



TOXTALK®

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LETTER FROM THE EDITOR

As most of you are aware, I have agreed to take on the role of Editor of ToxTalk®. I am honored and humbled by this opportunity. I would like to thank Associate Editor, Laura Liddicoat, Section Editors, Dan Anderson, Matt Barnhill, Bob Zettl, and Publishing Assistant, Nicole McCleary for their excellent service.

I would particularly like to thank Dr. Yale Caplan for his leadership of ToxTalk® for the last eight years (and even before), especially in his shepherding of the publication through its transformation from a print publication to an electronic one. This change has been monumental; allowing us to incorporate an almost unlimited amount of content, while at the same time, decreasing production costs to almost nothing. Electronic publication also allows us flexibility in deadlines, to accommodate changing meeting dates, etc. As you probably know, ToxTalk® is now accessible to the general public through the SOFT website. This means that it is indexed by search engines, which raises the impact of the publication. This has not gone unnoticed by our vendors, whom we have accommodated by now allowing the inclusion of advertising.

I am excited about the future of ToxTalk®. Contributions from the SOFT membership continue to grow, and the publication is evolving into a forum for rapid communications and “mini-articles”, if you will. My definition of a “mini-article” is an observation or technical article that may not be a complete journal-ready publication, but is, however, scientifically rigorous and worthwhile to communicate to one’s colleagues. *(Continued on p. 3)*

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PRESIDENT'S MESSAGE

Submitted by Peter Stout, Ph.D., DABFT

It is a new year for SOFT. Well, OK it is a few months into the new year. The change of the year brings a new set of officers and board members for SOFT. I am very pleased to be working with this year's board. Everyone is engaged and has a sense of wanting to see the Society improve for the future. Thank you to all of the board, committee chairs and others who give of their time to SOFT for their energy and commitment.

In looking at the way the board is progressing, I think we are well positioned this year to solidify gains made over the last few years by past presidents in strengthening SOFT's business processes and business controls. SOFT has grown. We are now an organization of well over a thousand members. Our annual meetings are substantial events with substantial budgets. It is a challenge for us of how to maintain the friendly and welcoming community of SOFT, while strengthening the professionalism of the management of SOFT's affairs.

This has been an on-going effort for more than a few years, but in the last few years there has been an on-going effort to write and update committee handbooks, which are now mostly in place and being maintained. We have become more transparent in our handling of SOFT's budget. Our current Treasurer, Jen Limoges, continues to do an outstanding job of managing the increasing complex finances of SOFT. Please take a look at her budget article with the annual budget recently passed at

the interim board meeting. Jen has also reconfigured how this budget is displayed, making it more understandable of where SOFT is making investments in the community.

Jen also chairs the Strategic Planning Committee. This group has made a number of recommendations to improve business processes and business controls for SOFT operations that were passed by the board in February. The rotating meeting treasurers (Laurel Farrell, Marc LeBeau and Brad Hepler) have done an astounding job of organizing the business of the meetings and making that far more robust. They have worked with Paul Lubbers who has developed many of the database software applications we use, to improve this process and the tracking of meeting funds.

It has been mentioned in previous articles, but merits mentioning again that we have now shifted to completing a certified external audit every other year. We just successfully completed a certified audit last year.

The goal of these changes is to help ensure the smooth operations of SOFT and serve the membership. This includes approval of a SOFT "management meeting" every year at the SOFT office on the Treasurer change years as has been done for some time. Now we will also include a visit to the office on Secretary change years so that more consistent physical inventories can be completed and more continuity can be ensured for the Secretary as well as the treasurer.

With this secretary year meeting, we will include the audit committee chair as a part of that meeting.

I would like to thank Rod McCutcheon who recently stepped down as audit committee chair. This is a big responsibility and I certainly appreciate his service in this role. I am pleased to say that Tom Kupiec has agreed to step up to this role. I mention the audit committee in particular as this committee serves an essential oversight role for SOFT. I have asked of Tom to work with the Strategic Planning committee and think about how the audit committee can best fill this oversight role with all of the changes that have been implemented in the past few years.

I am very pleased with the contributions of all of the board and all of those who serve SOFT. I have mentioned some names here and have focused on the operational changes in the way SOFT does business. This is not because these parts are more important that the contributions of other (and those other contributions are often very important), but because these are the parts that help support the others. We are in a marvelous position to have strengthened our operational processes to be at a point to look more strategically for the future of SOFT. I appreciate the efforts of those who have helped focus on the business operations; I know these tasks are sometimes not as satisfying as the science. Helping to ensure that our operations are solid allows us the ability to put energy toward the

PRESIDENT'S MESSAGE (CONTINUED)

issues of science and policy that are also goals of the Society.

Please feel free to forward any concerns or comments you have to me. I appreciate the opportunity to serve SOFT in this capacity.

Peter Stout, Ph.D., DABFT
2014 SOFT President

LETTER FROM THE EDITOR (CONTINUED)

Additionally, I am thrilled that Dr. Caplan will continue to contribute to ToxTalk® and be a touchstone as he continues to serve in his new role as Editor Emeritus.

One final item to address is, that while I have thoroughly enjoyed serving in the capacity as the Drugs in the News Section Editor over the last several years, and while it is my intent to continue to contribute content to ToxTalk® as the opportunity presents itself, it is time to yield the Section Editor position to someone else. As such, I am happy to announce that Dr. Laureen Marinetti has graciously accepted this role. I think I speak for all of us involved in the production of ToxTalk® as we wish her a hardy welcome.

Dwain Fuller, B.S., DFTCB, TC-NRCC

2013 SOFT Business Meeting Minutes

Orlando, Florida

Thursday, October 31, 2013, 3:30-5:00 pm

1. Call to order. The 43rd SOFT Annual Business meeting was called to order at 1535 hours by President Dan Anderson and Secretary Ruth Winecker verified a quorum was present by counting the signatures of voting members on the sign-in sheets. The business meeting sign-in sheets reflected that 168 out of 190 meeting attendees were members with voting privilege.

2. Approval of Agenda. President Anderson proposed approval of the agenda after announcing corrections to the meeting resource committee section of the agenda (2017 in Boca Raton, 2018 in Minneapolis and 2019 in

San Antonio); there was a motion to approve, no objections were made and the agenda was approved.

3. Approval of Annual Business Meeting Minutes (Boston, MA) – President Anderson stated that the July 2012 Annual Business Meeting Minutes were published in the September 2012 edition of ToxTalk® and asked for any corrections. With no corrections suggested, the minutes were approved as published.

4. President's Report –President Anderson acknowledged that this was the 43rd year of SOFT's existence and thanked the member-

ship for allowing him to serve the large and dynamic group of people that make up the SOFT organization as President for the last year. President Anderson remarked that the focus of the past few years has been on the youth of SOFT with the formation of the YFT committee and development of its programs including the Leo Dal Cortivo awards and yet there were no YMSA applications this past year indicating the need for development of mentoring within the membership. He encouraged the membership to foster research opportunities for their young employees so the YMSA could have a healthy number of applicants next year.

2013 SOFT Business Meeting Minutes *(Continued)*

President Anderson reflected that the BOD recognized the gap in solely focusing on the youth in the organization and decided to acknowledge loyalty professionalism and abiding by ethical obligations by providing longevity awards to those with greater than 20 years of SOFT membership. The award is in the form of a lapel pin and badge ribbon. There are currently three categories of awards; those who have been members for 20-29 years, those who have been members for 30-39 years and those who have been members for > 40 years. In 2013, there are 212 members with 20 or more years of SOFT membership who will receive longevity recognition. In the > 40 year category, there are three members with one in attendance at the Orlando meeting. There are 70 members in the 30-39 years of membership category with 24 in attendance at the Orlando meeting. There are 129 members in the 20-29 years of membership category with 57 in attendance at the Orlando meeting. President Anderson asked each group to stand and be recognized. He further noted that out of 9 BOD member positions only three members of the BOD qualify for one of these categories; Bruce Goldberger, Bill Anderson and Laurel Farrell. President Anderson thanked the BOD for approving the recognition of the membership in this way and he thanked the members who qualified for the awards for their continued participation and support of SOFT President

Anderson went on to announce that there would be a drawing for

a complimentary registration for a full member at the next SOFT meeting in Grand Rapids, MI in 2014 and he encouraged all voting members to fill out the entry form. President Anderson had several announcements regarding ToxTalk® including that the newsletter name is now registered and protected by copyright, the BOD had developed policies and procedures for the acceptance of advertisements into the newsletter and that Yale Caplan was retiring again after a second 8 year term as editor. He asked the membership to thank Caplan along with Laura Liddicoat as associate editor and Nicole McCleary as publishing assistant for their work on the newsletter. There was round of applause. President Anderson thanked the BOD for their help and support in the past year, the committee chairs for their work on behalf of SOFT and he thanked Madeline Montgomery for her work as editor for the JAT-SOFT special issue. Further, he thanked Bruce Goldberger and 2013 meeting committee including Jarrad Wagner, Laurel Farrell, and Chris Chronister for their work in putting together a wonderful meeting and Bonnie Fulmer as SOFT administrative assistant, friend and advisor for her help this past year. Finally he thanked his wife Kelli for putting up with him and supporting him in toxicology endeavors.

5. Secretary's Report –Ruth Winecker first thanked the members of the membership committee, Diane Boland, Robert Johnson and Robert Kronstrand, for their work in evaluating the mem-

bership applications. Additionally, she acknowledged Bonnie Fulmer's work preparing the membership application packages and stated the committee is grateful for her help and insight. She reported that since February 1, 2013, the committee has reviewed 110 applications in various categories including:41 for full membership;34 for associate;4 for reinstatement;10 for student;4 for retirement; 17 for promotion either from student to associate or associate to full. Further, she informed the attendees that 32 members were dropped from membership either via notification to the SOFT office of withdrawal of membership or by non-payment of dues after multiple attempts to contact the member. The total SOFT membership is 1,178 as of 9/15/13. Secretary Winecker finished her report by presenting a remembrance of former SOFT member Roger Foltz which was followed by a moment of silence.

6. Treasurer's Report –Jennifer Limoges began her report by summarizing the various budget categories and balances highlighting the increase of the reserve account by a BOD approved \$50,000 for a total reserve account balance of \$150,749. Limoges gave a short presentation on the results of the comprehensive audit of the 2012 finances. She reported that the audit found SOFT's financial records to be in good order and reported no material weaknesses in SOFT's financial practices. However, the report did give some recommendations for more clearly defined separation of duties between the SOFT

2013 SOFT Business Meeting Minutes (Continued)

Treasurer, SOFT Office and Meeting Treasurer. These recommendations have been tasked to the Strategic Planning Committee for development of Policies and Procedures addressing the duties, responsibilities and authorities of the various SOFT financial positions. Treasurer Limoges reported on the new format of the budget which included categories for operations, awards and professional investment. She showed a slide of budget vs. actuals and explained that the operations category is about the business of running SOFT with line items for salary, SOFT office lease, insurance, etc. Further, Limoges pointed out the expenses in this category for improvements to the website and the registration database and explained that these investments will allow better tracking of SOFT's income and expenses. She further explained that the awards category is supposed to operate at a loss as it's based on donations. Finally, for the budget, Limoges covered the professional investment category which included line items for the annual meeting, JAT subscription for members, Continuing Education and Young Forensic Toxicologists. Treasurer Limoges concluded her report by informing the membership that she was able to garner significant savings for the organization by negotiating decreases in credit card fees that SOFT is charged for accepting credit cards through the website for the annual meeting registration and dues transactions.

7. Vice President's (Committee) Reports –Peter Stout called for committee reports as follows:

A. Bylaws (Yale Caplan)- Caplan reported no activity.

B. Budget, Finance, and Audit (Rod McCutcheon)- McCutcheon reported the committee was comprised of Malmoud ElSohly, Robert Turk, Jeri Ropero-Miller, Joseph Saady, and Bill Johnson and thanked the members for their service. McCutcheon stated the 2012 budget and finance reports were reviewed as well as the CPA report and everything was in order. The committee had noticed that SOFT spent a lot on credit card fees and is pleased that the fees will be reduced going forward.

C. Membership (Ruth Winecker)- Winecker stated this report was provided earlier in the Secretary's report.

D. ToxTalk® (Yale Caplan)- Caplan announced his retirement as Editor and that his replacement would be Dwain Fuller. He gave some history about the transition from print to electronic format and movement of the newsletter to the public portion of the SOFT website and mentioned the new advertisements being placed in the newsletter. He thanked Laura Liddicoat, Bob Zettl, Dwain Fuller, Dan Anderson, Matt Barnhill, Barry Levine and Nicole McCleary for their outstanding contributions to ToxTalk®. Caplan called for anyone with an interest in learning or with existing talents in the program Microsoft Publisher® to volunteer to assist Nicole with producing the publication. Caplan concluded his report by saying that although he was retiring as Editor, he would continue to provide editorials and items of interest to ToxTalk® in the role of Editor

Emeritus.

E. Publication-JAT (Dimitri Gerostamoulos)-Gerostamoulos was not in attendance and his report was given by Madeline Montgomery. Montgomery announced the members of the committee (including herself and Gerostamoulos) were Diane Boland, Matt Slawson, James Watterson, and Dwain Fuller. She explained that one of the goals of the committee this year was to solicit titles and authors for a number of review articles and another was to judge and select the EDIT award winner. She announced that the EDIT Award winner was Thomas G. Rosano for his publication titled, *Drug Screening in Medical Examiner Casework by High-Resolution Mass Spectrometry (UPLC-MSE-TOF)*. Montgomery thanked SOFT for the opportunity to serve as the special issue editor. She further stated that the issue was comprised of 20 articles and that there were 24 articles submitted, three were rejected and one did not complete a revised manuscript. She thanked all of the reviewers and authors for completing everything in a timely manner and Bruce Goldberger for his support and advice. JAT Editor-in-Chief, Bruce Goldberger, presented Montgomery with a plaque and thanked her for her work on the special issue.

F. Education Research Award (Erin Spargo)-Spargo was not in attendance and the report was given by Michelle Merves. Merves asked supervisors and thesis advisors to remember that the deadline for applications is in early spring and reported that there were three ERA awards this year

2013 SOFT Business Meeting Minutes *(Continued)*

and that their presentations had been the previous day in the program. The awardees were Rebecca Hartman, Kim Samano and Sarah Himes and each was given a plaque and check, as well as a round of applause.

G. Meeting Resource Committee (Peter Stout)- Stout explained that meeting reports would be limited to 2013-2015 but announced that 2016 would be held in Dallas, 2017 as joint meeting with TIAFT in Boca Raton, and that the BOD had signed two contracts this year for 2018 in Minneapolis and 2019 in San Antonio.

1) 2013–Orlando (Bruce Goldberger)-Goldberger thanked the committee again for their work on the meeting and explained that all of the individual acknowledgments for the committee were made last night at the President's dinner. Chris Chronister, workshop co-chair, came forward to recount the workshops that were held on Monday and Tuesday and recognize the chairs of the workshops. He thanked them for their efforts and had each come forward to be acknowledged.

2) 2014 – Grand Rapids, MI (Benjamin Kuslikis/Michael Smith)-Kuslikis and Smith reported the 2014 annual meeting will be held at the Amway Grand Convention Center, October 18-26, 2014 in downtown Grand Rapids. They presented a short video that showed highlights of the Grand Rapids area. They concluded their report by tossing t-shirts to the audience and asking the committee members to stand up and be recognized.

