



TOXTALK

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2009 Fun Run Sign Up Form

2009 Silent Auction Donation Form

2009 Meeting Registration Worksheet

PRESIDENT'S MESSAGE

By Anthony Costantino, Ph.D., D-ABFT

Last month's message was fairly lengthy and I received a lot of good feedback. This month however, I am evidently the last to submit so I am attempting to convey my thoughts and provide you with some updates within a much smaller space that was designated for me by our editor! In this issue's message I would like to follow up on the Board's activity with respect to the NAS report and subsequent pursuit to join the CFSO. As you may recall, the CFSO (Consortium of Forensic Science Organizations) is a lobbying group that represents several forensic science organizations to policy makers at many levels including the Federal Government. The organizations represented are AAFS, ASCLD, ASCLD-LAB, Forensic Quality Services, International Association for Identification, and NAME. The intent of joining CFSO is to provide representation within this lobbying group by a practicing forensic toxicologist. As you may recall, a few of the areas that may become standardized in forensic science, and therefore within our specialty, are accreditation, certification, continuing education and undergraduate and graduate level college programs. The Board voted unanimously to join CFSO in the best interest of SOFT. We are sharing the membership with ABFT. In the shared membership, SOFT will pay 2/3 of the annual dues and have the voting voice in the organization. SOFT will be represented by Peter Stout. Our participation and the arrangement with ABFT will be reviewed at the end of the first year.

Next, I am happy to report that there has been a lot of activity among the LC/MS/MS Guidelines Committee.

The committee participated in three web presentations / discussion groups in April and May. These meetings were hosted by RTI and held in conjunction with SAMHSA advisory group. As you may know, SAMHSA will allow LC/MS/MS techniques for confirmation testing in 2010. While the analyte and matrix scope is more focused for the SAMHSA group than that of the SOFT committee, it was great to get the opinions on the table for discussion. No final decisions have been made, but the discussions have accelerated the progress toward guidelines for both groups.

Finally, I know that you are all excited about the upcoming annual meeting. Many companies and government agencies have trimmed their travel budgets and consequently some of us may need to pay more out of our own pockets in order to attend this year's meeting in OKC. I think that some of these cutbacks actually tend to hurt the economy and result in a spiral of less cash due to higher taxes. That thought came to mind as I read the following statistic in the often quoted Wichita Eagle: "each household would pay nearly \$988 dollars in additional taxes annually if it was not for the \$115 billion in tax revenue generated by the travel and tourism industry." Our meetings have always been a terrific value and this year is no different. We will all have a great time. Have a wonderful summer.

Tony



SOFT 2009 ANNUAL MEETING

Oklahoma City, Oklahoma

October 18 – 23, 2009

Hosts: Phil Kemp, Dennis McKinney

Site: Cox Convention Center / Renaissance Hotel



WELCOME TO OKLAHOMA CITY!

Hey Ya'll. The 2009 Planning Committee welcomes you to FRIENDLY Oklahoma City. We are so excited to showcase our city to all of you. With the Bricktown Entertainment District located only a block away from our host hotels, there are many attractions located within an easy walk. Whether its dining, clubs, theaters or shopping, it's all located just a short stroll from your room. However, for those of you interested in exploring the Greater OKC Metropolitan Area, we are providing a bus for all SOFT

and SO-SOFT attendees to get out and about in OKC. On Monday and Tuesday (Oct 19th & 20th), a free – YES, I SAID FREE - tour bus will provide transportation with stops at numerous attractions in the OKC Metro. Featured attractions at these stops include the Oklahoma City Museum of Art, the Oklahoma City National Memorial & Museum, Penn Square Mall, National Cowboy and Western Heritage Museum, Remington Park Horse Racing and Casino, Oklahoma City Zoo, and Science Museum Oklahoma. You

will be able to hop on-and-off of the bus at any venue that interests you and stay as long as you like (or until the last pick-up). The bus will run from 10 am until 7 pm both days.

