled an accident. The toxicology report revealed a blood methadone level of 0.69 mg/L, which is consistent with reference toxicity levels.

Pharmacokinetic Analysis In order to establish a relationship between the postmortem blood methadone levels, and the reported dosage, a pharmacokinetic simulation model of the expected plasma concentrations of methadone was established. The dosages of 30, 40, 50, and 60 mg/day for 4 days were used. The pharmacokinetic equation used was:

$$C_p = \frac{F \times \text{Dose} \times k_a [e^{-k_{el}T} - e^{-k_a T}]}{V (k_a - k_{el})}$$

All the parameters were chosen to reflect a "Worst Case Scenario", to try to establish if the decedent's methadone dosage alone could cause the high post-mortem methadone levels.

- Bioavailability (F): 85%
- Rate of Absorption (K_a): 2.488
- Rate of Elimination (K_{el}): 0.0126
- Volume of Distribution: 2.11 L/Kg x 125Kg = 264 L
- Half-life ranges from 15-55 hours. In this case the 55 hr value was used

The time to peak values for methadone range from 2-4 hours, and the 4-hour value was used to compute the rate of absorption. The volume of distribution helps to establish a mathematical relationship between the amount of drug in the body and the concentration of drug in the specimen¹. However, it is just an apparent volume of the drug distribution in the body, and is not a literally quantifiable physiological parameter. One should be cognizant of the limitations of using the volume of distribution.

The pharmacokinetic simulation data provided an expected range of 0.13 to 0.25mg/L for the putative dosage that the decedent received. This was not compatible with the decedent's blood methadone level, which was 0.69 mg/L.

Discussion: The following hypotheses were explored.

1. **Extraneous methadone from another source:** This hypothesis could not be confirmed or refuted
2. **Presence of other drugs/Polydrug interactions:** Diphenhydramine was also present in the blood, but at a relatively low level. Although there was no evidence of benzodiazepines during the toxicological examination, the decedent had a past history of benzodiazepine abuse. Higher concentrations of methadone have been found in cases where a benzodiazepine was present, as compared to cases where death was solely associated with methadone. Benzodiazepines, among other drugs, have been known to cause increased serum methadone levels². A benzodiazepine induced CYP3A4 (hepatic enzyme) inhibition, could lead to elevated concentrations of methadone.
3. **Redistribution:** Femoral blood was analyzed, lessening the chances that elevated levels were the result of postmortem redistribution.
4. **Pharmacogenomic variability:** Methadone is mainly metabolized by the CYP3A4 and CYP2D6 microsomal enzymes. Polymorphisms in CYP2D6 have been reported leading to either extensive or poor metabolism of methadone². A 'poor' metabolizer genotype may induce cumulative methadone toxicity, due to a subnormal metabolic rate.

Conclusion

The first two weeks of a methadone maintenance program will be dangerous, owing to the difficulty in determining a safe and effective starting dose³. In their article, Caplehorn and Drummer describe the risk of fatal accidental drug toxicity in methadone maintenance programs to be nearly seven times the risk prior to admission. However, the risk of fatal accidental drug toxicity later in maintenance was approximately one-hundredth the risk in the first two weeks of treatment³. The variability in interpretation of postmortem methadone levels is a serious issue in death investigation, and before any conclusion is made, a thorough investigation of the above parameters is warranted. Applicants self-reported drug use may not be a reliable indicator in defining an effective starting dose of methadone³. Pharmacogenomic analysis may prove to be useful in the postmortem interpretation of methadone levels, especially in establishing the manner of death.

References

1. <http://www.boomer.org/c/p3/c05/c0507.html>
2. Leavitt SB, Shinderman M, Maxwell S, Eap CB & Paris P. *When "Enough" Is Not Enough: New Perspectives on Optimal Methadone Maintenance Dose.* *Mt Sinai J Med.* 2000 Oct-Nov; 67(5-6): 404-11
3. Caplehorn JR, Drummer OH. *Mortality associated with New South Wales methadone programs in 1994: lives lost and saved.* *Med J Aust.* 1999 Feb 1; 170(3): 104-9

CASE NOTES: METHADONE continued next page

Methadone-only Fatalities in the Alberta Medical Examiner's Office

Peter Singer, Alberta Justice-M.E.O., Edmonton, Alberta T6H 5R8, Canada

The Alberta Medical Examiner's Office provides toxicology services for the entire province, a population of over 3 million people. In the previous 5 years (1999 to 2004) the MEO has had over 150 fatalities associated with methadone. Of these cases the following 19 had solely methadone or only small amounts of other drugs not likely to be significant.