3) 2015 – Atlanta, GA (Robert Sears): Sears reported that the meeting will be at the Hyatt on Peachtree in downtown Atlanta and the meeting dates are October 17-25, 2015. Sears asked for volunteers to assist with the various committees needed to host the meeting.

H. Drugs and Driving (Amy Miles)-Miles was not in attendance and the report was given by Jennifer Limoges. Limoges reported that the committee sponsored one workshop and a special session at this meeting. The committee will be coordinating another Special Session at AAFS in February 2014. Lastly, the committee completed an update on the drug and driving reference literature area on the website. Limoges concluded the report by mentioning that one of the goals for this next year is to help with the dissemination of the new NSC recommendations for DUID testing.

I. Policy and Procedures (Ruth Winecker)- Winecker listed the members of her committee (Michelle Peace, Madeline Montgomery and William Anderson) and stated the mission of the committee. She reported that the Policy and Procedures manual is in the process of being reorganized and edited to reflect the way SOFT does its business because as the organization has grown its business and procedures have become more complex.

J. IT (Website) (Bruce Goldberger/ Matthew Juhascik)- Juhascik reported the website receives regular updates and content. One new feature is the designer drugs section of the website which has

he encouraged people to check out. He further stated that the committee was working on more content in the business area of the website.

K. Continuing Education (Ann Marie Gordon)- Gordon reported that this year, the evaluation process for CE credits was added to the guidebook app with the help of Jarrad Wagner. The committee was able to coordinate with AACC to get the evaluations from the guidebook app recognized for ACCENT credit. She encouraged all attendees to fill out the evaluations so that meaningful feedback could be provided to speakers, and she reminded everyone that an instruction sheet on how to receive the ACCENT credit was included in their registration materials. She announced that the CE committee now has its own email address and CE questions can be addressed directly through the website. The committee had been very active this year with hosting three CE workshops at this meeting. Gordon finished her report by listing the CE workshops that the committee has available and encouraged SOFT members to consider hosting one of these regional ConEd workshops.

L. Young Forensic Toxicologists (YFT) (Jayne Thatcher)- Thatcher reported that the committee hosted the 4th annual YFT symposium beginning with a social hour followed by a forum on the impact of marijuana legalization on toxicology casework. A new event the committee hosted this year was a professional development fair which included employers, certifying organizations and educators. Further, she re-

2013 SOFT Business Meeting Minutes *(Continued)*

ported that the group hosted the SSEP on Tuesday with 17 enthusiastic and knowledgeable students. She concluded her report by detailing the committee's activities in judging the Leo Dal Cortivo Award Competition and the plans to announce the winners at the closing ceremonies of the annual meeting.

M. Drug-Facilitated Sexual Assault (Laureen Marinetti)-Marinetti reported the committee hosted a workshop at this meeting in cooperation with the University of Florida. Further she reported that the committee has approached CAP about hosting a survey sample to test drug cutoffs for laboratories involved in DFSA toxicology testing. Further, she informed the attendees that the committee will be submitting a formal request to the BOD for permission to change its name to the Drug Facilitated Crimes Committee. She concluded her report by asking for members to submit case reports to be presented at a special session the committee is planning for the SOFT 2014 meeting.

N. Ethics (Robert Osiewicz)-Osiewicz reported that there were no official complaints referred to the committee this year, but that they did have an unofficial inquiry from a lawyer asking about our ethics policies.

O. Nominating (Marc LeBeau)-He stated the purpose of the committee, named the other committee members (Tim Rohrig and Michael Smith), and announced the 2014 slate of candidates.

i. President: Peter Stout

ii. Vice President: Ruth Winecker

iii. Secretary: Bruce Goldberger

iv. Board of Directors: Laura Lidicoat (3 year appointment) and Sumandeep Rana (3 year appointment)

P. Strategic Planning Committee (Jennifer Limoges)- Stout stated that the Treasurer is the chair of this committee, and as such, Limoges gave a report of this committees activities during the treasurer's report.

Q. Vendor Liaison Committee (Jarrad Wagner)-Wagner reported that this has been a great meeting and the vendors had really outdone themselves with their sponsorship. He announced that there was going to be a Teir 1 event that evening with costumes and lots of fun. He thanked the membership for taking the time to visit with the vendors in the exhibit hall and President Anderson for being responsive to the vendor's suggestions. Wagner concluded his report by asking the membership for ideas for meeting giveaway items that they would like to see.

R. CSFO (Laurel Farrell)- Farrell reported that CFSSO stands for the Consortium of Forensic Science Organizations and is comprised of AAFS, NAME, ASCLD, ASCLD/LAB, IAI, and that SOFT shares a membership with ABFT. She is SOFT's representative to the CFSSO and Yale Caplan is ABFT's and between them they share one vote. Farrell stated the dues membership organizations pay to the CFSSO are used to fund the activities of a legislative liaison to keep us apprised of congress' legislative activities and provide a single unified voice of forensic science concerns back to congressional representatives. Farrell reported that the Justice for All Act reau-

thorization, which has a number of different funding streams for forensic science activities, passed on a voice vote of the Senate today. She further reported that the bill included requirements that states are to include representatives from its forensic laboratories on their strategic planning committee tasked with designating how the grant money will be spent. Further, she reported that Senator Leahy's bill (Forensic Science Advancement Bill) was moving forward quickly and that funding offsets had been identified to increase the likelihood of the bill's passage. She concluded her report by encouraging all members to read these bills when posted and forward any constructive commentary to the SOFT BOD so that we can make sure that our members concerns are addressed.

S. Advocacy Committee (Peter Stout)- Stout reported that the BOD had reviewed the function and activity of this committee and determined that these efforts were being duplicated elsewhere, and therefore, the BOD voted to disband this committee.

T. SWGTOX Update(Peter Stout)- Stout reported that the SWGTOX had given an update that morning during the scientific program.

U. Designer Drug Committee (Sumandeep Rana)- Rana stated the mission of this new committee is to promote awareness and provide means of information exchange for SOFT membership, professionals in healthcare, law enforcement, government agencies, and others in related fields regarding the prevalence, toxicology, pharmacology, and analysis of emerging designer drugs. She

2013 SOFT Business Meeting Minutes *(Continued)*

acknowledged her committee members Aaron Jacobs, Barry Logan, Robert Kronstrand, Jeff Teitelbaum and Sarah Kerrigan. Rana reported that the committee meets monthly by phone to work towards their goals. Further, she expanded on Matt Juhascik's report about the new designer drugs features on the website which includes menu options for drug monographs, government reports, useful links, a searchable published literature database and option to submit a case report. Rana asked the membership for volunteers to help the committee write more drug monographs for the website and she encouraged members to submit case reports as well. She can be reached via email which is posted in the committee section of the SOFT website. Rana also reported that the committee sponsored one workshop at this meeting and will be sponsoring another at the AAFS meeting in February. She concluded her report by thanking her committee members for all the work they accomplished in such a short time this year.

8. Announcements/Liaison Reports

* **ABFT/FTCB-** Bruce Goldberger and Amanda Jenkins announced that the ABFT and FTCB have entered into an agreement to merge and form one board. The agreement includes a 120 day period of review, planning and due diligence. The motivation to consolidate is multifaceted but is due primarily to the belief that having two forensic toxicology certification boards causes confusion to practitioners and

the communities they serve. The consolidation of the two boards will provide a unified voice in qualification and standardization of the certification of forensic toxicology experts.

- * **AAFS-** Loralie Langman invited everyone to the 66th annual meeting of AAFS to be held in Seattle, WA, February 17-22, 2014. She reminded the members that SOFT's own Barry Logan is President of AAFS this year and asked everyone to consider coming to the meeting and showing their support. She concluded her report by announcing that the Toxicology Section is sponsoring or co-sponsoring four workshops.
- * **TIAFT-** Nikolas Lemos announced that next year's TIAFT meeting will be held in Buenos Aires in November.

9. Unfinished Business – President Anderson asked the membership if there was any unfinished business and there was none.

10. New Business– President Anderson recognized the outgoing officers and thanked them for all of their hard work and for being such a great asset to the organization. They were each presented with a plaque.

- a. Bill Anderson-Director
1 year term
- b. Bruce Goldberger-Director
3 year term
- c. Ruth Winecker-Secretary
2 year term
- d. Peter Stout-Vice President
1 year term

11. Elections–

Nominees: Anderson asked if there were additional nominations from the floor. There being none, the nominees were approved by acclamation.

- a. 2013 elected officers:
 - i. President: Peter Stout
 - ii. Vice President: Ruth Winecker
 - iii. Secretary: Bruce Goldberger
 - iv. Board of Directors: Laura Lidicoat (3 year appointment) and Sumandeep Rana (3 year appointment)

12. Incoming President's Remarks–

President Elect Stout thanked President Anderson and presented him with a plaque. He reflected on dissatisfaction with his first career and later switch to forensic toxicology and how with his first SOFT meeting he achieved career calm and formed lifelong friendships. Stout spoke of the privilege that it is serve this wonderful organization and promised commitment to the organizations goals for the coming year. Stout drew the name for the registration raffle and the winner was Sherri Kacinko.

Meeting adjourned at 1659 hours



TREASURER'S REPORT 2014

Submitted by Jennifer Limoges, M.S.—SOFT Treasurer (2013-2014)

The 2014 Annual Budget for the organization was approved by the Board of Directors at the interim meeting held February 19, 2014. Response to the new budget format implemented last year was very favorable, so we will continue presenting the finances in that manner. The approved 2014 budget, along with the 2013 budget vs actuals are being presented in this report. Some areas to elaborate on:

- * The payroll expenses in 2013 appear to have increased, but it is simply a matter of the timing of some federal tax payments; the cost for the two year period (2012-2013) averages out to the budgeted amount.
- * Professional expenses were lowered since we will not have an external financial audit this year.
- * The budgeted amount for Officer/Committee expenses was significantly increased to cover the cost of several organizational meetings.
- * Software/programming was significantly decreased; no major initiatives are planned for 2014. The meeting registration database enhancements implemented last year were very successful.
- * Awards were budgeted at the traditional amount. The Awards Committee can request a budget increase if applications so warrant.
- * The annual meeting is targeted at the typical \$35,000 profit goal.
- * We anticipated JAT expenses to be incurred at the end of the

year, but this will actually be a 1st quarter payment moving forward. So the budgeted amount for 2013 was not needed.

- * While the futures of SWGs are a bit uncertain right now, the Board decided to keep support for that work in our budget for this year.
- * Bank and credit card fees are a cost of doing business these days, but I do continue to try to minimize these expenses for the organization. As reported to the membership at the 2013 annual meeting, credit card fees were reduced last year. These were reviewed again last month and further reductions accomplished for 2014.

The accounting firm of Osborne, Parson, and Rosacker, LLP conducted an external audit of SOFT financial records for 2012 and found our finances to be acceptable. They found no material deficiencies, but did recommend that we better define our segregation of duties and oversight practices. Past SOFT Treasurers, and current Meeting Treasurers, Laurel Farrell and Marc LeBeau assisted me in writing detailed documents that outline the authorities and responsibilities of all those involved with the organization's finances. These were reviewed/approved by the Board in January 2014, and have been incorporated into the Policy & Procedure Manual. In addition, we updated the QuickBooks categories to match the new budget format, and created several "cheat sheets" for several of the financial activities. This will greatly increase consistency (and minimize frustration) as organization and meeting treasurers change.

As Treasurer of SOFT, I also Chair the Strategic Planning Committee. The current Committee members are Tony Costantino, Laurel Farrell, Tom Kupiec, and Marc LeBeau. Their input has been very valuable and we are making great progress in improving our business processes and controls. The update to the financial duties described above was a major project for the Committee in 2013.

The Strategic Planning Committee also put forth a business improvement recommendation the Board to implement an annual meeting at the SOFT office at the beginning of each year. During a Treasurer change year, the attendees will be the incoming and outgoing Treasurers, new President, Accountant, and SOFT Administrative Assistant. The agenda will include an orientation for the new Treasurer and the transfer of accounts. During a Secretary change year, the attendees will be the new Secretary, new President, Audit Chair (or committee member), and SOFT Administrative Assistant. The agenda will include an orientation for the new Secretary and a review of the records maintained at the office. In addition, each year the new President will meet with the Administrative Assistant to discuss the goals/objectives for the upcoming year. A property inventory will also be conducted. The Board reviewed/approved this recommendation at the interim meeting in February and voted to enact the annual meeting at the SOFT office. *(Continued on p. 11)*

TREASURER'S REPORT 2014 (CONTINUED)

OPERATIONS			
INCOME	2014 BUDGET	2013 ACTUAL	2013 BUDGET
Application Fees	5000	6375	4500
Late Fees (Dues)	400	420	400
Membership Dues	60000	61590	58000
Other Operations Income	0		
TOTALS	65400	68385	62900
EXPENSES	2014 BUDGET	2013 ACTUAL	2013 BUDGET
AAFS Midyear BOD Meeting Expenses	1200	1127	1200
Appreciation Gifts	1200	4898	1200
Bank and Credit Card Service Fees	3500	3300	3500
Charitable contributions	800	1250	800
Insurance	2500	2162	2100
Lease SOFT Office	3000	2948	3000
Office Equipment	500	1499	400
Office Telephone/Internet	2500	1885	2500
Office/General Administrative Expenses	2500	1909	2500
Payroll Expenses	35000	42007	35000
Postage/Shipping Expenses	800	413	1500
Professional Fees: Accounting and legal	5000	9915	11000
QuickBooks Online	650	647	650
SOFT Officer/Committee Expenses	13000	6964	5000
Software/Website Programing	5000	13500	12000
State of Delaware: Incorporation Expenses	100	100	100
Website Hosting Expenses	1400	401	1000
TOTALS	78650	94927	83450
NET OPERATIONS	(13250)	(26542)	(20550)
AWARDS			
INCOME	2014 BUDGET	2013 ACTUAL	2013 BUDGET
ERA Donations	1500	3136	1300
Interest Earned - ERA Account	300	313	500
Leo Dal Cortivo Donations	0	0	0
Interest Earned - LDC Account	50	62	150
TOTALS	1850	3511	1950
EXPENSES	2014 BUDGET	2013 ACTUAL	2013 BUDGET
ERA/Y SMA Awards	6000	6000	6000
Leo Dal Cortivo Awards	2000	2000	2000
TOTALS	8000	8000	8000
NET AWARDS	(6150)	(4489)	(6050)

TREASURER'S REPORT 2014 (CONTINUED)

PROFESSIONAL INVESTMENT			
INCOME	2014 BUDGET	2013 ACTUAL	2013 BUDGET
Annual Meeting Income	775000	974967	1066000
ToxTalk Advertisements	2000	2896	0
SOFT Logo Sales	1000	1812	700
Silent Auction Proceeds	2500	3731	5000
Interest Earned - Reserve Account	200	221	250
Other Prof Investment Income	0	500	0
TOTALS	780700	984127	1071950
EXPENSES	2014 BUDGET	2013 ACTUAL	2013 BUDGET
Meeting Expenses	740000	888820	1034333
CFISO Membership	10000	10000	10000
Oxford University Press	40000	0	40000
SWGTOX	2500	143	2500
SOFT Logo'd Item Expenses	1500	2407	1000
SOFT CONED committee expenses	5000	250	5000
Young Toxicologists Committee/SSEP	5500	5314	6000
Survey Monkey	200	200	200
TOTALS	804700	907134	1099033
NET PROFESSIONAL INVESTMENT	(24000)	76993	(27083)
OVERALL			
NET INCOME	(43400)	45963	(53683)

SOFT Account Balances Account	December 31, 2012	December 31, 2013
Operations	\$438,090	\$478,303
Reserve	\$100,585	\$150,806
ERA	\$190,523	\$166,836
Leo DalCortivo	\$48,162	\$46,188
Meeting Checking	\$81,585	\$6,362
Meeting Merchant	\$430	\$500
Web Dues	\$20,464	\$470
	\$879,839	\$849,465



If you have any comments, questions, or suggestions on SOFT's finances, I encourage you to contact me.