The Oklahoma Museum of Art opened in 2002 and is located in the heart of Downtown OKC Arts District. Accredited by the American Association of Museums, the Museum serves 170,000 visitors annually. The Museum is home to an extensive permanent collection of European and American art, including the most com-



Bricktown Entertainment District in Downtown Oklahoma City

OKLAHOMA NEWS (CONTINUED)



prehensive collection of Dale Chihuly glass in the world. It also houses the Midwest's premiere repertoire cinema, which presents the finest international, independent and classic films. A

special exhibition will be featured during our meeting: The Dutch Italianates: 17th Century Masterpieces from Dulwich Picture Gallery, London. The Museum also contains the Museum Café, whose French-fusion cuisine is some of the best in OKC. Afternoon tea is also provided in the full-service bar. The Museum Café will be open both Monday and Tuesday but sadly, the museum itself is closed on Mondays.

The Oklahoma City National Memorial and Museum was created to honor those

who were killed, those who survived and those changed forever by the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City. The Memorial and Museum are dedicated to educating visitors about the impact of violence, informing about events surrounding the bombing and inspiring hope and healing through lessons learned by those affected. This truly is one of the most thought provoking and inspiring sites in America.



Next stop is for the SHOPPERS in our group. Penn Square Mall is OKC premiere shopping center because of its excellent mix of specialty shops, comfortable atmosphere, and plush landscapes and furnishings. Featured stores include Macys, Dillards, JC Penny, Pottery Barn, Williams So-

noma, etc. The mall also includes a multi-screen cinema showing the latest movies. Also, an extensive food court is available inside the mall. Four full service restaurants are also available: Cantina Laredo, Elephant Bar and Restaurant, Pepperoni Grill and The Cheesecake Factory.

The National Cowboy and Western Heritage Museum is the next exciting stop on our tour. This site will also serve as the venue of our President's Reception on Tuesday night but the Galleries will only be open from 7 to 10 pm. Because of this limited viewing time, each person will receive a free admission ticket in their welcome packet so you can enjoy the exhibits at your leisure. This Museum is a must-see for anyone visiting Oklahoma. It's permanent collections include: The American Cowboy Gallery, American Rodeo Gallery, Arts of the American West, Fine Arms Gallery (Rick Mueller will probably set up camp here), Native American Gallery, and many others.



Next stop is OKC's Adventure Zone. This encompasses the Race Track/Casino, Zoo, and Science Museum.

Remington Park Race Track and Casino is one of America's



most exciting race tracks. Whether its live races, simulcasts from tracks around the world, or dropping a quarter in one of the many slots available, there's something for all those willing to take a chance. Remi's buffet is also available for both lunch and dinner.

The OKC Zoo is one of America's finest. In the last 15 years, numerous attractions have been added. The Cat Forest/Lion Overlook is spec-

tacular. Get up close to our closest relatives at the Great Escape. The newest exhibit is the eight acre Oklahoma Trails. This \$10.3 million habitat showcases over 800 animals native to our GREAT state while allowing visitors to enjoy the eleven distinct life zones unique to Oklahoma.



Travel the suspended boardwalk and explore the grassy terrain of Black Mesa, the rolling hills of the Ozark Highlands, and feel the mist from the Zoo's 25-ft replica of Turner Falls located at Big Rivers. These will only make you want to come back to visit the two new exhibits under construction, The Asian Exhibit and the Children's Zoo is set to open in the next two years.

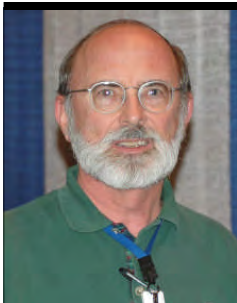


Last but not least is Science Museum Oklahoma. This hands-on museum houses many fascinating exhibits to stimulate all of our senses. Also located in the museum is The Dome Theater showing the most recent IMAX movies. For those of you interested in our night sky, the Planetarium is a great way to sit back and enjoy the view.

As you can see, OKC offers a vast array of sites and activities for all. Once again, WELCOME TO OKC and we look forward to seeing YA'LL in October.



Submitted by:
Frank Johnson, SO-SOFT Chair



CASE NOTES

Submitted by Section Editor, Matthew Barnhill, Ph.D., DABFT

Send interesting "Case Notes" to Section Editor, Matthew Barnhill, Ph.D. at mbarnhilljr@worldnet.att.net

CASE NOTES #1: MORPHINE TOXICITY IN AN INFANT

Submitted by: Amy Goedert, B.A., Ginger Baker, M.S., Rong-Jen Hwang, Ph.D. of the New Mexico Dept. of Health, Scientific Laboratory Division, Toxicology Bureau, Albuquerque, New Mexico.