#	Gender /Age	Blood mg/l	Liver mg/kg	Gastric mg/TC	Other Drugs Found	Manner of Death
1	M 22	Cardiac 0.30	4.7	0.8	Ethanol: blood - negative, urine - 0.02	Unclassified
2	M 46	Cardiac 1.22	7.0	4.6	Benzoylcegonine: blood - 0.08 mg/l	Unclassified
3	M 27	Femoral 1.08	13.9	11	Paroxetine: blood - small amount	Undetermined
4	M 36	Cardiac 0.27	2.7	2.6	Diphenhydramine: blood - trace amount Codeine: blood - trace amount	Unclassified
5	M 34	Cardiac 0.37	5.1	18.2	Ethanol: blood - 0.10	Unclassified
6	M 22	Cardiac 1.36	6.9	7.2	Lidocaine (resuscitation): detected	Unclassified
7	M 27	Femoral 0.62	4.1	0.37	THC: blood - 4 ug/l, Carboxy-THC: 13 ug/l	Unclassified
8	M 16	Femoral 0.63	3.5	0.23	Carboxy-THC: blood - 13 ug/l	Unclassified
9	M 40	Femoral 0.46	5.4	2.6	No other drugs	Unclassified
10	F 25	pm blood 1.54	16	0.55	Diphenhydramine: blood - small amount Doxylamine: blood - small amount Olanzapine: blood - small amount	Unclassified
11	M 50	Cardiac 2.16	23	0.9	No other drugs	Unclassified
12	M 31	Femoral 0.31	3.2	0.12	No other drugs	Unclassified
13	M 18	Cardiac 0.24 Femoral 0.21	2.3	4.4	No other drugs	Unclassified
14	F 51	Femoral 2.1	11.5	1.1	Codeine: blood - trace amount	Unclassified
15	F 49	Cardiac 0.19	2.2	0.14	Trace amounts of Trazodone, Mirtazepine, Paroxetine and Nordiazepam in blood	Unclassified
16	M 43	am blood 0.91			Trace amounts of Olanzapine, Codeine in blood. Atracurium metabolite and Lidocaine from resuscitation.	Pending Invest.
17	M 55	Femoral 0.76	6.0	2.8	Diazepam: blood - small amount Nordiazepam: blood - small amount Glucose: vitreous - 370 mg%	Unclassified
18	M 29	Cardiac 0.51	6.9	1.6	Ethanol: blood - 0.01 Citalopram blood 0.67 mg/l	Pending Invest.
19	M 29	Cardiac 0.42 Femoral 0.42	5.0	1.1	No other drugs	Pending Invest.

Gastric contents mg/total contents, Ethanol in g%. am = antemortem, pm = postmortem, site not specified. Small amount - approximately less than 0.1 mg/l. Trace amount - approximately less than 0.05 mg/l.

Case Histories:

- 1: History of IV drug abuse, found 2 days after death.
- 2: History of IV drug abuse and asthma.
- 3: History of drug abuse (MDMA) recent depression and arrest for arson.
- 4: Shared residence with clients of methadone maintenance program.
- 5: No medical history, no drugs found at scene.
- 6: History of taking methadone previous day, sleeping in tent with friends.
- 7: Non-compliant, insulin-dependent diabetic with a history of cannabinoid and mushroom use. Glucose negative.
- 8: Out partying with friends previous evening, found dead in his bed in morning. No history of drug use.
- 9: He had a 15-year history of cocaine use. Drank his girlfriend's methadone stored in fridge.
- 10: This morbidly obese (>250 lbs) female had endometriosis and kidney problems. She was Prescribed Vioxx, Ativan, Myrsyndol, Maxeran and morphine for chronic pain. She was abusing morphine and prescribed methadone to wean her from the morphine. Collapsed soon after waking in morning, resuscitation was unsuccessful.
- 11: History of drug abuse and in a methadone maintenance program.
- 12: Methadone user. Injected his wife's methadone.
- 13: Partying with friends previous evening, failed to wake in morning, resuscitation unsuccessful.
- 14: History of hepatitis and on methadone maintenance for 12 years. Traveling to see her sister and was given several days

- extra supply. Syringes found at scene.
- 15: Found face down on her bed by her apartment manager. The decedent had a reported history of drug and alcohol abuse as well as psychiatric problems with a previous suicide attempt by overdosing.
 - 16: History of ethanol and drug abuse and methadone maintenance. Also prescribed Elavil, zopiclone, Zantac and Zyprexa. Found unconscious and transferred to hospital but deteriorated and died.
 - History of ethanol and IV drug abuse and on methadone maintenance. Non-insulin dependent diabetic with hepatitis prescribed glyburide, Altace (and took roommate's metformin).
 - 18: History of asthma, with earlier ethanol and cocaine abuse. Had been "clean" for 18 months.
 - 19: Found dead in house of known drug use and prostitution. Little history of how long he had been there and scene had been cleaned-up prior to notification.