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DRUGS IN THE NEWS
 Send interesting “*Drugs In The News*” articles
 to Section Editor
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Sipping Sizzurp...

Submitted By Dwain Fuller – Editor

*Poppin bottles in the ice, like a blizzard
 When we drink we do it right gettin slizzard
 Sippin sizzurp in my ride, like Three 6
 Now I'm feelin so fly like a G6...*

*Sippin on, sippin on sizz, Ima ma-make it fizz
 Girl I keep it gangsta, poppin bottles at the crib
 This is how we live, every single night
 Take that bottle to the head, and let me see you fly...*

~ “Like a G6 “ - By Far East Movement

These are a portion of the lyrics from perhaps the most mainstream of the numerous songs that mention “sizzurp”. Did you understand all of that? No? Let me help. “Gettin’ slizzard”, as you might guess, is becoming intoxicated. “Fly like a G6” refers to a Gulfstream 650 jet, again, intoxication. “Like Three 6”, refers to a rap group called Three 6 Mafia, who incidentally have a song called “Sippin’ on Some Sizzurp”.



So what is sizzurp? As partial answer to that question, and before we get too far from the rap music discussion, I should mention that the song, “Sippin’ on Some Sizzurp” includes the lyrics, “*I got the red promethazine thick orange and yellow tuss. Hydrocodone on the hands-free phone.*”

Sizzurp, Lean, Syrup, Drank, Purple Drank, Barre, Purple Jelly, Texas Tea, and Tsikuni, are all terms that refer,

more or less, to the same type of intoxicant. These products, as we will call them, consist of mixing codeine/promethazine or hydrocodone/chorpheniramine cough syrups with various soft drinks, and often Jolly Ranchers or a similar candy, to add sweetness, tartness, or flavoring. This practice should not be confused with the abuse of dextromethorphan cough syrup. Additionally, the term “purple drank” or references to the color purple in many of the songs are due to the purple color of codeine/promethazine cough syrup.

It appears that this phenomenon started in the Houston, Texas, blues scene and then evolved to be a part of the local Houston rap scene. The practice was popularized in rap mixtapes recorded by local rapper, DJ Screw, who mentioned “Purple Drank” in many of his lyrics. The tapes produced by DJ Screw are described as being “slowed-down” freestyling over beats that were even further slowed down post production. This type of music would apparently complement, or be complemented by, the effects of a CNS-depressing substance such as these. Since its inception, the popularity of these products has spread throughout the hip-hop community by their glorification in the lyrics of songs and by personal comments of artists like Three 6

Sipping Sizzurp... (Continued)



Mafia, Far East Movement, Big Moe, Lil Wayne, Jay-Z, Beanie Sigel, Paul Wall, Young Buck, Chamillionaire, Gorilla Zoe, Slim Thug, Z-Ro, Lil Flip, Gucci Mane, and A\$AP Rocky, to name a few.

As many of the song title and lyrics would imply, these products are sipped over prolonged periods of time, a practice made more appealing by their candy-like taste. There appears to be little, if any regard for the total dose consumed. As one would expect, the user of these products would quickly achieve a drowsy, euphoric, dream-like state. Furthermore, prolonged use would produce an increased tolerance to opiates, resulting in ever-increasing use and an increased likelihood of developing respiratory depression from the opiates and/or antihistamines, especially if alcohol is also being consumed.

There have in fact been a number of deaths and other incidents attributable to the use of these products. Ironically, DJ Screw himself

died of a codeine/promethazine/alcohol overdose in November 2000. In September 2006, San Diego Charger's player, Terrence Kiel, was arrested for the possession with intent to sell prescription cough syrup. Kiel was attempting to ship a case of prescription cough syrup to a friend. Pimp C, a Port Arthur, Texas rapper was found dead in December 2007 in a Los Angeles hotel room. The Los Angeles County Coroner's Office reported that his death was due to promethazine and codeine, working in conjunction with his known history of sleep apnea. In July 2010, JaMarcus Russell, a former Oakland Raider, was arrested for possession of codeine cough syrup without a prescription. In March 2013, popular rapper, Lil Wayne was hospitalized after reportedly bingeing on sizzurp.

This is obviously a dangerous fad and has not escaped the notice of those wishing to capitalize on it. The Houston-based company, Innovative Beverage Group (IBG),

released a grape-flavored beverage known as "Drank". While the beverage contains no opiates or antihistamines, the product claims to "slow your roll" by the addition of valerian root and melatonin. In January 2010, the FDA sent a warning letter to IBG declaring that melatonin is not considered a "generally recognized as safe" (GRAS) food additive, and as such "Drank" is considered to be "adulterated under section 402 (a)(2)(C) of the Federal Food, Drug, and Cosmetic Act (the Act) [21 U.S.C. 342(a)(2)(C)]". As of this writing, IBG's website still lists melatonin as an ingredient. IBG is not alone, however, there are also similar "anti-energy" products on the market with names like, "Purple Stuff", "Sippin Syrup", and "Lean".



Sipping Sizzurp... (Continued)

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TECHNICAL ARTICLES

Identification of a Postmortem Redistribution Factor (F) for Forensic Toxicology

Submitted by Iain M. McIntyre, Ph.D.

Iain.McIntyre@sdcounty.ca.gov

Postmortem redistribution (PMR) refers to the changes that may occur in drug concentrations after death. Consequently, postmortem concentrations in blood may not always reproduce the antemortem drug levels. Literature supports the model describing drugs with a liver (L) concentration to peripheral blood (P) concentration ratio less than 5 (L/kg) being prone to little or no PMR. Conversely, drugs with a L/P ratio greater than 20-30 (L/kg) have propensity for substantial PMR. Expanding upon this prior work, the current article presents the concept of a postmortem redistribution factor (F) for a drug, which characterizes the direct relationship between postmortem peripheral blood and the corresponding antemortem whole-blood concentration, and a potential means for estimating a theoretical value of F .

Introduction

A potentially significant issue complicating interpretation of postmortem drug concentrations results from the phenomenon referred to as postmortem redistribution (PMR). Postmortem drug concentrations in blood may not always straightforwardly parallel antemortem drug concentrations in blood due to the movement of the drugs after death. Accordingly, some authors have argued a cautious approach in interpreting postmortem concentrations and others have taken a far more pessimistic and even cynical perspective. The mechanisms involved in PMR are both complicated and poorly understood. However, postmortem drug concentrations in blood may follow some commonly accepted trends that aid with interpretation. Generally, the characteristics of the drug

itself can be used to predict if a drug is subject to PMR. Substantial changes in blood drug concentrations are predicted for basic, lipophilic drugs with a high volume of distribution ($>3L/kg$) [1]. When PMR occurs, blood specimens drawn from the central body cavity and heart generally exhibit higher drug concentrations postmortem than specimens drawn from peripheral areas, most commonly the femoral region. Diffusion of drugs from organ tissues into the blood may explain the observed phenomenon.

Previous attempts to assess and account for PMR have utilized postmortem blood specimens collected from at least two areas of the body at autopsy; a peripheral area and a central area (often the heart), so that a comparison could

Identification of a Postmortem Redistribution Factor (*F*) for Forensic Toxicology (Continued)

be made. The resulting postmortem blood ratio was considered to reflect a drug's potential for PMR [1,2]. Recent work, however, has described ambiguities with this approach [3].

The collection, analysis and comparison of antemortem blood specimens are obviously helpful in assisting with the interpretation of postmortem blood drug concentrations, but relevant specimens are only rarely available. In a set of case studies of six drugs, concentrations in the postmortem femoral blood specimens exceeded the antemortem concentrations in five of the drugs studied; suggesting that even peripheral blood exhibited redistribution [4]. The potential for redistribution of other drugs in postmortem peripheral blood has also been documented [5].

The liver (L) to peripheral blood (P) ratio has been proposed as a more dependable marker for PMR, with ratios less than 5 (L/kg) indicating little to no propensity towards PMR, and ratios exceeding 20-30 (L/kg) indicative of a propensity for substantial PMR [3]. A number of reports elaborating on, and supporting, this model have now been published [6-11]. Furthermore, a direct correlation between the postmortem peripheral blood and corresponding antemortem concentration—by consideration of the L/P ratio—has been expressed [12]. The report, describing methamphetamine cases, found that the postmortem peripheral blood concentrations were ~1.5 times higher than the corresponding concentrations attained in whole-blood speci-

mens collected before death. Given that the L/P ratios for methamphetamine had been confirmed to be ~6 (L/kg), it was then projected that drugs exhibiting L/P ratios between 5-10 (L/kg) would theoretically yield postmortem peripheral blood concentrations up to twice the corresponding antemortem concentrations—a measure of PMR potential. It was further hypothesized that L/P ratios ranging from 10-20 (L/kg) would demonstrate greater potential for PMR with postmortem peripheral blood concentrations 2-3 times that of the corresponding antemortem levels, and consequently even higher L/P ratios indicative of even greater potential for PMR.

The current document set out to expound upon this L/P model and its resultant implications by proposing the concept of a "postmortem redistribution factor" (*F*) for a drug. The postmortem redistribution factor is defined as a factor that characterizes the direct relationship between a drug's postmortem peripheral blood and the corresponding antemortem (AM) whole-blood concentration. Furthermore, it may be possible to develop a method for estimating a theoretical value of *F* by the consideration of postmortem drug concentrations.

Hypothesis

Equation 1 presents the proposed relationship between the antemortem whole-blood concentration of a compound and the corresponding postmortem peripheral blood concentration:

$$AM = P / F \quad (\text{equation 1})$$

where: AM=antemortem whole-blood concentration; P=postmortem peripheral blood concentration; *F*=postmortem redistribution factor.

Rearrangement of equation 1, gives:

$$F = P / AM \quad (\text{equation 1a}).$$

Thus, an example of an experimental *F* could be determined for a drug where both the postmortem peripheral blood and antemortem whole-blood drug concentrations have been determined in the same individual (assuming an insignificant delay between the collection of the antemortem blood and the time of death).

Discussion

Consideration of the methamphetamine data [12], an experimental *F* for methamphetamine of 1.5 is predicted—postmortem peripheral blood concentrations being 1.5 times (on average) greater than the corresponding antemortem concentrations.

A related approach to assess potential for PMR has also recently been described [13]. This study presented data for 129 drugs comparing postmortem femoral blood concentrations to therapeutic plasma concentrations to describe drugs' propensity for PMR. This study analyzed a large number of cases where median postmortem drug concentrations were compared with estimations of the therapeutic concentrations. These authors projected a similar ratio for methamphetamine of 1.8. Although these data represent a

Identification of a Postmortem Redistribution Factor (*F*) for Forensic Toxicology (Continued)

practical attempt to describe PMR, it is conceivable that determination of an *F* value from analytically determined postmortem data (such as the unique drug L/P ratio) may well produce more consistently accurate estimates.

The principal goal of these endeavors was to attempt to develop a ranking of drugs and indicate their propensity for and, subsequently, their potential extent of PMR. Until now, most efforts in interpretation have simply described PMR by an aphorism, ranging from “the drug has not been found to exhibit PMR” to “the drug is subject to PMR”. Such descriptions have never been particularly useful in the interpretation of postmortem drug concentrations, especially in relation to deducing what the drug concentration may have been at the time of death. Development of the concept of a systematically based “postmortem redistribution factor” will provide a more definitive and authoritative ranking, and possibly, numerical interpretation of PMR. Since the collection of relevant antemortem and postmortem data is rarely available, a calculation or estimation of a “theoretical” *F* by consideration of the L/P ratio, may be a dependable alternative.

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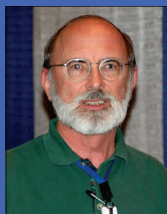
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CASE NOTES

Send interesting "Case Notes" to Section Editor

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Gabapentin Related Fatality: A Case Study

Submitted by Bheemraj Ramoo, M.S., NRCC-TC, Marius C. Tarau M.D., Mary Dudley, M.D., C. Clinton Frazee III, MBA, NRCC-TC, Uttam Garg Ph.D., DABFT, DABCC
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Introduction

Gabapentin, (Gralise®, Neurontin®, Horizant®) is an anticonvulsant drug used to treat epilepsy and pain relief in postherpetic neuralgia patients (1, 2). Other uses of gabapentin include bipolar disorder, movement disorder, migraine prophylaxis, and cocaine dependence (1). Gabapentin is a structural analogue of the inhibitory neurotransmitter gamma-aminobutyric acid (GABA), thus the name (Figure 1). Because of the minimal side-effect profile and the fact that very few cases of deaths as a result of gabapentin overdose have been reported in literature, this drug has become very popular as a prescription drug to treat seizures

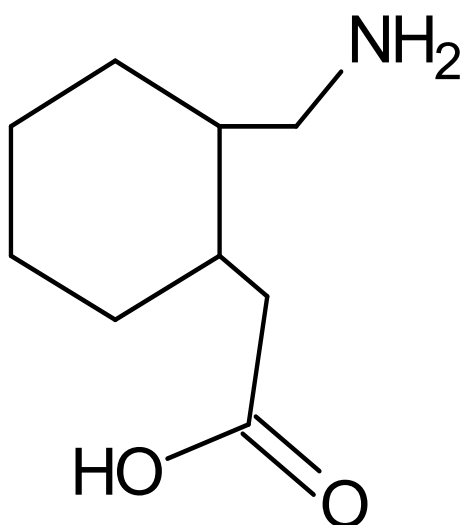


Figure 1. Structure of Gabapentin.

and neuropathic pain (3). Side effects from an acute overdose include double vision, slurred speech, drowsiness, lethargy and diarrhea, but in more serious cases, drug induced coma, hypotension and respiratory depression develops (2, 4-6). These adverse reactions are reversible with reduction of dosage or discontinuation of therapy with gabapentin. This article reports a fatality case in which gabapentin was detected at very high levels in both chest blood and liver tissue with no other significant toxicology findings.

Case History

The decedent is a 67 year old white male who was found unresponsive by his family in his residence. The subject was last known to be alive by family several days prior to his death. He was found prone to the bedroom floor with his head and shoulders elevated. The subject was in stages of decomposition: foul odor, green discoloration, bloating, skin slippage and blistering, and purge. There were no obvious signs of trauma or foul play. The subject had a history of hypertension and insulin-dependent diabetes. The medications observed on scene included citalopram hydrobromide, gabapentin, hydrocodone/acetaminophen, lisinopril, and pregabalin.