The following is a case of sudden death of an eleven month old female found face-down and unresponsive in bed by her grandmother. The decedent was dropped off by her mother, already asleep, at around 2100 hrs and placed into bed. The grandmother laid down with the decedent at approximately 2330 hrs and recalled seeing her still laying face up and snoring lightly. It was around 0330 hrs when the grandmother awoke to find the decedent face down and unresponsive next to her.

According to the report of death, the mother had never smoked, used drugs or consumed alcohol. She had prenatal checkups beginning in the first trimester and gave birth full term without complications. Since her birth, the decedent had been evaluated and released from the local ER on two occasions, at 2 months of age when she aspirated formula and again at 6 months for an ear infection. The decedent had all required vaccinations (none recently) and no history of trauma. The mother

stated the decedent had been slightly congested, the past two days, but without a fever. She said the decedent had been less active and sleeping more than usual since about noon the day before. It was at that time that the decedent was given several drops of Infant Tylenol.

The pathologist found evidence of chronic tracheobronchitis, but no anatomic cause of death. Heart and femoral blood samples were submitted to the laboratory for toxicological analysis. The femoral blood was tested for alcohol by GC dual column headspace FID and a 20-drug panel ELISA drug screen was conducted on a Dynex DSX. Alcohol results were negative, but the specimen was positive for opiates. The ELISA was negative for THC, however, the specimen demonstrated activity near the positive cutoff calibrator. The pathologist was notified of preliminary results and requested testing on multiple specimens for opiate confirmation. In addition, the pathologist ordered a Basic, Acid, Neutral screen and a THC confirmation by GCMS on heart blood and urine. The reported cause of death was morphine overdose and the manner of death undetermined. The Bureau of Indian Affairs was notified, but it is unknown if there was any further investigation into the child's death.

Toxicological Results of Heart and Femoral Blood Samples:

Drug	Concentration	Sample Type
Morphine (unconjugated)	0.96 mg/L	femoral blood
	0.10 mg/L	vitreous
	1.8 mg/L	heart blood
	Present	urine
Carboxy-THC	<5 ng/mL	heart blood
	Present	urine
Ibuprofen	Present	heart blood and urine
Nicotine	Present	urine
Cotinine	Present	urine

CASE NOTES #2: ANALYTICAL DOCUMENTATION OF THE INGESTION OF SODIUM AZIDE: QUALITATIVE AND SEMI-QUANTITATIVE ANALYSIS OF SODIUM AZIDE IN A SUICIDE

Submitted by: **Theodore J. Siek, Ph.D., DABFT**, former Director, Analytic Bio-Chemistries, Feasterville, PA and **George S. Behonick, Ph.D., DABFT**, UMass Forensic Toxicology Laboratory, Worcester, MA

Sodium azide (NaN_3), a colorless highly reactive and toxic salt, is widely used in industry. It is used in the manufacture of explosives and is a component in many airbag systems; therefore, industrial and occupational exposure is common, but fatal ingestion is rare. Toxicology laboratories are occasionally challenged to detect and quantify substances for which they have no previous experience. We describe this very situation in a postmortem case arising from an apparent intentional ingestion of sodium azide, as evidenced by a container labeled "sodium azide" discovered at the scene of death. We present a technique and method for detecting the presence of sodium azide in gastric contents obtained from autopsy.

Case History and Toxicology

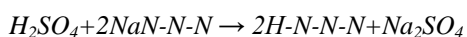
A young male (~30 years of age) was found dead in his private residence. There were no obvious signs of trauma or foul play observed on the body, nor the premises; however, a container labeled sodium azide was found on the kitchen table. The autopsy was unremarkable as to an anatomical cause of death. Femoral blood, urine, vitreous humor and gastric contents were submitted for toxicological analyses. Volatile analyses revealed a blood ethanol concentration of 0.09% and a vitreous humor ethanol concentration of 0.15%; nevertheless, all of the other toxicology testing which included drugs of abuse in blood (ELISA), urine (EMIT) and a full scan GCMS screen for alkaline extractable drugs was negative.

NaN_3 By Conway Microdiffusion

The technique employs diffusion of hydrazoic acid (hydrogen

azide or HN_3) into a Conway diffusion three-well cell followed by reaction with ferric chloride. An intense red-brown color is produced which is measured by spectrophotometer at 460 nm. The detection limit is 0.02 mg/mL.