All of these cases had "methadone toxicity" or "acute methadone toxicity" as the cause of death. Manner in most cases was unclassified with one undetermined (three cases are pending). Unclassified is used in Alberta for ethanol and drug abusers who voluntarily ingest the drugs (acute or chronic use) and subsequently die; in the US these deaths would probably be called accidental. Of note, no cases were classified as suicides. Case #3 may have been a suicidal overdose but there was insufficient evidence so undetermined was used for manner. The majority of cases involved males (16 cases), with ages from 16 to 55 years; for females there were 3 cases (age range 25 to 49).

Specimens from multiple sites were obtained in only two cases but the results for femoral and cardiac blood were so similar that postmortem change may not be a problem unless liver or stomach concentrations are particularly high.

Blood concentrations averaged 0.81 mg/l (range 0.19 to 2.16). Liver concentrations averaged 7.2 mg/kg (range 2.2 to 23). However averages and ranges are of lesser importance; it is crucial to have knowledge of the deceased's methadone and opiate tolerance when interpreting methadone concentrations.

As might be expected, those who are in a maintenance program or are opiate tolerant (such as cases # 10, 11, 14, 16, and 17) are clustered at the higher end of the concentrations. The less tolerant users, e.g. younger partygoers and those taking their roommate's methadone (such as cases # 4, 9, 12, 13) tend to the lower end of the list.

Fatal Methadone Intoxication in a Cocaine Abuser

Nadia De Giovanni and Nadia Fucci

A 36-year-old man, known to be a cocaine abuser, was found dead in a bathing hut in a seaside resort in October. His wife stated that the previous days he complained of sore throat, headache, and difficulty swallowing; moreover she declared that some methadone bottles were missing from her handbag. In fact she herself was a heroin-abuser in a methadone treatment program.

Toxicological analyses performed on blood, urine and bile taken during autopsy, showed high level of methadone and EDDP in all the samples:

	Methadone (ng/ml)	EDDP (ng/ml)
Blood	800	230
Urine	11340	8570
Bile	3840	13480

According to the "Therapeutic and toxic drug concentrations list" of TIAFT, the values obtained in this case could be included in the lethal range, considering that the subject was not a habitual methadone user.

He probably took methadone for its analgesic properties; the presence in bile could be associated to previous ingestions.

The death was related to methadone ingestion in a cocaine abuser who was not under therapeutic treatment.

A False Positive Methadone Immunoassay Screening Result

Nadia Giovanni and Nadia Fucci

A 78-year-old female patient of a nursing home was admitted to the hospital with cardio-respiratory problems. Urine analysis, performed with immunochemical techniques, showed positive results for benzodiazepines and methadone. She died an hour later. The hypothesis was an illegal methadone administration in the nursing home, so the judge asked for autopsy and toxicological analyses.

The analyses were performed in the Toxicological Laboratory of the Institute of Legal Medicine of Rome. Immunochemical screening performed with EMIT-d.a.u. technique again showed positive results for benzodiazepines and methadone. A complete toxicological analysis by GC/MS performed on blood and urine drawn on admission at the hospital, and urine coming from autopsy gave the following results: promazine (blood negative, urine 3000 ng/ml), diazepam (blood 1000 ng/ml, urine 2000 ng/ml), orphenadrine (blood 100 ng/ml, urine 200 ng/ml); the values were compatible with the therapy prescribed in the nursing home. The presence of methadone was excluded by the appropriate analyses in blood, urine and hair samples.

In conclusion, the present case shows the hazards of relying on results based only on immunochemical tests.

CASE NOTES CONTINUED NEXT PAGE

OTHER CASE NOTES: REPORTING THE SUICIDE OF AN ANESTHESIST PHYSICIAN WITH ATRACURIUM AND VENLAFAXINE

Submitted by María A. Martínez, Salomé Ballesteros, and Elena Almarza. Instituto Nacional de Toxicología y C. Forens Ministerio de Justicia. C/Luis Cabrera 9, 28002-Madrid, Spain. Email: mariamart@terra.es

Atracurium (Laurak ®, Tracrium ®) is a non-depolarizing skeletal muscle relaxant used to facilitate endotracheal intubation and provide skeletal muscle relaxation during surgery or mechanical ventilation. Atracurium is available as a 5 mg/mL solution of the besylate salt of this diquatery ammonium compound for intravenous administration in Spain. A 0.3-0.6 mg/kg injection is the recommended initial dose for most patients.