Results

At the ME Office, as per protocol, due to advanced age and significant medical history, only an external body exam was performed. There was no evidence of trauma, in limits of examination, considering the decomposition changes. The whole body X-rays were unremarkable.

Postmortem chest blood and liver tissue were submitted for toxicological analysis. Analysis of the chest blood included enzyme immunoassay (EIA) for nine drugs of abuse; a volatiles screen for ethanol, acetone, isopropanol, and methanol by head-space GC-FID; and a GC/MS drugs screen analysis for hundreds of drugs in a broad spectrum of drug classes.

The EIA drug screen was positive for opiates class drugs. However, a free opiates confirmation for morphine, codeine, hydrocodone and oxycodone by GC/MS resulted in no free opiates detected.

The GC/MS drug screen indicated the presence of gabapentin and acetaminophen, but no other drugs were detected. High-performance liquid chromatography/tandem mass spectrometry (LC-MS/MS) testing for gabapentin was performed on postmortem

Gabapentin Related Fatality: A Case Study (Continued)

chest blood and liver tissue by a reference laboratory (NMS Labs, Willow Grove, PA). The chest blood gabapentin level was 180 mcg/mL and the liver tissue measured 42 mcg/g. All results are summarized in the Table below.

Discussion

Though gabapentin is similar in structure to the neurotransmitter GABA, its mechanism of action is not completely understood since it does not bind to GABA_A or GABA_B receptors. Also the drug has minimal effect on the synthesis or uptake of GABA. The mechanism of action favors the selective inhibitory effect on voltage-gated calcium channels specifically possessing the alpha-2-delta-1 subunit (7). The drug is used for the treatment of seizures and neuropathic pain. Gabapentin is a unique drug that is not metabolized, does not bind to plasma proteins and is solely eliminated unchanged by renal excretion (2, 8). Approximately 76-81% of a single oral dose is eliminated in the urine and 10-23 % in feces (2). Recommended dose of gabapentin is 900-1800 mg/d in adults and 25-35 mg/kg/d in children. The drug dose is significantly lower in patients with reduced glomerular filtration. Oral bioavailability of gabapentin varies from 27-60% and is inversely proportional to the dose (2). The drug reaches a peak concentration at 1.5- 4 h with a half-life of 4-6 h with normal renal function (8). Therapeutic levels of the drug are 2-12 mcg/mL.

Gabapentin is a relatively safe drug in patients with normal renal func-

tions. The common side effects include somnolence, slurred speech, nystagmus and drowsiness. The serious side effects that are generally reported in patients with impaired renal functions or intentional overdose include coma, hypotension and respiratory depression (4-7, 9). Many cases of unintentional overdose have been described (5, 6, 10). All the patients recovered without any adverse effect. In 2 patients with impaired renal functions, one of the patient became comatose and the other needed intubation. Gabapentin serum concentrations in these cases were 22.6 and 85.0 mcg/mL (6, 10). Many cases of intentional overdose have also been reported (3, 11-13). In these cases the gabapentin concentrations ranged from 44.5 to 104.5 mcg/mL. All these intentional overdose patients also survived with supportive therapy and dialysis.

Suicides involving gabapentin seem extremely rare. We came across only one case of suicide by gabapentin overdose (14). In this case, a 62-year-old woman was found unresponsive in her hotel room with handwritten notes of suicidal attempt and drug overdose. The peripheral blood was positive for gabapentin (88 mcg/mL), clonazepam (7.7 ng/mL) and its metabolite 7-amino clonazepam (56 ng/mL). In our case the chest blood gabapentin concentration of 180 mcg/mL seems to be the highest reported in the literature. Although peripheral blood was not available for testing in our case due to decomposed body, given gabapentin's low volume of distribution with no protein binding, the periph-

eral blood concentration was likely comparable to the chest blood concentration. Other drugs found in our case seem to be insignificant.

In view of the significant toxicological findings, in this case, the cause of death was ruled "acute gabapentin intoxication" and the manner accident. In conclusion, though literature reports of high gabapentin levels associated with serious toxicity and fatality are rare, this case denotes the importance of determining gabapentin levels in fatality cases, especially when the cause of death is initially unknown.

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Table

<u>Chest Blood (EIA)</u>	<u>Result</u>	<u>Chest Blood GC-MS</u>
Amphetamine	Negative	Gabapentin
Barbiturates	Negative	Acetaminophen
Benzodiazepines	Negative	
Cannabinoids	Negative	<u>Chest Blood LC-MS/MS</u>
Cocaine metabolite	Negative	Gabapentin 180 mcg/mL
Methadone	Negative	
Opiates	Positive	<u>Liver Tissue LC-MS/MS</u>
Phencyclidine	Negative	Gabapentin 42 mcg/g
Propoxyphene	Negative	
<u>Chest Blood GC-FID</u>		<u>Chest Blood Opiates GC-MS</u>
Ethanol 22 mg/dL		Codeine <50 ng/mL
Acetone < 5 mg/dL		Morphine <50 ng/mL
Methanol < 5 mg/dL		Hydrocodone <50 ng/mL
Isopropanol < 5 mg/dL		



Case Report: You be the Judge

Submitted by Michael L Smith, PhD, DABFT, Barry Levine, DABFT, DABCC,
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This case describes an authentic forensic investigation where some evidence is not ideal, but the confluence of evidence resulted in justice being served. Initials identify individuals involved to protect the innocent.

Background

On April 20, 2008 MJ called the US Army Criminal Investigation Division (CID), Fort Henry, Taegu, Korea, and reported that he was a concerned friend of LG and had not seen her for several days. CID contacted LG's husband, CG, a US Army captain, who told them she often disappeared for days. CID subsequently discovered a 2-day old military police report that a Korean jogger found a purse belonging to LG containing money, credit cards and identification cards and had returned it to CG. They immediately initiated a criminal investigation.

CID interviews with several parties revealed the following: CG had a bitter divorce from his 1st wife. He met LG on the Internet. After obtaining required documents he went to the Philippines to bring her to Korea and marry her. Upon arrival in the Philippines he found she had a 5 year old daughter. CG returned and obtained documents to bring the daughter to Korea also. He married LG. Shortly after marriage, LG began to date other men including MJ. After a domestic dispute, CG's commander ordered him to live separately in military quarters for 30 days. One day after his return home, LG went missing.

CID and co-located Korean investigators launched a search and on the 3rd search day, May 9, 2008, discovered a female body in a wooded area. They contacted the United States Armed Forces Medical Examiner.

Identification and Autopsy

On May 10, 2008 a forensic odontologist identified the body as LG. The body was flown to Dover, Delaware, USA and an autopsy was conducted on May 13, 2008.

Autopsy findings:

- * Deceased female was found with legs bent and knees against her chest.
- * Advanced decomposition and partial skeletonization.
- * No gross evidence of blunt force, sharp force or firearm injuries.
- * With absence of soft tissue of the neck and hyoid bone, neck trauma and asphyxiation cannot be definitively rule out.
- * Eyes not present and no femoral blood.
- * Diaphragm intact.
- * Decomposition chest fluid and liver were collected and sent to the forensic toxicology division.

Forensic Toxicology Findings

Decomposition Chest Fluid

- * 120 mg Ethanol/dL, trace acet-aldehyde, trace 1-propanol
- * 1400 mg acetaminophen/L
- * 10.3 mg diphenhydramine (DPH)/L

Liver

- * 20.1 mg DPH/Kg

Ethanol was determined by headspace GC and confirmed by enzyme assay. The headspace value is reported. Acetaminophen was measured by immunoassay and identity confirmed by color test. Diphenhydramine was determined by GC and confirmed by GCMS. Specimens were diluted 1:10 to reduce matrix effects. Quality control samples with each analysis were prepared in blood.

Data analysis: The ethanol present may be from ingestion and/or postmortem production. If present prior to death, ethanol could enhance the toxic effects of other drugs. Acetaminophen concentration is high (lethal postmortem blood range 160-387 mg/L^{1}). However, the concentration measured may be elevated due to matrix interference and one must use caution comparing pleural fluid concentrations to those in blood. More importantly, acetaminophen causes death by liver necrosis which occurs hours to days after ingestion. As a result, acetaminophen toxicity was unlikely the cause of death. The DPH is high and in the lethal range. From the peer-reviewed literature, postmortem blood DPH concentration > 1 mg/L is toxic; DPH concentrations between 8 and 31 mg/L are found in fatal DPH overdose cases. In liver, DPH concentrations > 3 mg/Kg are toxic; DPH concentrations between 23 and 47 mg/Kg are found in fatal overdose cases {2, 3}. Decomposition chest fluid is not blood. However, Sims *et al.* found that for 19 of 21 decomposi-

Case Report: You be the Judge (Continued)

tion cases, the calls of therapeutic vs toxic vs lethal for a variety of drugs in decomposed pleural fluid were correct {4}. The liver concentration is on the low end of the reported lethal range but much higher than toxic. Decomposition can decrease or increase liver DPH concentrations. Postmortem liver/blood DPH concentration ratio from the literature is 2-4 {3}. High concentrations are neurotoxic causing CNS depression, respiratory arrest and cardiac arrhythmias. DPH can cause acute death.

Cause and manner of death: Based on the toxicology report, other evidence and lack of obvious trauma, the medical examiner ruled the cause of death as a DPH toxicity/overdose and the manner of death as undetermined.

Criminal trial

Captain CG was charged with premeditated murder and brought to trial (military court-martial).

Government expert testimony: although specimens collected from the decomposed body were not ideal, LG died from DPH toxicity. In response to a prosecutor question, DPH administered rectally is more toxic than orally due to first pass metabolism of the latter route.

Defense expert testimony: the forensic toxicology results are "junk science." Controls were not prepared in the same matrix, decomposition fluid and decomposed liver, therefore, results are invalid. Postmortem redistribution precluded determining the lethal dose of DPH.

Government expert rebuttal: It is not possible to reproduce the matrix in decomposition cases so other methods are used. They include diluting the specimens to reduce matrix effects, using two different methods, and careful data analysis for interferences. Regarding dose, no attempt was made to determine dose. The call of lethal overdose was based on postmortem liver and decomposition fluid data compared to that from the peer-reviewed literature for known fatal overdose cases.

Other important evidence:

Surveillance video: Video documented that on the night that LG went missing, CG left his apartment rolling a large suitcase that appeared to be heavy and returned 3.9 h later with the suitcase appearing lighter. Also, in the intervening time video documented CG driving through a toll booth en route to where the body was found and returning through the toll booth 43 min later.

CID search of CG apartment: a bag was found containing items purchased at the military Post Exchange; comparison of the bag contents with a recovered receipt dated the day before LG disappeared indicated that the following items were missing:

- * 1 box Excedrin PM (100 count, 500 mg acetaminophen/33 mg DPH citrate)
- * 2 boxes Simply Sleep (ea. 50 count, 25 mg DPH HCl)
- * 2 fleet enemas
- * Duct tape
- * 6 to 10 pairs of latex gloves
- * 1 green kitchen towel & 1 kitchen knife

Computer crimes investigation of CG laptop: three important items were extracted from the computer regarding files dated one week before LG went missing:

- * Deleted file: Internet search, SUBJECT How to tie someone without leaving marks
- * Deleted file: Internet search, SUBJECT toxicity of common household medications
- * News report: Woman kills husband using an enema.

Prosecution theory of the case:

CG had a bitter divorce from his 1st wife that soured his use of the legal system. If divorced from LG, she would get custody of her daughter and she was a bad mother and wife. He decided to kill her and researched methods. He put Simply Sleep in her alcoholic drink and when she was unconscious, he administered the remaining doses of Simply Sleep and Excedrin PM in a fleet enema that killed her. He placed her in a large suitcase for later disposal in the wooded area where she was found in a body configuration consistent with being in the suitcase after death.

Verdict & Sentence

CG was found guilty of premeditated murder. He was dishonorably discharged from the Army and given life in prison with possibility of parole.

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Case Report: You be the Judge (Continued)

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Death by the Veterinarian Medication 'Pisabental'

Submitted by Craig Chatterton, Ph.D*, Graham Jones, Ph.D, Bernard Bannach, MD

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Introduction

Pisabental® is a pharmaceutical and veterinary preparation containing the short-acting barbiturate, pentobarbital, as its active ingredient. Pentobarbital, which slows the activity of the brain and nervous system, was used in the short-term treatment of insomnia and also during emergency treatment for seizures. In high doses, pentobarbital causes death by respiratory arrest. In the United States, pentobarbital has been used as part of a drug regimen for the execution of humans.

Death attributed to pentobarbital toxicity is now rare; in the past 14 years only one case has been reported by the Alberta Office of the Chief Medical Examiner. In this case, from October 2011, the pentobarbital concentration was 51.4 mg/L (central blood) and 759 mg/73.9 g (gastric). The cause of death was classified as

'intoxication'; the manner of death was 'unclassified'. The case history indicated that this particular death was possibly the result of a successful suicide attempt. The presence of pentobarbital in all the other cases reported during this time period was as a metabolite following the administration of thio-pental during medical treatment.

Case History:

A 25 year old male with a history of depression and four previous suicide attempts (by overdose) was found deceased in bed. The male had last been seen alive on the previous evening, approximately 14 hours earlier. His known medication included: lorazepam, mirtazapine and quetiapine. The decedent was lying on his right hand side in bed; on a stool beside the bed was a bottle of wine and two empty bottles of the Mexican veterinarian medication 'Pisabental' (Figure 1). No suicide note was found and



Figure 1.

there were no obvious injuries or concerns from the investigating police officers.

Autopsy

During autopsy, the cardiovascular, respiratory, hepatobiliary, lymphoreticular, genitourinary and endocrine systems were recorded as being grossly unremarkable. The stomach contained 425 millilitres of brown granular fluid. A ven-

Death by the Veterinarian Medication 'Pisabental' (Continued)

tricoloperitoneal shunt (VP shunt) was present running from the left frontal lobe to the right temporo-occipital area down the right side of the neck into the peritoneum. The deceased suffered from a brain tumour as a child and the aforementioned procedure was performed whilst he was still of school age. No anatomic cause of death was found at autopsy. The following biological specimens were collected during autopsy and analysed at the Office of the Chief Medical Examiner Toxicology Laboratory: femoral blood; vitreous humor; urine; liver; bile; gastric contents. The samples were stored at 4°C before being submitted for analysis.

Postmortem Toxicology

The drugs identified in the blood, vitreous and urine are recorded in Table 1. The low/therapeutic concentrations of diphenhydramine, mirtazapine and quetiapine would not be expected to pose a threat to life. The low concentration of ethanol indicated ingestion of a small to moderate amount of alcohol (most likely the red wine recovered from the scene) prior to death.

The identification of pentobarbital confirmed the ingestion of Pisabental[®] by the decedent; the reported concentration of this drug in the femoral blood (70.3 mg/L) was of sufficient magnitude to offer a cause of death.

Materials and Methodology

The post-mortem samples were subject to comprehensive toxicological screening. Headspace gas chromatography with flame ionization detection (GCHS/FID) was

used to investigate whether ethanol and related volatiles were present in the samples. Enzyme-Linked Immunosorbent Assay (ELISA) screening was carried out for acetaminophen, barbiturates, benzodiazepines, cocaine metabolites, fentanyl, opiates, oxycodone and salicylates. Blood was screened by gas chromatography with mass spectrometry detection (GC/MS) in combination with nitrogen-phosphorus detection (GC/NPD), and by liquid chromatography time of flight (LC-TOF) analysis.