Reaction:



Azide + Ferric Ion Red-Brown Chelate

Place 0.1N H_2SO_4 in outer well for seal, filling the "moat". Place 1 to 2 mL of test specimen or calibrator in the middle well and add 0.25 mL of 3N H_2SO_4 . To the center well add 0.1 mL of 0.1 N NaOH to trap the hydrazoic acid and convert again to azide ion; add 0.25 mL of 0.5% aqueous FeCl_3 to a small test tube and 0.05 mL of center well diffusate. Azide plus ferric ion produces a chelate ring which has an intense red-brown color. The reaction can be carried out with Trinders reagent (used for salicylate), giving about the same intensity of reaction. Salicylate gives a purple color and diffuses very slowly compared to hydrazoic acid. Hydrogen cyanide, which will also diffuse if present, does not produce a color reaction. The detection limits of the assay may be improved by using additional volume of specimen, or alternatively, measuring color intensity in 0.1 mL microcells. Aqueous azide calibrators are prepared (0.10 to 2.0 mg/mL), along with positive and negative control solutions.

The gastric contents contained 1.7 mg/mL of sodium azide by the diffusion test. A direct test on a centrifuged gastric aqueous aliquot yielded 1.4 mg/mL. The total volume of gastric contents at autopsy was 200

mL so, based on the analytical findings, approximately 280 mg (centrifuged aqueous fraction) to 340 mg of sodium azide remained in the gastric contents. The urine tested negative. Blood was not provided for testing. The absence of detectable cyanide in urine may be explained by rapid death and/or binding of azide. The metabolic rate of azide *in vivo* is uncertain; however, cyanide is considered to be a minor metabolite and may also be produced *in vitro* during incubation of azide in whole blood.

Acute poisonings with sodium azide secondary to intentional ingestions during suicide gestures are reported for several cases.^{1,2,3} Coma, metabolic acidosis, respiratory depression, ARDS (acute respiratory distress syndrome), acute cardiac failure and ventricular fibrillation are described as toxic manifestations. Azide inhibits cytochrome oxidase by binding irreversibly to the heme cofactor in a process similar to the action of carbon monoxide.⁴ Organs undergoing high rates of respiration (e.g., heart, brain) are particularly prone to the toxicity of azide which, because of its similar symptomatology, is often compared to cyanide.

The use of Conway cells harkens to earlier days in forensic toxicology. Notwithstanding, diffusion techniques are valuable today as illustrated in our case which describes screening and testing for sodium azide. Although simple to set up, the diffusion test followed by a color test provides reasonable specificity for azide and excludes potential interferences from cyanide and salicylate.

CASE NOTES #2: (CONTINUED)

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CASE NOTES #3: A FATALITY INVOLVING METHANOL AND NITROMETHANE CONSUMPTION

Submitted by: Toxicology Laboratory, Harris County Medical Examiner's Office, 1885 Old Spanish Trail, Houston Texas 77054, Email: HCMETox@meo.hctx.net

Introduction

Volatile organic compounds are often encountered in DUI and medicolegal investigations. The most notable compound is ethanol, although other household or industrial products can also supply the seeker with a variety of intoxicating liquids or vapors.

Headspace gas chromatography is currently the most widely applied technique in the detection of such volatile intoxicants. However, this method does not often provide sufficient physical data to allow identification of a general "unknown". In these cases headspace gas chromatography / mass spectrometry is most advantageous.

Together, these techniques can be used to identify, quantify, and verify common and uncommon volatile sub-

stances found in forensic specimens. In this submission, we report an unusual case involving methanol intoxication and the challenging analytical and toxicological contributions of nitromethane, which required the concerted use of GC-FID and GC-MS assays.

Case History

A 56-year-old white male with the history of chronic alcohol use was found dead in his car in the parking lot of a gym. He had been known to use the grassy field next to the gym to fly model airplanes. Prior to his death, the decedent had an argument with his wife and was told to be sober or leave the house. When she returned home, he was gone. After being unable to locate him, she filed a missing

persons report. Two days later, he was found dead in his car in the parking lot of the gym. According to the investigator's report, the car was littered with emptied beer cans. A can of model airplane fuel was near his hand. One of the witnesses

Postmortem Toxicology

Femoral blood specimens were screened by headspace gas chromatography for alcohols using a dual column BAC-1 and BAC-2 system. Common drugs of abuse such as cocaine, phencyclidine, amphetamines, and opiates were screened by ELISA. Clinical chemistries involving glucose, creatinine, urea nitrogen, sodium, potassium, and chloride were tested in vitreous humor. Carbon monoxide was screened in blood by CO-Oximetry and confirmed by UV-Vis spectrophotometry.