Atracurium undergoes spontaneous degradation via Hofmann elimination, a non-enzymatic breakdown process occurring at physiological pH and temperature, to produce laudanosine.

Venlafaxine (Dobupal ®, Vandral ®) is a phenethylamine derivative that inhibits the reuptake of certain neurotransmitters, including serotonin and norepinephrine. It is available for use as an antidepressant in the form of 37.5-150 mg tablets as the hydrochloride salt. Daily oral doses are normally in the range of 75-200 mg. In clinical trials, serum venlafaxine levels in subjects measured within 2 hours post-dose ranged from 0.08-0.29 mg/L. Multiple-dose trials have yielded steady-state plasma levels of 0.07-0.27 mg/L (venlafaxine) and 0.24-0.52 mg/L of O-desmethyl-venlafaxine (ODV), its active metabolite. Postmortem tissue concentrations studied in 12 postmortem cases for venlafaxine and ODV, were 0.1-36 and <0.05-3.5 mg/L (peripheral blood), <0.05-1.5 mg/L (vitreous) and <0.05-21 mg/L (urine), respectively and 0.1-200 mg of venlafaxine in the gastric contents.

In common with all neuromuscular blocking agents, atracurium paralyzes the respiratory muscles as well as other skeletal muscles but has no effect on consciousness. Previous reports suggested that venlafaxine is relatively safe, although combination with other pharmaceuticals or abused drugs could increase its toxicity.

The deceased was a 45-year old anesthesiologist. He had been on call the night before and was found dead in the doctor's room of his hospital. The victim was known to be depressed and under treatment with venlafaxine. An empty syringe was found near the body. The medical examiner performed autopsy and heart blood, vitreous humor, urine, gastric contents (250 g) and the empty syringe were collected and submitted for toxicological analysis. A comprehensive toxicological screening analysis including alcohol and other volatiles, abused drugs, and pharmaceuticals, was carried out. A volatile analysis was run which proved to be negative. A general basic, neutral and acidic solid-phase extraction procedure using Bond-Elut Certify columns was performed. The extracts were screened by GC-NPD and results were confirmed by GC/MS. These were the toxicological findings:

Specimen	Laudanosine	Venlafaxine	ODV
Heart blood	0.6 mg/L	0.7 mg/L	1.1 mg/L
Vitreous humor	0.02 mg/L	0.5 mg/L	0.7 mg/L
Urine	0.3 mg/L	1.7 mg/L	5.2 mg/L
Gastric content	Not detected	400 mg	20 mg
Syringe	Positive	Not detected	Not detected

When people think of committing suicide, they use substances present in their environment. Nevertheless there is a paucity of literature with quaternary nitrogen muscle relaxant injections. This is an unusual suicide case in health care workers as literature search for papers on atracurium poisonings produced only one documented case.

References

1. R.C. Baselt and R.H. Cravey. **Disposition of Toxic Drugs and Chemicals in Man**, 6th ed. Chemical Toxicology Institute, Foster City, California, 2002, 86-87 and 1084-1085.
2. C. Dollery. **Therapeutic Drugs**, 2nd ed. Churchill Livingstone, Edinburgh, UK, 1999, pp 237-240.
3. P. Kintz, A. Tracqui, and B. Ludes. *The distribution of laudanosine in tissues after death from atracurium injection*. **Int. J. Legal Med.** **114**: 93-95 (2000).
4. K.E. Goeringer, I.M. McIntyre, and O.H. Drummer. *Postmortem tissue concentrations of venlafaxine*. **Forensic Sci. Int.** **121**: 70-75 (2001). 2

CASE NOTE TOPIC FOR NEXT TOXTALK: 'INHALANTS'

Submit to Dr. Matthew Barnhill at mbarnhilljr@worldnet.att.net

(Microsoft Word preferred)

before May 1st



DRUGS IN THE NEWS



ToxTalk editorial staff:

Andrew P. Mason, Ph.D., DABFT, DABCC-T

Send your media items of interest to Dr. Mason at forn6tox@aol.com

Cocaine Adulterated With Atropine. Submitted by Donald Uges, Ph.D., Pharm.D., Laboratory for Clinical and Forensic Toxicology, University Hospital, Groningen, Netherland. D.R.A.uges@apoth.umcg.nl

In November 2004, authorities in The Netherlands were alarmed by the fact that cocaine had been sold containing ~ 25 % atropine sulphate (based on ~ 10% atropine base). More than 20 victims were admitted into hospitals all over Holland, but, fortunately, no deaths have been reported as of 01/17/05. We measured the atropine serum levels by LC-MS-MS in most of these patients. The concentrations ranged from 20 to 90 ng/ml. The Dutch Ministry of Health immediately began a nation wide warning campaign.