Pentobarbital and all other drug standards used in this investigation were purchased from Sigma-Aldrich (St. Louis, MO) or Cerilliant Corporation (Round Rock, Texas). All other chemicals were of reagent grade or better.

Identification of pentobarbital (acidic-neutral screen)

The acidic-neutral screening assay was nominally based on 1 mL specimen. Blood was made weakly acidic with a phosphate buffer (pH 2.5) and neutral and weakly acidic drugs were extracted with ethyl acetate and evaporated to dryness. The residue was reconstituted in acetonitrile. Hexane was added to remove cholesterol and other lipids and the acetonitrile extract carefully evaporated to dryness before reconstitution with 1-chlorobutane. Analysis was performed using an Agilent 6890/5975 GC/MS system. Chromatographic separation was achieved using a HP-5MS cross linked 5% phenyl methylsilicone capillary column (10 m x 0.2 mm x 0.5 µm). An injection volume of 2 µl was used in all instances.

Quantification of pentobarbital

The barbiturate assay was nominally based on 0.5 mL specimen, diluted as required. Ethyltolylbarbituric acid (ETB) was added to blood as an internal standard in a pH 4.6 0.3M phosphate buffer. The retention time (R_t) of the ETB internal standard was 4.617 minutes; the R_t of pentobarbital was 5.147 minutes. Lipid soluble drugs were extracted with dichloromethane, which was separated and evaporated. The concentrated extract was reconstituted in mobile phase and analysed using reverse phase high performance liquid chromatography, with tandem mass spectrometry (LC-MS/MS).

Analysis was performed on an Agilent 6410 LC-MS/MS in electrospray negative mode using a Phenomenex Gemini C18, (2 x 100 mm x 5 µm) column. The injection volume was 5 µl. The aqueous phase was 0.1% formic acid in water with 5% acetonitrile (ACN); the solvent phase was acetonitrile. A variable flow rate of 0.2 mL/min for 5 minutes increasing to 0.25 mL/min was used with a total run time of 12 minutes. The detection of pentobarbital was based on two daughter ions: parent ion (m/z) 225.0; product ions (m/z) 42.0 and 182.0. The calibration range was 1.0 to 25.0 mg/L. Since pentobarbital and amobarbital have identical masses and similar fragmentation, separation of these barbiturates and identification of pentobarbital was confirmed using the acidic-neutral screen.

Death by the Veterinarian Medication 'Pisabental' (Continued)

Results

The drugs identified in the blood, vitreous and urine are recorded in Table 1.

Discussion

Therapeutic concentrations of pentobarbital are typically less than 10 mg/L. In 61 adult fatalities attributed to pentobarbital, post-mortem blood concentrations averaged 40 mg/L (range 12 – 112)¹. In another 55 cases, blood concentrations averaged 30 mg/L

(range 5 – 169)². The estimated lethal dose, as established by investigation of these cases has ranged from 2 – 10 grams².

The toxicology findings in this case offer strong support for the view that the ingestion of pentobarbital, almost certainly in the form of Pisabental[®], resulted in the death of the 25 year old male. In the context of this case, there is little toxicological significance to the presence of ethanol and/or the other detected drugs.

References

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- R.C. Baselt and R.H. Cravey. A compendium of therapeutic and toxic concentrations of toxicologically significant drugs in human biofluids. *J. Anal. Tox.* 1:81-103, 1977.

Table 1.

DRUG or METABOLITE	SPECIMEN	CONCENTRATION
Ethanol	Femoral blood Vitreous Urine	0.6 g/L 0.2 g/L 0.1 g/L
Pentobarbital	Femoral blood	70.3 mg/L
Diphenhydramine	Femoral blood	0.29 mg/L
Mirtazapine	Femoral blood	0.08 mg/L
Quetiapine	Femoral blood	Less than 0.1 mg/L





NEW DRUGS AND TECHNOLOGY TIDBITS
 Send interesting “*New Drugs and Tech-IN Tidbit*” articles to
 Section Editor **Dan Anderson, M.S., FTS-ABFT, D-ABC**
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NEW DRUG: Etizolam

Submitted by Caitlin Miller, Jaime Lintemoot, and Tiffany Montero
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Etizolam is a benzodiazepine analog that has been used as a sedative-hypnotic drug in Asian and European countries since 1983. It is prescribed as 0.5-1 mg tablets that are to be taken orally; doses range from 0.5-3 mg per day¹. Currently, this drug is not scheduled by the DEA and is only available online in the United States.

General Information

IUPAC Name: 4-(2-Chlorophenyl)-2-ethyl-9-methyl-6H-thieno[3,2-f][1,2,4]triazolo[4,3a][1,4]diazepine
 Chemical Formula: C₁₇H₁₅ClN₄S
 Molecular Weight: 342.07 g/mol
 Availability: Cerilliant® Catalog E-081
 CAS Number: 40054-69-1

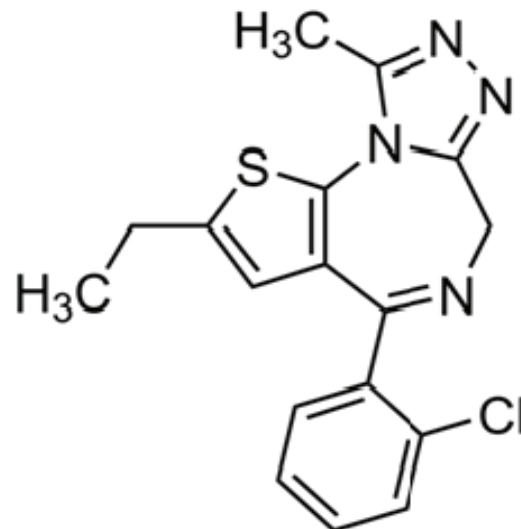
Pharmacology

Half-Life: ~ 7-15 hrs
 C_{max}: ~ 8.3 ng/mL @ T_{max} ~1 hour following a single 0.5 mg oral dose
 V_d: ~0.7 – 1.1 L/kg
 Metabolism: Hydroxylation: α-OH-etizolam (pharmacologically active), 1'-OH-etizolam. Followed by conjugation
 Elimination: In rats: 30% in urine, 75% in feces, mainly the metabolites. Only 0.3% in 30 hour urine is the parent drug
 Drug Interactions: Carbamazepine and Itraconazole

Toxicology

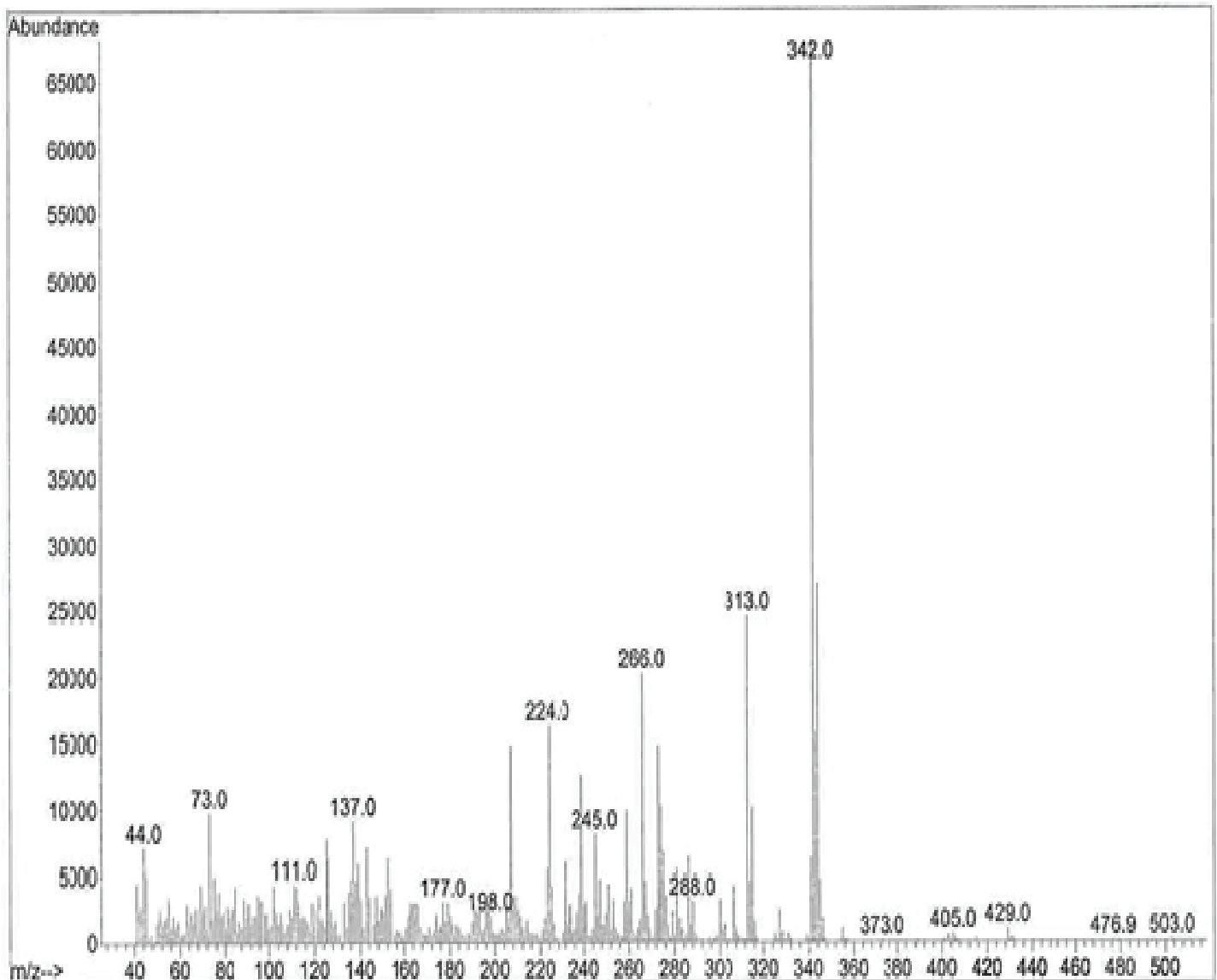
Extraction: Recovered by a basic Toluene liquid/liquid extraction followed by a solid phase extraction, using United Chemical Technologies (UCT) Clean-Up® Silica columns. Note: Etizolam is not recovered via n-butyl chloride liquid:liquid basic drug extraction, including an acid back extraction.

Detection: ELISA: -In regards to cross reactivity, 2.5 ng/ml Etizolam is equivalent to a 5.0 ng/ml Oxazepam standard utilizing an Immunalysis Benzodiazepine Kit
 -No Etizolam cross-reactivity at 50 ng/ml was demonstrated with THC, Cocaine, Opiates, PCP, Barbiturates, Methamphetamine, Fentanyl, Methadone, Acetaminophen, Salicylates, and Buprenorphine ELISA kits



NEW DRUG: Etizolam (Continued)

- LC/MS: -Shares both precursor ion (343) and product ions (239, 308, 315) with Triazolam.
-Etizolam has the possibility of being mis-identified if not separated by retention time.
- GC/ECD: -Quantitation range 5.0 - 150 ng/ml
-Elution order: Midazolam, U-31485 (IS), Alprazolam, **ETIZOLAM**, Triazolam (co-elutes with Etizolam)
- GC/MS: Ions **342**, 313, 266 m/z

**References**

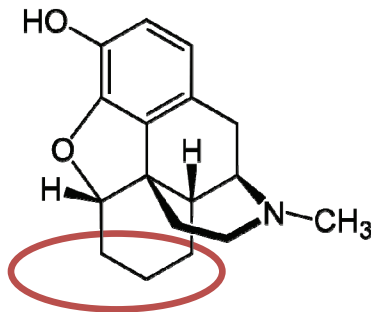
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NEW DRUG: Desomorphine

Submitted by Sue Pearing
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In the December 2013 issue of ToxTalk, Dwain Fuller provided a historical perspective on desomorphine (street name: krokodil) and its prevalence in the international realm. Sparing cases have been noted in the US including Duncan, OK (2012), Joliet, IL (2013), and two reports to Banner Good Samaritan Poison & Drug Information Center in Phoenix, AZ (2013). In January of 2014, Mexican media outlets reported that in December 2013, a teenager from Houston, TX, visiting Puerto Vallarta, Mexico, was admitted to the Mexico Medical Services Institute following krokodil use. Mexican authorities have denied krokodil's emergence in Mexico, stating that the substance has not been detected or impounded by authorities. While its use is common knowledge in Russia and widely discussed among media outlets in America, laboratories have yet to report desomorphine in drug chemistry or toxicology analyses in the US since 2004².

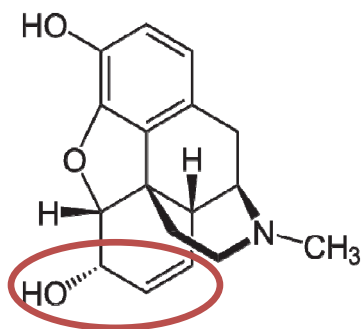
While the media uses the terms krokodil and desomorphine interchangeably, the two are separate and distinct. Krokodil is the result of the home-cooking process using codeine tablets and other caustic substances³. Desomorphine is an opioid analog that is the intended product and active component in krokodil. This distinction should be maintained as discussions of krokodil and desomorphine continue. A 2008 paper¹ in the Journal of Analytical Chemistry examined both physical evidence and urine collected from persons consuming desomorphine. In this paper, Savchuk, et al. detected and described other compounds found in "krokodil" samples including dihydromorphine-3,6-dideoxy, morphinan-4,5-epoxy-3-ol, methyl-desomorphine, didehydro-desomorphine, codeine and of course, desomorphine. The urine extracts revealed dihydromorphine-3,6-dideoxy, didehydrodesomorphine, codeine and desomorphine. In any case, various compounds besides desomorphine may be present in krokodil samples or biological specimens collected from those who have used krokodil. Laboratories analyzing either type of sample must include desomorphine and be intentional and specific in their usage of both terms, desomorphine and krokodil.



Desomorphine

Formula: $C_{17}H_{21}NO_2$
 Chemical name: 4,5- α -epoxy-17-methylmorphinan-3-ol
 CAS Registry: 427-00-9
 MW: 271.35 g/mol

Figure 1 – Desomorphine



Morphine

Formula: $C_{17}H_{19}NO_3$
 Chemical name: (5 α ,6 α)-7,8-didehydro-4,5-epoxy-17-methylmorphinan-3,6-diol
 CAS Registry: 57-27-2
 MW: 285.34 g/mol

Figure 2 - Morphine

NEW DRUG: Desomorphine (Continued)

Results & Discussion

Screening

ELISA

As shown in Figures 1 and 2, the structures of morphine and desomorphine are very similar. Desomorphine, unsurprisingly then, is relatively cross-reactive with an Immunalysis[®] Opiates kit (Catalog No. 207), designed for the target compound morphine. A 30 ng/mL desomorphine sample elicits a response comparable to that of a 15 ng/mL morphine sample and a 60 ng/mL desomorphine sample comparable to that of a 30 ng/mL morphine sample.