Results

Headspace gas chromatography analysis of blood, vitreous, and urine gave peaks at 0.977 and 1.601 minutes, corresponding to methanol and acetone plus a late-eluting, unknown peak at 2.278 minutes on the BAC-1 column (Figure 1). Ethanol was not detected in any of the specimens, and acetone was attributed to the ketosis associated with a history of chronic ethanolism. Further confirmations using quantitative headspace gas chromatography determined methanol levels to be 0.33, 0.47 and 0.40 g/dL in femoral blood, urine, and vitreous humor, respectively. However, the late-eluting peak at 2.278 minutes remained unidentified.

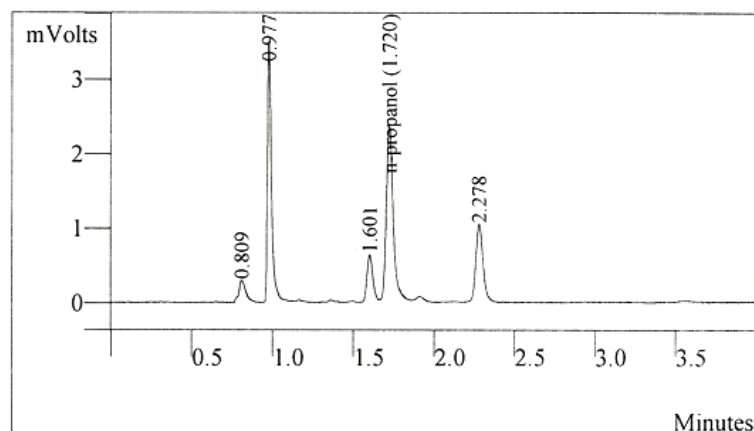


Figure 1: Headspace Gas Chromatograph of Femoral Blood (BAC-1, retention times: methanol; 0.977 min, acetone, 1.601 min; IS 1.720 min; unknown peak, 2.278 min)

persons report. Two days later, he was found dead in his car in the parking lot of the gym. According to the investigator's report, the car was littered with emptied beer cans. A can of model airplane fuel was near his hand. One of the witnesses

CASE NOTES #3 (CONTINUED)

ELISA screens conducted on blood were negative. Vitreous chemistries were unremarkable, except for abnormally high postmortem concentrations of 48 mg/dL urea nitrogen and 18.5 mg/dL creatinine. CO-Oximetry indicated 11.8 % carboxyhemoglobin and 10.6 % methemoglobin, but confirmatory retesting by UV-Vis spectrophotometry discounted the carboxyhemoglobin reading as methemoglobin interference.

Methanol and nitromethane are common to many brands of model airplane fuel. The proximity of fuel to the decedent supported the possibility that the source of the methanol was from ingesting the airplane fuel. Furthermore, an unknown volatile peak possibly attributable to nitromethane was present in the headspace FID gas chromatograms of post-mortem blood, urine and vitreous humor.

Analysis of the blood specimen by headspace GC/MS was performed to resolve the identity of this unknown peak. In this system, methanol eluted at 1.5 minutes and acetone at 2.6 minutes. A later eluting peak appeared at 3.6 minutes, whereby its retention time relative to methanol was consistent with the late-eluting substance in the earlier alcohol headspace analyses (Figure 2). The mass spectra of this substance had ions at 61, 45 and 30 m/z, which is consistent with nitromethane.

Conclusion

The presence of the methanol peak on headspace gas chromatogram and nitromethane in the GC/MS chromatogram, plus elevated levels of creatinine and methemoglobin point to the probable ingestion of model airplane fuel containing methanol and nitromethane.

Creatinine was elevated 14 – 15 fold over normal levels and literature reports have suggested that this may be a marker of nitromethane / methanol exposure.^{1,2} The active methyl group of nitromethane can react with picric acid to produce a chromophore that inflates creatinine determinations by the Jaffe reaction, as was employed in our methods. Also, exposure to organonitrates such as nitromethane can induce formation of methemoglobin, as we have also observed.