Cyanogenic Glycosides in Hydrangea Plants. Submitted by Donald Uges, Ph.D., Pharm.D., Laboratory for Clinical and Forensic Toxicology, University Hospital, Groningen, Netherlands. D.R.A.uges@apoth.umcg.nl

In January 2005 I was interviewed by a national journal about the fact that suddenly the tops of hydrangea plants are being cut and absconded all over the northern part of The Netherlands. The leaves might be smoked by individuals. At the moment it is not known why. However, these plants contain cyanogenic glycosides, like amygdaline in almond, apricot kernels and pits, peach, plum and cherry pits, and apple seeds. Acute poisoning signs and symptoms are seen after the ingestion of a significant amount of cyanogenic glycosides, including dyspnea, cyanosis, weakness, light-headedness and excitation, then disorientation and paralysis. These ephemeral drugs trends (hypes) have three common characteristics: 1. The source material has to be new, unknown and unexpected. 2. Preferably the source is botanical, "natural," or "comes from nature." 3. The material possesses some hallucinogenic properties or capabilities. The effects depend mostly on the user's expectations, fantasies, and the atmosphere (set and setting) around him/her. The range between the dose for the desired effects and the toxic dose is small. However, so far we know of no one who has become severely intoxicated. It is quite possible that a different plant will be abused next year.

More Drugs in the News. Submitted by Laurent Galichet, Managing Editor, *Clarke's Analysis of Drugs & Poisons*, The Royal Pharmaceutical Society of Great Britain. Laurent.galichet@rpsgb.org

I wanted to alert you to a service I use as a gateway to news. You have to subscribe (it's free), and they will send you a "daily dose" (pun intended, we're sure – A.M.) of world news on drugs and alcohol use/abuse/misuse. This might be of interest to **Tox-Talk** readers. Go to www.dailydose.net

Man Registers Deadly Blood- Alcohol Level Submitted by Eric Lavins, B.S., Cuyahoga Co. Coroner's Office, Toxicology Unit, Cleveland, OH. EricLavins@aol.com

Incredulous doctors made five blood tests on a drunken man to confirm he had a blood-alcohol concentration (BAC) of 0.914 % w/v. The 67-year-old man was hospitalized Dec. 20, when a car knocked him down in a street of the southern Bulgarian City of Plovdiv. A breath test was administered, but police officers thought the BAC result was inaccurate because the man was conscious and talked with them. Laboratory analysis of five subsequent blood samples taken the same day confirmed that the man had had a measured BAC of 0.914 %w/v. The man was reported in stable condition after treatment for head injuries.

Source: http://story.news.yahoo.com/news?tmpl=story&u=/ap/bulgaria_drinker, Tues., Jan 04, 2005, (AP). ☞

SUBMIT YOUR ITEM FOR DRUGS IN THE NEWS TO DR. MASON BEFORE MAY 1ST

ELMER GORDON OPEN FORUM AN OPPORTUNITY FOR INFORMAL DIALOGUE

Congratulations to grandparents, **Mike and Michelle Schaffer**, on the birth of a new granddaughter. ♀

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 person who submitted it confirms the information. If you have a job position available, e-mail ToxTalk Editor Monforte at DrMonforte@aol.com.

Latest postings from the SOFT website (as of 2-10-05). For details go to www.soft-tox.org

Position / City / State / Post Date

- Toxicologist/Analytical Chemist / Oxfordshire United Kingdom 2/8/2005
- Forensic Toxicologist / Richmond VA 2/5/2005
- Laboratory Manager /Forensic Toxicology supervisor / Wilmington DE 2/5/2005
- Lab Director/Responsible Person / Pasadena TX 1/31/2005
- Forensic Toxicologist / Richmond VA 1/29/2005
- Toxicologists - Tobacco Research \ Richmond VA 1/22/2005
- Toxicologist I / Miami FL 1/18/2005
- Toxicologist/Asst Toxicologist / Valhalla NY 1/15/2005
- Analytical Toxicologist III / Rockville MD 1/15/2005
- Forensic Toxicologist/Technical Director / Santa Rosa CA 1/10/2005
- Drug Science Specialist / Washington DC 20537 1/8/2005
- Clinical Scientist (Toxicology) / Sheffield South Yorkshire 1/5/2005