Bases Drug Screen

Desomorphine extracts from blank porcine blood extracts well by making the sample basic and applying a chlorobutane liquid-liquid extraction with acid back extraction. On a full scan method, the drug is detectable on GC/NPD at 0.10 ug/mL and on GC/MS at 0.50 ug/mL as a symmetric peak with a clear baseline. An example elution order is: carbinoxamine, dextromethorphan, amitriptyline, nortriptyline, DESOMORPHINE, norchlorcyclizine, diazepam, and nordiazepam.

Acid/Neutrals Drug Screen

Desomorphine extracts well with a zinc sulfate protein crash and isolation by a mixed mode solid phase (UCT Clean Screen – CSDAU206) extraction. On a full scan method, the drug is detectable on GC/MS at 0.50 ug/mL as a symmetric peak with a clear baseline. The elution order is: tybamate, methaqualone, metaxalone, topiramate, DESOMORPHINE, procainamide, primidone, and carbamazepine.

Desomorphine is an existing entry in the NIST '08 Library but not in the AAFS 2010 Library or SWGDRUG 2013 Library.

Confirmation Testing

Confirmation of general opiates is performed using a zinc sulfate protein crash followed by a mixed mode solid phase extraction (UCT Clean Screen – CSDAU206) technique and a TMS derivatization. The derivatized samples are analyzed on a GC/MS under a SIM method. The analysis of desomorphine was smoothly incorporated into the existing opiates confirmation method and enzymatic hydrolysis showed no adverse effects on the analysis of desomorphine.

The characteristic ions of desomorphine include 271, 214, and 148 (Figure 3). After derivatization, desomorphine-TMS has characteristic ions of 343, 328, 271 and minor ions of 286, 300, and 314 (Figure 4). All are supported by Savchuck, et al¹. Some casework exhibited interfering ions of 343 and 329 m/z at the same retention time as desomorphine. Thus the minor ions, 286, 300, and 314, were selected for the SIM method.

A preliminary series of validation experiments for quantitation demonstrated that desomorphine follows D₆-Codeine and D₆-Morphine equally well. A calibration curve from 0.025 – 2.0 ug/mL desomorphine showed excellent response and yielded R² of > 0.998 for both deuterated internal standards.

At this time, desomorphine will be qualitatively monitored in the casework with a one-point control. Because of its structural similarity to morphine, it was simple to incorporate the monitoring of desomorphine into the existing opiates confirmation method. The cross-reactivity of desomorphine with the immunoassay of opiates and sensitivity for it in other screening techniques are beneficial and convenient. The lack of knowledge surrounding desomorphine's metabolic and degradation pathway is still the greatest challenge. As desomorphine exhibits a faster onset of action than heroin, understanding the pharmacology and metabolic pathway is essential. Furthermore, the fact that desomorphine is many times more potent than morphine may result in low final concentrations in blood. Are the screening techniques discussed above sensitive enough? Are they only sensitive enough for urine? Other questions about desomorphine include: Will it glucuronidate into the morphine-

NEW DRUG: Desomorphine (Continued)

3-glucuronide look-alike, be excreted unchanged, or take another form altogether? Has it truly arrived to the US? To California? Unfortunately, after monitoring more than 200 post-mortem cases and finding no desomorphine, these questions still linger.

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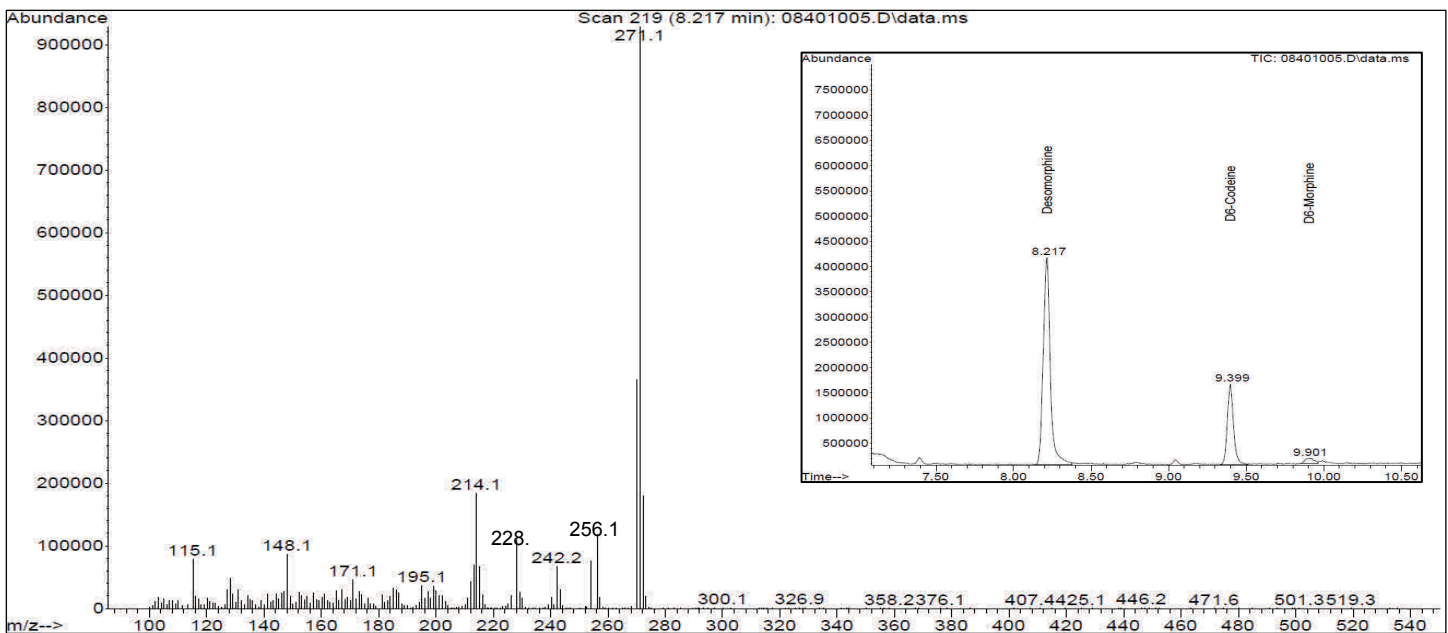


Figure 3 – Desomorphine – Full Scan [Inset – TIC]

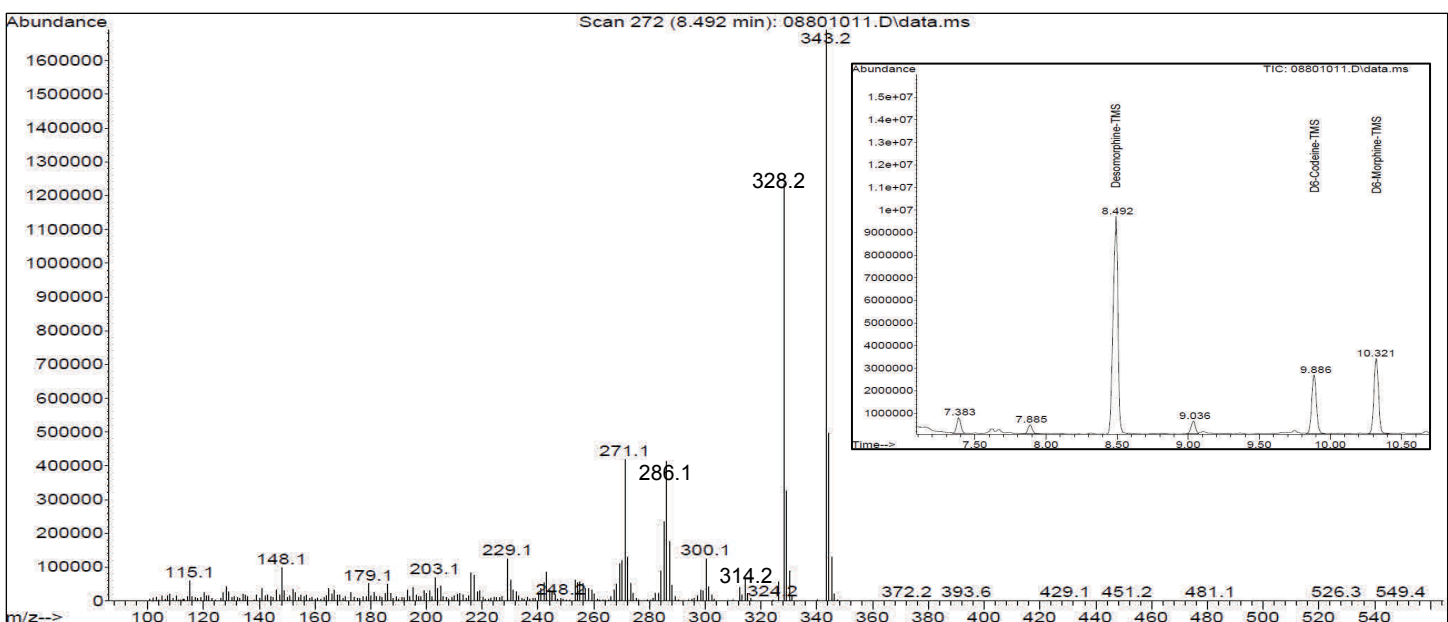


Figure 4 – Desomorphine-TMS – Full Scan [Inset – TIC]



FROM THE TOXICOLOGY LITERATURE

Submitted by Barry Levine, Ph.D., DABFT

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Office of the Chief Medical Examiner, Baltimore, MD

Journal of Analytical Toxicology Vol 37, Sep 2013

Seetohul and Pounder presented 4 postmortem cases where 5-(2-aminopropyl)indole or 5-IT was detected. 5-IT is an indole derivative with stimulant properties. It appears that 5-IT played a role in all 4 deaths. The cardiac and femoral blood concentrations in the 4 cases were: 1) 1.2 and 0.8; 2) 2.6 and 0.9; 3) 0.8 and 0.4; and 0.4 and 0.3 mg/L. The difference in concentrations between the cardiac and femoral blood in all 4 cases suggests potential drug redistribution.

Forensic Science International Vol 232 Oct 2013

Boumba et al used production of ethanol by *E. coli* to develop a series of mathematical models to explain the production of ethanol in postmortem cases. The 2 primary alcohols produced in addition to ethanol were 1-propanol and 1-butanol, but isobutanol and methylbutanol were also produced. The models used the concentrations of these other volatile substances to estimate the ethanol concentration produced postmortem. They then applied the different models to 60 postmortem specimens.

Matsuta et al modified the dispersive solid phase extraction method known as QuEChERS to perform a single step extraction of 13 drugs from blood specimens. Anhydrous magnesium sulfate and sodium chloride were pulverized and mixed to a 2:1 ratio; 150 mg of this mixture was placed in a 2 mL test tube. Acetonitrile (500 μ L) was added and vortexed. One hundred

μ L of blood was added, vortexed and centrifuged. After removing the acetonitrile, this extraction was repeated with 500 μ L acetonitrile. The acetonitrile layers were combined, evaporated to dryness and reconstituted in ethyl acetate for GC-MS analysis or mobile phase for LC-MS analysis. Cleaner extracts could be obtained by using graphite carbon EC to remove the cholesterol. The recoveries of the drugs using this modified extraction procedure were comparable to liquid-liquid extraction with the appropriate pH adjustment.

Journal of Forensic and Legal Medicine Vol 20, Oct 2013

Jones et al examined the concentrations of alcohol and drugs in hanging deaths and poisoning deaths in Sweden over a 10-year period. Thirty percent of the hanging deaths and 36% of the intoxication deaths had a blood alcohol concentration greater than or equal to 0.02 g/dL, indicating that drinking had occurred prior to death. The mean blood alcohol concentration was approximately 0.14 g/dL for both methods of suicide. Of the cases positive for alcohol, 62% of the poisonings and 66% of the hangings had blood alcohol concentrations greater than 0.10 g/dL. Predictably, antidepressant and neuroleptic drugs were highly prevalent in these cases.

Journal of Forensic Sciences Vol 58, Nov 2013

Two papers in the issue reported a total of three deaths where methylenedioxypyrovalerone (MDPV) was detected in the postmortem speci-

mens. Wright et al reported 2 cases with femoral blood MDPV concentrations of 0.039 and 0.130 mg/L, respectively. Both deaths were attributed to natural causes. Kesha et al reported a case where the heart and peripheral blood MDPV concentrations were 0.7 and 1.0 mg/L, respectively. In this case, death was attributed to the toxic effects of MDPV.

Patton et al reported a fatality of a 23 year old male from a self-inflicted stab wound to the right side of the neck following use of the synthetic cannabinoid AM-2201. Other blunt and sharp force wounds were observed at autopsy in addition to the lethal wound. AM-2201 and metabolites were detected in the decedent's blood. No other drugs were detected and there had been no prior history of suicidal ideations.

Journal of Analytical Toxicology Vol 37, Oct 2013

Logan et al published recommendations for testing in DUID and driver fatality cases. The recommendations included drug classes for screening and appropriate cut-offs, specific drugs for confirmation and limits for quantitation.

Two papers provided blood concentrations of synthetic cannabinoids in forensic blood specimens. Kronstrand et al quantitated 14 different synthetic cannabinoids in blood specimens from 862 forensic cases. For eight synthetic cannabinoids with at least fifteen data points (AM-694, AM-2201, JWH-018, JWH-081, JWH-122, JWH-

FROM THE TOXICOLOGY LITERATURE (CONTINUED)

210, MAM-2201, and UR-144), the median concentration found in these cases was less than 0.5ng/g. Yeakel and Logan presented 12 cases of suspected impaired driving due to synthetic cannabinoid use. The drugs detected were JWH-018, JWH-250, AM-2201, JWH-081, JWH-122 and JWH-210. Concentrations of these compounds ranged from 0.1 to 9.9 ng/mL. Poor performance in the standardized field sobriety tests was generally noted, but there was no correlation between performance and blood synthetic cannabinoid concentrations.

Naso-Kaspar et al reported an interesting finding of in vitro formation of 6-acetylmorphine (6-AM) in stomach contents where both morphine and aspirin were present. The mechanism of formation was trans-esterification between the two drugs. Also detected was 3-acetylmorphine, which could serve as a marker compound to indicate

in vitro formation of 6-AM.

Forensic Science International Vol 233 Nov 2013

Fiorentino and Moskowitz looked at differences in breath ethanol elimination rates in men vs. women, adults above and below 50 years of age and heavy vs moderate/light drinkers. Eighty-four men and 84 women were included in the study. Targeted breath alcohol concentrations were 0.11 g/210L for heavy and moderate drinkers and 0.08 g/210L for light drinkers. The average elimination rate for men was 0.015 g/210L/hr and the average elimination rate for women was 0.018 g/210L/hr which are consistent with average elimination rates often utilized in forensic issues. Heavy and older drinkers have slightly greater elimination rates than light and younger drinkers respectively. None of the 2-way interactions or the 3-way interaction was different to a statistical significance.

Nikolaou et al reviewed published studies on the analysis and the stability of a variety of analytes in formalin-fixed tissues. Six studies dealt with analyte analysis and 30 studies dealt with analyte stability. Analytes in the review included drugs, pesticides, volatile substances, heavy metals and trace elements.