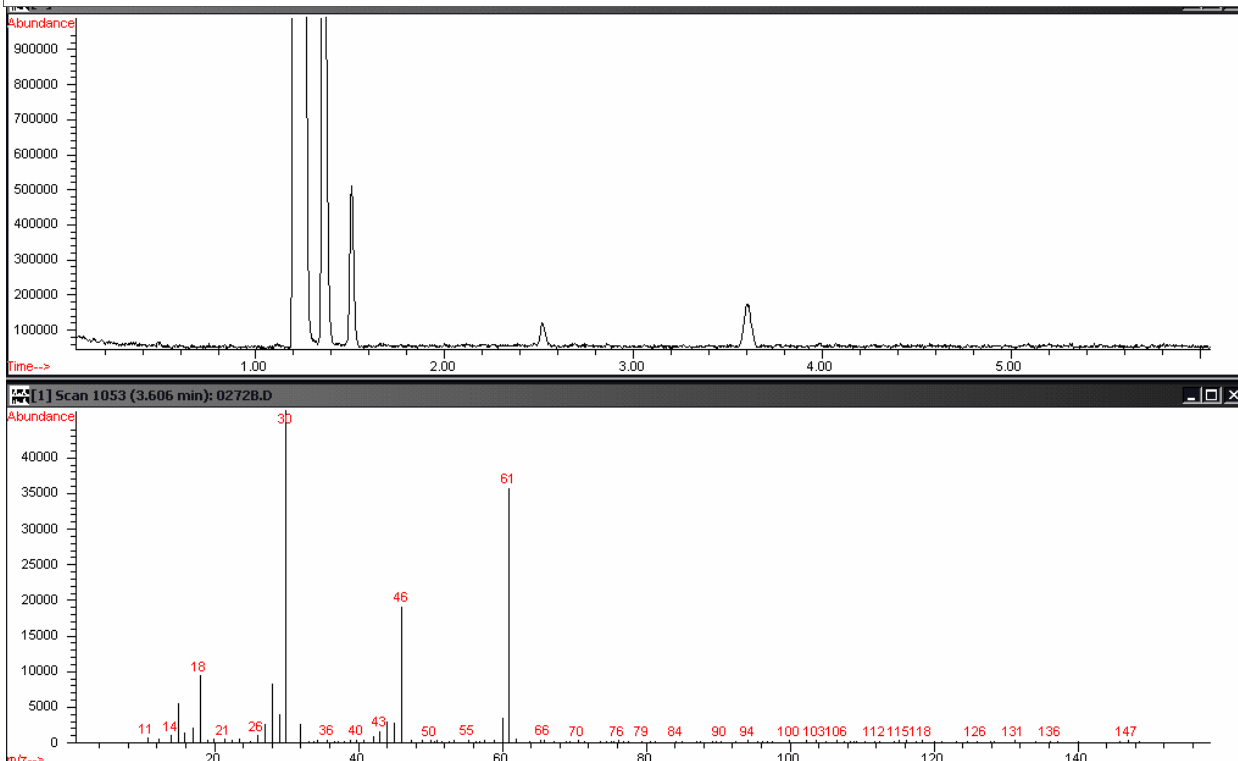
This case report adds our experience to support more routine testing for volatile substances in postmortem specimens. In a recent Case Note³,

Leigh Champion and Kasey Wilson of the Georgia Bureau of Investigation have recounted their experiences in testing for volatile compounds in forensic specimens. As we have also shown, such testing can have application in a variety of cases with unusual volatile substances.

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Figure 2: Headspace Gas Chromatogram of Case Blood (Upper Panel) and Mass Spectrum of peak at 3.6 min (Lower Panel).





DRUGS IN THE NEWS

Send interesting "Drugs In The News" to Section Editor, Dwain Fuller, B.S., DFTCB, at Dwain.Fuller@va.gov

LEAD POISONING IN CHILDREN: A RENEWED INTEREST IN AN OLD NEMESIS

Submitted by: **Robbie Pisana, B.S. MT(ASCP)**

A recent headline in a local newspaper read **"Librarians fight to get all children's books exempted from new rules."**

The main concern involves books printed before 1985 using ink that contained lead pigments. The question is, "can small children be harmed by licking and consuming the ink?" Although the law is affecting libraries for now, books found in bookstores and other shops may be the next to be targeted. How lead poisoning is affecting our everyday lives has a far reaching impact.