PROFESSIONAL CALENDAR

- SOFT MEETINGS:**
- 2005 Nashville, TN – Louis Kuykendall October 17 – 21, 2005**
Renaissance Nashville Hotel
 - 2006 Austin, TX – Rod McCutcheon**
 - 2007 Chapel Hill, NC – Ruth Winecker**
 - 2008 Phoenix, AZ – Vickie Watts**
 - 2009 Oklahoma City, OK – Phil Kernp**

Spring 2005: SOUTHWESTERN ASSOCIATION OF TOXICOLOGISTS (SAT), Dallas/Fort Worth, TX; Fall 2005 – San Antonio, TX; Spring 2006 – Houston, TX; Fall 2006 Austin, TX (with SOFT) www.sat-tox.org

Oct 17-21: SOUTHWESTERN ASSOCIATION OF FORENSIC SCIENTISTS (SWAFS), Wichita, KS. swafs2005@swafs.us

May 17-20: NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS (NWAFFS) Spokane, WA. www.nwafs.org

Summer 2005: CALIFORNIA ASSOCIATION OF TOXICOLOGISTS (CAT), Orange County, CA; Winter - "Alternative Matrix" workshop - Las Vegas, NV; Spring 2006 – San Diego, CA. www.cat-tox.org

May 19-20: MIDWEST ASSOCIATION FOR TOXICOLOGY AND THERAPEUTIC DRUG MONITORING (MATT), Kansas City, MO www.midwesttox.org or barbara.rowland@labone.com or dawn.hahn@labone.com

August 21-26: 17th Meeting of the **INTERNATIONAL ASSOCIATION OF FORENSIC SCIENCES**, Hong Kong, China. Call for papers. Submission Form and Details at www.iafs2005.com. For further inquiries, please contact Conference Secretariat T (852) 2559 9973, Fax: (852) 2547 9528, email: info@iafs2005.com

02-17-05 pat

SOFT MEETING REGISTRATION AND CALL FOR PAPERS ONLY AT WWW.SOFT-TOX.ORG



Society of Forensic Toxicologists Stimulants Workshop

Sponsored by the Society of Forensic Toxicologists Continuing Education Committee

Location: National Center for Forensic Science, University of Central Florida, Orlando, Florida
Date: April 22, 2005
Time: 8:30 am – 3:45 pm

The SOFT Continuing Education Committee is sponsoring a workshop on the Stimulants. This workshop is designed to offer a low-cost, continuing education opportunity for toxicologists, law enforcement officers, medical examiners, investigators and students in the southeast US. Attendees will receive a comprehensive course of study on the central nervous system stimulants. The agenda for the workshop is outlined below:

- 8:30-9:15 Methods for the Analysis of Stimulants – Dr. Chris Chronister – Univ. of Florida
- 9:15-10:00 Cocaine – Dr. Dan Isenschmid – Wayne County Medical Examiners Office
- 10:00-10:30 Break
- 10:30-11:15 OTC and Prescription Stimulants – Dr. Bruce Goldberger – Univ. of Florida
- 11:15-12:00 Amphetamine/Methamphetamine – Chip Walls – Univ. of Miami
- 12:00-1:00 Lunch
- 1:00-1:45 Designer Amphetamines – George Hime – Miami Dade Medical Examiners Office
- 1:45-2:30 Tryptamines – Dr. Diane Boland – Miami Dade Medical Examiners Office
- 2:30-3:00 Break
- 3:00-3:45 Effects of Stimulants on Driving – Dr. Teri Stockham

To register for the workshop, complete the attached registration form and return by FAX to (352) 265-9904, or email to chronist@pathology.ufl.edu, or by mail to UF, 4800 SW 35th Drive, Gainesville, FL 32608. The deadline is April 13, 2005. There are a limited number of participants allowed, so positions will be filled on a first-come, first-serve basis.

Hotel accommodations can be made at the Radisson University Hotel at the special rate of \$98.00 per night. The hotel provides complimentary transportation to and from the National Center for Forensic Science. A virtual tour of the hotel is available at www.radisson.com/orlandofl_university. See the registration form for reservation information.

For any questions concerning the workshop please contact Dr. Chris Chronister at chronist@pathology.ufl.edu or (352) 265-0680 ext. 72002.