Journal of Analytical Toxicology Vol 37 Nov-Dec 2013

Takayasu published a review on the toxicological analysis of chemicals and drugs in formalin-fixed tissues. Included was a discussion of the chemistry of reactions between formaldehyde and amines, hydroxyl groups, sulfides and fatty acids. This was followed by a discussion of the stability of drug classes and other compounds of toxicological interest in formalin-fixed specimens.

ORGANIZATION NEWS

Summary of the 66th Annual, American Academy of Forensic Sciences Meeting *Submitted by Dwain Fuller, AAFS Toxicology Section Chair*

The American Academy of Forensic Sciences 66th Annual meeting was held in Seattle, Washington, February 17-21, and was an unqualified success. It was a pleasure to see many of you there. The theme of the meeting was *Forensic Science Education and Mentorship: Our Path Forward*. The Toxicology section was well represented with 116 pre-registered

attendees. Program Chair, Sarah Kerrigan and Co-Chair, Rebecca Jufer-Phipps did an outstanding job in organizing the scientific program. There were 27 poster presentations and 30 platform presentations, including the annual Special Session on Driving Under the Influence of Drugs, the Annual Lectureship in Toxicology, and Postmortem Pediatric Toxicology.

This year the Toxicology Section sponsored or co-sponsored four workshops with a total attendance of 373. They were: "Designer Drug Detection in Forensic Toxicology: From Basics to Brilliant!" - Chair, Sarah Kerrigan, Co-Chair, Sumandeep Rana, "Novel Psychoactive Substances (NPS): Pharmacology, Toxicology, Psychiatry, and Case Reports" - Chair, Alan

Summary of the 66th Annual, American Academy of Forensic Sciences Meeting (Continued)

Felthous, Co-Chair, Sherri Kacinko, "Root Cause Analysis – When Blaming the Analyst Completely Misses the Point" – Chair, Laurel Farrell, Co-Chair, Marc LeBeau, "Managing the 21st – Century Forensic Science Organizations" – Chair, Jeri Roper-Miller, Co-Chair, Jody Wolf. Additionally, this year's Second Annual Toxicology Section Luncheon honored Bruce Goldberger, Marilyn Huestis, and Barry Logan for their mentorship.

At the Toxicology Section Business Meeting, Section Chair, Loralie Langman, and Secretary, Dwain Fuller reported on the finances and the membership of the Section, both of which are healthy. The nominating committee put forth a slate of nominees for the next year. Dwain Fuller

was elected as Section Chair and Sarah Kerrigan as Section Secretary. Rebecca Jufer-Phipps and Dan Anderson were appointed as the Program Chair and Co-Chair for the 2015 meeting in Orlando, Florida.

A high point of the business meeting was the honoring of the Section awardees. This year's awardees were: Robert Osiewicz – Alexander O. Gettler Award, Michael Smith – Rolla N. Harger Award, Michael Wagner – Ray Abernethy Award, David Schwoppe – Irving Sunshine Award, Sarah Himes – June K. Jones Scholarship Award, and Lorna Nisbet – Best Poster Award. Additionally, Graham Jones was honored as a Distinguished Fellow in the Academy business meeting. And, of course, we should not forget that

Barry Logan was this year's AAFS President.

Next year's theme is *Our Forensic Family* and preparations are already underway. Please don't delay in contacting Rebecca Jufer-Phipps and Dan Anderson with your workshop suggestions and program ideas. As always, the program committee will need moderators, abstract reviewers, and others willing to lend a helping hand.



AAFS Drugs and Driving Special Scientific Session Summary

Submitted By Amy Miles, B.S.

"The Importance of Standardization for DUID Laboratories", Barry Logan, PhD.

Forensic laboratories involved in DUID casework utilize a wide variety of resources which leads to difficulty in standardization of testing. The National Safety Council's Alcohol, Drugs and Impairment Division appointed a subcommittee to address the similarities and differences across various DUID laboratories. The process included surveys from each state's Traffic Safety Resource Prosecutors (TSRP), Drug Recognition Expert (DRE) State Coordinators and forensic laboratories performing DUID testing. The subcommittee

examined the surveys and, subsequently, established guidelines for the appropriate scope of testing for these laboratories. The guidelines set forth will be a useful tool for laboratories to use to provide the appropriate support for law enforcement arrests involving individuals driving under the influence of drugs.

"Reexamining the 'Three-Legged Stool' Approach to Deterring Drugged Driving", Chuck Hayes

As the Drug Evaluation and Classification (DEC) Program and Advanced Roadside Impaired Driving Enforcement (ARIDE) training

continues to increase nationally, more suspected drug impaired drivers are being arrested on our nation's roadways. With the increased number of officers being trained to detect drug impairment, additional workloads are being placed on toxicologists and forensic laboratories to support law enforcement opinions and to report toxicology findings in a timely manner to assist in the prosecution of these cases. An important part of the Drug Recognition Expert (DRE) training is the understanding of the "three legged stool" concept which includes the DRE opinion, toxicology and prosecution. This presentation emphasized the three important "legs" that

AAFS Drugs and Driving Special Scientific Session Summary *(Continued)*

are needed to support the DEC Program and the efforts to deter drug impaired driving.

“Lab Analysis and the Law: The Impact of *Bullcoming v. New Mexico* on Forensic Science Testimony”, Courtney Popp, TSRP

This presentation presented a prosecutor’s overview of the impact on forensic analysis testimony versus basic maintenance or procedural testimony following the US Supreme Court’s 2011 ruling in *Bullcoming*. Although the factual distinction has succeeded in most Washington courts, some jurisdictions continue to require a specific lab analyst and/or breath test technician to testify even regarding routine procedural processes.

“Marijuana impaired driving in a marijuana-legal state”, Fiona Couper, PhD, Brianna Peterson, PhD.

In December 2012, the possession and private use of marijuana became legal in Washington State. At the same time, a per se level of 5 ng/mL of delta-9-THC in

blood came into effect. In December 2013, marijuana products will be commercially available to the public via state licensed facilities. This presentation provided an overview of suspected driving under the influence cases involving marijuana pre and post the legalization of marijuana in Washington State.

“Butalbital and Driving Impairment” Jillian Yeakel MS

Butalbital (Fiorinal®) is a barbiturate commonly prescribed for the treatment of tension headaches and migraines. Butalbital has been reported to be the most commonly encountered barbiturate in driving under the influence of drugs cases. Butalbital has common central nervous system depressant (CNS) properties, with side effects including sedation, drowsiness and feelings of intoxication which can contribute to driving impairment. Twenty-six driving under the influence cases from Washington State were reviewed with results from field sobriety tests and toxicological findings. Butalbital concentrations in whole blood ranged from 1.0 to

30.2 mg/L, with a mean and median of 16.0 mg/L. General impairment indicators in these cases included horizontal and vertical nystagmus, lack of convergence, poor motor coordination, and balance and speech problems which are common to CNS depressant intoxication. These findings indicate the importance of toxicological testing for butalbital in cases where CNS depressants are indicated.

“Synthetic Cathinones and Driving Performance”, William Johnson, BA

Designer drugs have proven challenging for forensic laboratories both analytically and during interpretation of laboratory results. Currently there is very little in the scientific literature to document cases of driving under the influence of synthetic cathinones. This presentation examined the impairment documented by law enforcement during recent DUID investigations and the related toxicology results. Challenges including limited availability of reference materials, method validation and the ability to predict the next synthetic cathinones were also discussed.



Making Your Continuing Education Choices Count: *Why all the Changes in the CE Process?*

Submitted By Ann Marie Gordon & Jeri Roper-Miller

First and foremost, the SOFT Continuing Education Committee and SOFT Board of Directors would like to energetically say "Thank You" to all who participated in the CE process, especially those who took the time to provide additional feedback in the comments. All of these efforts are so that SOFT can continue to provide high quality workshops and make improvements^{3/4} sharing of your Continuing Education choices make them count.

A Little History: In 2012, SOFT became an AACC Accent Credit Provider; previously, we were sponsored by AACC Tox-TDM. We made this decision because 1) We know that accredited Continuing Education is going to be a future requirement for most, if not all, of us 2) We also wanted to have a mechanism for objectively evaluating our programs. In the first year, we used the AACC online evaluation process and we had very poor response to the evaluation process (as low as 10% in some workshops). It makes it difficult to effectively evaluate our programs with such a poor response rate. In an effort to improve the CE response rate, it was decided to provide certificates only after an evaluation was completed.

At SOFT 2013, the evaluation process was added to the Guidebook Smart Phone AP. It was a "beta" test and there were a number of issues, but for workshops, it seemed to work very well. Shortly after the meeting, 1006 WS certificates were sent out to attendees without any need for additional

information or manual evaluations. 37 certificates required a manual evaluation. Depending upon the WS, we had 54% - 75% of the attendees complete the evaluations, a significant increase from previous years. This gives valuable feedback to speakers, Workshop Chairs and Future Workshop Coordinators as to what you like and what you want to see done differently. We had more problems with the scientific session evaluations and that was reflected in the numbers. Only 100 certificates for the scientific session were requested and 15 of those required manual submissions. Also, certificates for the scientific sessions were distributed in the meeting bags, so all meeting registrants received a certificate of attendance for the scientific session.

There were problems with the process which we are addressing for the 2014 meeting. It was difficult to know if the evaluation was submitted and we hope to add a "receipt" to avoid multiple entries and simplify the data analysis. We recognize that there was a lot of repetition in the questions. Some of this is dictated by AACC guidelines, but we will make it better. We recognize that some of you would prefer to do paper evaluations and that will be an option next year. The process of providing the certificates to you was cumbersome and not timely. On the plus side, we sent 1006 WS certificates from the AP submission. 3% of our WS attendees encountered some difficulties which were resolved. For most, this required completion of a man-

ual evaluation (in Excel). The problems were more significant with the Scientific Session CE process and we have a plan to revamp this so that it will go more smoothly. We are working with the Guidebook AP programmers and AACC to simplify the process.

We learned a lot from this process about the evaluation itself and about what you want and expect from workshops. Most of what we learned came from your written comments. We know that it takes extra effort to provide the comment feedback but it is invaluable.

The Evaluation Process: The vast majority of you seemed to do OK with the AP or online evaluation for the Workshops. Of the 100 Scientific Session evaluations, a significant number evaluated only a small percentage of the Platform Presentation. This probably was related to cumbersome process. Attendees had to log in each time – for each scientific session and there was no acknowledgment of a successful evaluation.

Improvements: We are hoping to have a unique login for each of you so that evaluations as you go and make one submission when you are done. We want to provide you with a receipt of a successful evaluation submission. We want the AP to allow you to edit your submission – but not to be able to make multiple submissions for the same WS or Platform session.

Common Themes: Your constructive comments were extremely important. As attendees, you can con-

Making Your Continuing Education Choices Count: *Why all the Changes in the CE Process? (Continued)*

tinue to help improve our programs by providing this valuable feedback. Ranking content and presentations on a scale of 1 to 5 is not nearly as valuable as the feedback (both positive and constructive critiques) so we hope to see even more valuable feedback next year.

Handouts: You expect handouts and you want your handouts to follow the presentation. While it is great when an additional slide or two is inserted into a presentation to reflect new information, you are frustrated when there is significant mismatch between the handouts and the slides. You also want the handouts to be readable. We know that our speakers are busy and it is sometimes hard to get to the handouts but we need to consider that when we agree to be speakers. We are developing some speaker and workshop guidelines to help meet your expectations.

Rushed – too much info – not enough time: Many of you commented that here was not enough time or the speaker was “rushed”. Speakers always want to provide as much information as possible and there never seems to be enough time to say everything, part of a speaker’s responsibility is to decide is the most important information to provide, within the scope of the workshop topic and the time allotted. This is valuable information to send along to our speakers.

Repetitious Information: While each speaker in a workshop does not know what the other speakers

plan to address, the topics need to be defined well enough so that attendees feel they are getting new information from each speaker. This is the responsibility of the WS chairs, to define the topics well and to preview the slides to address overlap issues.

Commercial Bias: Ensuring there is no commercial bias is a major concern for AACC and important for us to keep our provider status. Whenever instruments discussions are a part of a WS, it is really important to reduce commercial bias as much as possible. Of course, it is understandable that speakers will describe methods for the instruments they use, it is important to include some information on other options. This information will be stressed to our Workshop Coordinators and Chairs.

No Show Speakers: For various reasons, 3 workshops had speakers who could not make it to Orlando. Two of the three WSs offered a substitute speaker and while it was not ideal most of the attendees who commented were OK with it. The one for which no substitution was provided had to be devalued to 3.5 hours (from 4).

Attendee Comments: The most important feedback came for your comments and we really want to encourage this for next year. When there are things you do not like, we really want constructive feedback. When you really like something, we want to provide that feedback to the speakers and chairs. Each speaker and workshop chair received your com-

ments from this year’s evaluations. From your comments this year, we are drafting information sheets for speakers and workshop chairs so that we can learn from you. Information sheets for speakers and workshop chairs will be prepared for 2014 speakers.

All of our workshops were highly rated which is consistent with the subjective feedback we have had in years past. Congratulations to Tate Yateman and the WS 8 team– DUI and DRE. This was the highest rated workshop.

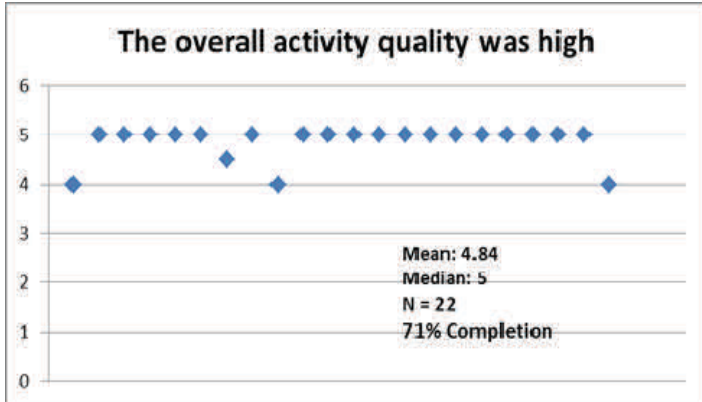
Congratulations to Dan Anderson (High Profile Cases WS) and Sue-Lan Pearing (SWGTOX WS) for getting the highest ratings on their respective presentations.

We would like the questions to be more relevant. If you have suggestions, please email them to ConEd@soft-tox.org.

The layout of the evaluation will be improved. Manual evaluation will be available for those who prefer this method. We will get the certificates completed more quickly if these and other data management changes are successful.