Application for AACC ACCENT continuing education credits is pending approval.

SOCIETY OF FORENSIC TOXICOLOGISTS



Continuing Education Committee Seminar *Forensic Toxicology Review: May 2-3, 2005* *Spokane, WA*

TM

Workshop Topics:

Forensic Drug Testing Overview
Laboratory
Pharmacokinetic Overview
Reno NV
Principles of Drug - Drug Interaction
MT
Specimen Preparation
Houston, TX
Instrumental Analysis
AZ
Alcohol & Volatiles
Toxicology
Drinking Laboratory with SFSTs
CO
Carbon Monoxide & Cyanide
Laboratory
Marijuana
Cocaine
Opioids
Sympathomimetic Amines
Antipsychotics
Hallucinogens
Clinical
Antidepressants
CNS Depressants
Antihistamines & NSAIDs
Herbal Supplements
Drugs & Driving Overview

Workshop Faculty:

Barry K. Logan, PhD. Washington State Toxicology
William Anderson, PhD, Washoe County Sheriff's Office
James Hutchison, MS, Montana State Crime Lab Missoula,
Sarah Kerrigan, PhD, Forensic Toxicologist Consultant
Vickie Watts, MS, Forensic Toxicologist Consultant Phoenix,
Dave Moody, PhD University of Utah, Center for Human
Laurel Farrell, BA Colorado Bureau of Investigations Denver,
Ann Marie Gordon, MS Washington State Toxicology

Sponsored By:

Society of Forensic Toxicologists
AACC Therapeutic Drug Monitoring &
Toxicology Division
Washington State Traffic Safety Commission
Washington State Patrol - State Toxicology
Laboratory
ACCENT Credits Available

LOCATION:

DoubleTree Hotel Spokane City Center
322 North Spokane Falls Court, Spokane, WA

Registration Fee:

SOFT Members	\$125.00
Non-SOFT Members	\$135.00
Students	\$100.00

Further Information or to Register:

Laboratory

Ann Marie Gordon
Washington State Toxicology
2203 Airport Way S. Suite 360
Seattle, WA 98134
(206) 262-6123

ann.gordon@wsp.wa.gov



CALL FOR PAPERS AND ABSTRACT SUBMISSION

ABSTRACT SUBMISSION DEADLINE IS JUNE 3, 2005



General Information

The Program Committee solicits abstracts on all forensic toxicology topics including postmortem toxicology, forensic urine drug testing, analytical toxicology of drugs, pharmacology as related to forensic toxicology, pathology as related to forensic toxicology, pediatric and geriatric case reports, and the relationship between drug concentrations and performance impairment. Scientific papers selected for presentation will be divided into two groups: 15-minute platform presentations and poster presentations. The Program Committee will select appropriate abstracts from those **submitted by the June 3, 2005, deadline**. The presenting authors of all papers will be required to register for the meeting. Only abstracts written in English will be considered. The format for the preparation of the abstracts is provided on the submission form.

Platform (Oral) Presentations

ONLY 35-mm slides or LCD (PowerPoint) presentations will be accepted. Each presenter will be provided with 10 minutes to present their material and 5 minutes to answer questions. Platform presentations must cover the material reported in the abstract. Regardless whether 35 mm slides or LCD projection are used, information on the slides must be kept simple with plenty of open spaces between lines. Limit information on each slide to seven lines or less. Do not crowd the slide. Avoid backing up in slide lectures. If you need a slide twice, make duplicate slides. White on black, white on blue, blue on yellow or yellow on blue project best. Avoid red and blue or other non-contrasting color combinations. If using 35mm slides, it is highly recommended that you provide your own carousel.

LCD Projector – Policies and Procedures

An LCD projector will be available for use at this meeting. Any LCD format platform presentation **MUST** be submitted in advance (Deadline June 3, 2005) on 3.5-inch disk or by E-mail in Microsoft PowerPoint (IBM format only) to the Program Chair (contact information on abstract submission form). There will be **NO** exception to these requirements. All presentations will be pre-loaded and tested on a computer (and backup computer) provided by SOFT. You may bring your own laptop as an additional

backup, however in order to improve flow between presentations this will only be used in the event of unexpected technical problems. Slide projectors will be available for presenters who do not meet this deadline, or format requirement.