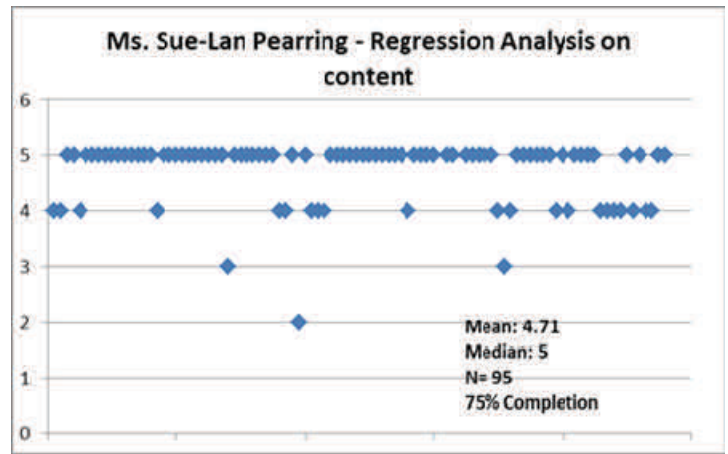
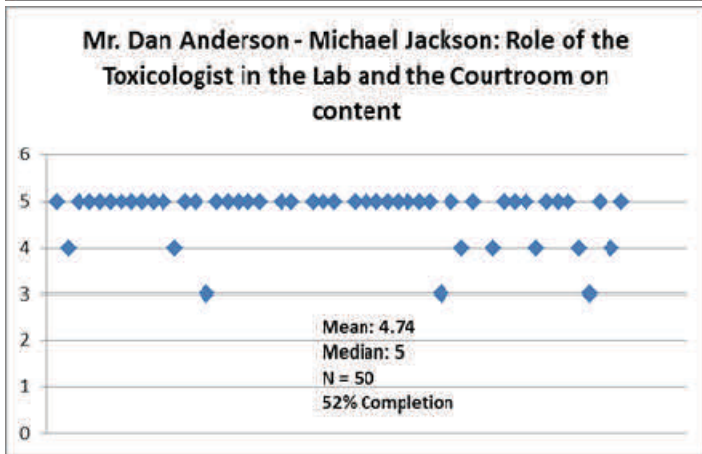
Other Issues: One thing that is important is that if you sign up for simultaneous workshops (same time slot), you will only be able to receive a certificate from one of the WSs. We all do this to get the handouts and information from a conflicting (time) workshops. There will be firm completion deadlines for next year.

Making Your Continuing Education Choices Count: *Why all the Changes in the CE Process? (Continued)*



SPECIAL THANKS:

The ConEd Committee wants to acknowledge and thank the tremendous efforts made by Jarrad Wagner in setting up the APP and the ConEd module. This was a large commitment and which he did in addition to his role as Vendor Liaison. Also, we want to thank our committee members who assisted in getting the certificates to you; Jennifer Colby, Sheri Kacinko, Robert Sears, Rebecca Phipps, Debbie Densen, Chris Chronister and Jeri Roper-Miller.



The Drug Facilitated Sexual Assault Committee (DFSAC) changes its name to the Drug Facilitated Crimes Committee (DFC)

This name change serves to more accurately reflect the scope of the committee and to clarify the overall issue of drug facilitated crimes. The mission of this committee is to inform and train fellow toxicologists, health-care professionals, and law enforcement on issues surrounding the successful investigation of DFC. Collate and disseminate data on DFC issues and to facilitate the development and promotion of research topics relevant to DFC.

The committee will be hosting a special session at this year's SOFT meeting in Grand Rapids. Please submit abstracts on any cases you may have that you would like to present such as cases that you have been involved with regarding use of a drug to facilitate a crime such as rape or robbery. The abstract submission form includes a box to check if your submission is relevant to DFC. Also if you have any concerns or ideas regarding DFC please do not hesitate to attend our open committee meetings that are listed in the SOFT program at each annual meeting.

The committee also has a survey for those labs that currently analyze DFC cases. The link to the survey is: <http://www.surveymonkey.com/s/YD5H2GQ>

The committee will be collecting responses to the survey until April 10th. The data from the survey will be presented at this year's SOFT meeting. So if you have not filled it out please do so.

CALL FOR ABSTRACTS, MODERATORS AND REVIEWERS FOR THE SOFT 2014 ANNUAL MEETING IN GRAND RAPIDS, MICHIGAN OCTOBER 19 -24th

ABSTRACT SUBMISSION DEADLINE IS MAY 5, 2014

The SOFT 2014 Scientific Program Committee is requesting abstracts on all topics related to forensic toxicology. The Committee will select appropriate abstracts to be presented as either a 15 minute platform presentation or poster presentation. Refer to the SOFT website for additional information on abstract requirements and submission.

In addition, the Leo Dal Cortivo Memorial Fund is allowing the Young Forensic Toxicologists Committee to present two awards to young forensic toxicologists at the SOFT 2014 Annual Meeting. The best platform presentation and the best poster presentation will be chosen from among the eligible entries, and the presenting author will be awarded a cash stipend of \$1000 in addition to a free registration for a future SOFT meeting. For eligibility requirements and instructions on how to apply, go to the Young Forensic Toxicologists tab on the SOFT website.

ALSO if you would like to serve as an abstract reviewer or moderate a session at the meeting, please contact either of the Scientific Program Committee Chairs listed below.

The SOFT 2014 Scientific Program Committee Chairs are:

Laureen J. Marinetti ljtoximp@gmail.com

Michele Glinn michele.glinn@gmail.com

Student Enrichment Program

Submitted By Jayne Thatcher, Ph.D.

The YFT Committee will again host the Student Enrichment Program (SEP), an educational outreach program targeting undergraduates and graduate students interested in forensic toxicology. Students will learn from practicing forensic toxicologists about various disciplines within forensic toxicology and what knowledge and skills are necessary for this career path. The event will take place on Monday, October 20, 2014 during the SOFT meeting in Grand Rapids, Michigan. The day-long program will be free of charge, but space is limited. Interested students should email the YFT Committee at softyft@gmail.com for additional information.

Northeastern Association of Forensic Scientists Annual Meeting

November 3-6, 2014 Hershey, Pennsylvania

Submitted by Larry Quarino, laquarin@cedarcrest.edu

The 2014 annual meeting of the Northeastern Association of Forensic Scientists will be held from November 3-6 at the Hershey Lodge in Hershey, PA. The meeting will feature a 1/2 day workshop on Alternative Matrices in Toxicological Analysis on November 3 and a full day of toxicology papers on November 4. Information about the meeting can be found at <http://www.neafs.org/index.php/annual-meeting>.

THE CONSORTIUM OF FORENSIC SCIENCE ORGANIZATIONS (CFSO) UPDATE

Submitted by Laurel Farrell, BA

The Society of Forensic Toxicologists and American Board of Forensic Toxicology are members of CFSO. Regular updates on CFSO activities and legislation that impacts forensic laboratories is available in CFSO newsletters at <http://www.thecfso.org/>



SOFT Members— *IMPORTANT REMINDER*

Submitted by Bonnie Fulmer

It is the member's responsibility to keep contact information current!

The Journal of Analytical Toxicology (JAT) is mailed to the listed address of all members, and the use of email to send important message broadcasts is becoming more frequent. Updating member contact information can be done by logging in to the main SOFT website (www.soft-tox.org), or members can call the SOFT Office (toll free 888-866-7638) for password assistance or to report any mailing address or email changes by phone.

Organization of Scientific Area Committees (OSAC)

Submitted by Mark Stolorow

The application process for positions in NIST's Organization of Scientific Area Committees is open. Applications will be accepted through May 11, 2014. NIST is welcoming members of the forensic science, criminal justice and academic research communities to serve as members. Additional information is posted at http://www.nist.gov/forensics/osacapplication_news.cfm.

Second Annual Professional Development Fair

Submitted by Jayne Thatcher, Ph.D.

Please join us at the SOFT Professional Development Fair which will take place on Tuesday, October 21, 2014 during the SOFT Annual Meeting in Grand Rapids, Michigan. The goal of this event is to provide an opportunity for attendees to meet with representatives of organizations to learn more about board certification, continuing education, professional training, academic programs, and new career opportunities. Last year we had representatives from various accreditation and certification agencies, graduate programs, and laboratories. This event is sponsored by the Young Forensic Toxicologists Committee, but all annual meeting attendees are encouraged to attend. If you are part of an organization that provides professional development opportunities and you would be willing to share information and answer questions about your organization at this event, please e-mail softyft@gmail.com for more information.

SOFT Continuing Education Workshop:
SWGTOX Standard Practices for Method Validation in Forensic Toxicology
May 19, 2014, Springfield, Illinois

Validation is the process of performing a set of experiments that reliably estimates the efficacy, reliability, and reproducibility of an analytical method. The goal of conducting validation experiments is to establish evidence which demonstrates that a method is capable of successfully performing at the level of its intended use and to identify the method's limitations under normal operating conditions.

A survey of the literature finds there are numerous approaches used to demonstrate that a method is "valid", yet they differ in their level of thoroughness. This suggests that some approaches are insufficient while others may be overly rigorous. The Scientific Working Group for Forensic Toxicology (SWGTOX) has developed minimum standards of practice for the validation of analytical methods used in forensic toxicology.

This workshop will present a review of basic statistical principles, including an in-depth look at regression analysis for quantitative analyses. Examples and exercises will be provided to help demonstrate how to apply these practices in everyday laboratory methodologies.

Learning Objectives:

1. Present a statistical review to help the attendee better understand how to best evaluate validation data.
2. Instruct attendees on the minimum standards outlined by SWGTOX.
3. Provide the attendee with guidance on how to implement these practices into their own laboratories.

Instructors:

Marc A. LeBeau, PhD, D-ABFT, Senior Forensic Scientist, FBI Laboratory, Quantico, VA
 Sue Pearing, BS, Senior Criminalist, LA County Dept of Medical Examiner-Coroner, Los Angeles, CA

This workshop will be co-sponsored by the Society of Forensic Toxicologists (SOFT) and the Illinois State Police. It will be held in Springfield, IL on May 19, 2014.

The cost is minimal for both SOFT members (\$15) and those that are not members of SOFT (\$30). To register for the workshop, please complete the registration form found at:

http://www.soft-tox.org/continuing_education

Training Venue:

Illinois Department of Natural Resources
 One Natural Resources Way
 Springfield, IL 62702
 (217) 782-6302

Suggested Lodging:

Hilton Springfield
 700 E. Adams Street
 Springfield, IL 62701
 (217) 789-1530

Abraham Lincoln Hotel
 701 E. Adams Street
 Springfield, IL 62701
 (217) 544-8800

Estimate about \$150/night

Estimated about \$120/night

***Please note: Registration closes on May 9, 2014. There will be no on-site registration for this workshop.**

For more information, please contact Shannon George, Toxicology Program Manager, Springfield Forensic Science Laboratory, Illinois State Police (Shannon.George@isp.state.il.us).

IN MEMORIAM

Anthony P. D'Addario, Ph.D. (SOFT Member 1993-2014)

Submitted by Richard Hilderbrand



Dr. D'Addario passed away on February 10, 2014, following several months of illness. Looking at Dr. D'Addario (Dr. D) is a bit like looking at the crystals which he studied in his graduate work at Case Western Reserve. The reflections of the x-ray provided a pattern to be interpreted only by the most astute observer. For Dr. D, those x-ray reflections were the start of a wonderful scientific career. For those of us that observed Dr. D, few could know his true structure because of his quiet, unassuming, nature. After sharing an office with him I learned that he had what I call a photographic memory. When asked, he could provide information, page number, table or other very specific information related to the question. Although he occasionally would bemoan time spent as a crystallographer and initially felt unpre-

pared for the challenges that toxicology issues assigned to him by the Medical Service Corps of the U.S. Navy presented, he quickly mastered the necessary subject matter and immediately began to make valuable contributions to the field.

He was first assigned to the Toxicology Department at the Naval Medical Research Institute (NMRI) where he continued his studies and mentored many. His career took him to industrial (operational) toxicology and ultimately to what most reading this know him for – forensic toxicology. He was the first U.S. Naval officer to be board certified by the American Board of Toxicology (ABT). He also had the unique distinction of possessing diplomat status in both the ABT and the ABFT (American Board of Forensic Toxicology). He was assigned to the NMRI Toxicology Detachment at Wright-Patterson Air Force Base where he made great contributions to the safety of Naval personnel with his work on inhaled smoke and toxicity of lubricants, fuels, torpedo propellants, hydraulic fluids, and fire fighting foams. He ultimately became the technical and administrative manager of the Navy Drug Screening Laboratory in San Diego.

After Dr. D retired from the Navy and moved into the private sector, he held several key positions including Operations Director for Quest Diagnostics (San Diego), Associate Technical Director for

MedExpress (Memphis), and Scientific Director for Methodist Hospital (Memphis). As an independent consultant he performed data and bench audits of 90 forensic urine drug testing laboratories throughout the U.S. Dr. D'Addario has provided counsel and expert witness testimony at numerous military and civilian court proceedings. He is a full member of SOFT, AAFS, and CAT.

Tony loved serving in the U.S. Navy and was an exemplary officer; however, what he really loved was learning and mentoring. Dr. Dave Hobson, a longtime colleague of Tony's and a toxicology consultant on the pharmaceutical and medical device development side says, "We often worked very long hours in the Service and through learning together found enjoyment during even the most challenging times. Tony was always very soft spoken and patient and the depth and command of toxicological knowledge were far more than his humility would allow one to presume on first meeting. Working with him on several significant toxicologic projects and having him call me friend for almost four decades has been an honor with many wonderful times and treasured memories."

For me, I can only say that a treasured friend and colleague has been lost; however, the reflections of his character and guidance will be shown in his subordinates and many young Naval Officers and toxicologists.

**Society of Forensic Toxicologists,
Inc.**

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Mesa, AZ 85201 USA**

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E-mail: office@soft-tox.org

Executive Assistant: Bonnie Fulmer

**SOFT 2014 PLANNING COMMITTEE
MEMBERS**

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Scientific Program Chairs

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SOFT 2014 Website Liaison

Russell Lewis

Silent Auction Coordinator

Elizabeth Kiely

Fun Run

Vincent Papa



2014 S.O.F.T. COMMITTEE CHAIRS

Committee

Committee Chair

ByLaws.....	Yale Caplan, Ph.D., DABFT
Budget, Finance, and Audit.....	Tom Kupiec, Ph.D.
Membership.....	Bruce Goldberger, Ph.D., DABFT
TOXTALK® Editor.....	Dwain Fuller, B.S., DFTCB
Publications	Dimitri Gerostamoulos, Ph.D., DABFT
JAT Special Issue.....	Jayne Thatcher, Ph.D.
Awards.....	Erin Spargo, Ph.D., DABFT
Meeting Resource.....	Ruth Winecker, Ph.D., DABFT
Drugs & Driving.....	Amy Miles, B.S.
Designer Drugs.....	Sumandeep Rana, M.S.
Policy and Procedure.....	Bruce Goldberger, Ph.D., DABFT
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Ethics.....	Robert Osiewicz, Ph.D., DABFT
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Strategic Planning.....	Jennifer Limoges, M.S., DABC
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WEBMASTER

Matthew Juhascik, Ph.D., DABFT

TOXTALK® Deadlines for Contributions:

February 1 for March Issue

May 1 for June Issue

August 1 for September Issue

November 1 for December Issue

Future S.O.F.T. Meeting Destinations:

- 2014:** Grand Rapids, MI.....Oct. 18-25th, 2014.....Ben Kuslikis/Michael Smith
- 2015:** Atlanta, GA.....Oct. 17-25th, 2015.....Robert Sears
- 2016:** Dallas, TX.....Oct. 15-23rd, 2016.....Chris Heartsill/Erin Spargo
- 2017:** Boca Raton, FL.....Sept. 10-15th, 2017.....Ruth Winecker/Dan Anderson
- 2018:** Minneapolis, MN.....Oct. 15-12th, 2018.....Loralie Langman
- 2019:** San Antonio, TX.....Oct. 11-18th, 2019.....TBD

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