Poster Presentations

Each author selected for poster presentation will be provided with a 4' x 8' tack board on which to display material related to his or her presentation. Presenters must bring their own tacks. Authors have complete freedom to choose ways of displaying their information in figures, tables, text, photographs, etc; however, they should avoid crowding too much information into a limited space. The poster should be readable from a distance of 3 feet. Posters will be kept up for the designated period they are scheduled. Please be sure your poster is mounted prior to the presentation session and leave it mounted until the session ends. It will only be necessary for the author to be present at the poster for the presentation period noted in the program.

Abstract Submission -

1. Online, through the SOFT website at <http://www.soft-tox.org>. The abstract itself is to be provided in Microsoft Word **ONLY** using the format described on the back of this form.
2. Electronically by e-mail – Be sure to provide all the information required on the back of this form in the body of your e-mail text. Be sure to type **ONE** of the disclosure statements in your-email. By submission of your abstract electronically, no signature is required for the disclosure. The abstract itself is to be provided as an attachment in Microsoft Word **ONLY** using the format described on the back of this form.

Disclosure Information (Please Read Carefully)

In order for AACC ACCENT credits to be provided for attendees to the SOFT 2005 Annual Meeting by the TDM/Toxicology Division of AACC each speaker must provide disclosure of potential bias or conflict of interest. This information is provided to any attendee who requests information concerning possible bias, conflict of interest or commercialism of any presentation. Please complete the information as it applies to you on the submission form.

Information to be provided with the Abstract

Please complete the following information only if you cannot submit your abstract by e-mail or on the website:

Presenting Author Name _____

Mailing Address _____

Telephone Number _____

Fax Number _____

E-mail _____

Co-author(s) Name(s) and Address(es) _____

Attach additional pages if necessary

Has this paper been presented before? Yes ___ No ___

If yes, where and when? _____

Select your presentation preference:

Platform ___ 35-mm () Powerpoint () Poster _____

Format of the Abstract

Type the title in upper and lower case letters. Separate the title from the authors by single blank line. Type the name(s) of the authors and, followed by the address(es) (affiliation, city, state, country) of the authors. For multiple addresses use a numerical superscript after the name. Use an asterisk (*) to identify the presenting author. Separate the author's names from the body of the abstract by a single blank line. Identify three key words at the bottom of the abstract. See example below:

The Analysis of Oobleck from Precipitation Collected in the World of Dr. Seuss

Cindy Lou Who^{*1}, Yertle Turtle², and Bartholomew Cubbins².

¹Whoville University, Whoville, MI, U.S.A.; ²Mulberry Street Consulting Group, Prairie of Prax, MN, U.S.A.

Indent each paragraph three spaces. Type the entire abstract single-spaced. Do not type in all capital letters. Capitalize and punctuate exactly as you wish the abstract to appear in the program. Do not double space after a period. The abstract should be limited to one 8 ½ x 11-inch page using Times New Roman font, size 12.

The abstract must contain the following information: (1) author(s) name(s) and affiliation, city, state, country; (2) short specific title; (3) statement of paper's objective; (4) statement of methods, if relevant; (5) statement of results; (6) statement of conclusion; (7) key words (three).

Key Words: Oobleck, Seuss, Precipitation

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AACC requires that all speakers in accredited Continuing Education Activities to disclose any possible bias or conflict of interest regarding the topic that is being presented. A conflict of interest is defined as any financial interest of the speaker in a company's products or services discussed in the presentation. For example, if the speaker (1) holds stock in the company, (2) is paid salary or consultant fees by the company, (3) has grant support from the company and/or (4) has received support for travel expenses, honoraria, etc. from the company, a conflict of interest exists regarding this topic and must be reported. If the speaker has a financial interest in a company *but is not discussing a product or service of that company, no conflict of interest must be disclosed.*

Please place an X next to ONE of the DISCLOSURE STATEMENTS indicated below:

_____ I have read the above statements and I declare that neither I nor any member of my immediate family has a financial interest in a company as defined in the AACC policies on conflict of interest.

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Signature _____

Date: _____

By submission of this abstract by e-mail no signature is required for the disclosure. You must, however, type the applicable disclosure statement in your e-mail text.

Submission Address:

Kenneth Ferslew, PhD, SOFT 2005 Program Chair
East Tennessee State University
Toxicology, Box 70422
Johnson City, TN 37614

Phone (423) 439-6424 Fax (423) 439-8413

E-mail: ferslew@etsu.edu

NOTIFICATION: You will be notified of receipt of your abstract within two weeks of submission. If you do not receive notification in this time frame, please contact the Program Chair to make sure your abstract was received. Correspondence from the Program Chair will be with the presenting author only. Notification of acceptance will be made by July 31, 2005.