The use of lead and its effect can be traced back to the Romans who used lead pipes for their vast network of plumbing. The word "plumbing" comes from the Latin word for lead "plumbum"



from which the elemental symbol Pb is also derived. Lead was also used as a key component in

face powders, rouges and mascaras. Paint pigments also contained lead; hence the term "crazy as a painter" to signify the demented behavior of lead poisoned painters. Lead was also used as the ultimate spermicide, it being the metal used in most chastity belts. Even though the ancients were fully aware of the serious health problems lead caused,

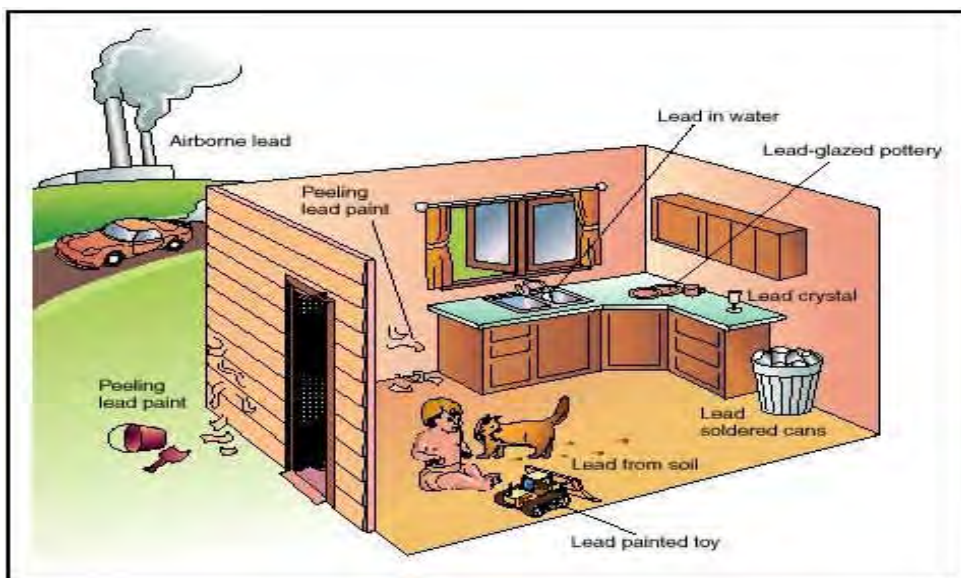
they were so enamored with the metal they minimized the hazards it imposed. The ancient upper class regarded their limited direct exposure to lead as an acceptable risk. They did not realize that their everyday low level exposure to lead and lead products made them vulnerable to the effects of chronic lead poisoning. They had little concern of the horrific effects of acute lead poisoning which occurred among the slave miners of lead.

Centuries later, decisions by federal and local officials have forced nearly one million American families to live in neighborhoods polluted by lead smelters. The people are disproportionately minority and poor. As the Romans of old, public health officials know of the dangers of lead poisoning but thousands of families continue to live in public housing with lead polluted environments.

From these auspicious beginnings, we come to America in 1980 where the U.S. utilized 1.3 million tons of lead which represented 40% of the world's supply of lead. This calculates to 5221 grams of lead per American, compared to the Romans' utilization of 550 grams per person.

Children are at the greatest risk for lead poisoning between birth and age 6, when their neurological systems are developing. The Centers for Disease Control recommend levels of less than 10 micrograms of lead per deciliter of blood.

It is estimated that more than 3 million children 6 years of age and younger have lead poisoning. This represents almost one out of every six children under the age of 7. Lead poisoning has no obvious signs and most children do not exhibit any abnormal symptoms.



DRUGS IN THE NEWS (CONTINUED)

Some children with lead poisoning, however, report stomachaches, loss of appetite, hyperactivity, sleeping problems and irritability. Children with high levels of lead may suffer from learning disabilities, mental retardation, behavioral problems, lowered IQ, stunted growth and learning impairments. Coma, convulsions and even death may occur at extreme high levels of lead.

In 1985 a lower limit of 25 ug/dL of lead was set as the point for intervention of treatment in children. Even though the scientific community was aware that lower levels of lead could cause damage, this represented the lower limit of detection of instrumentation at the time. Now with major advancements in instrumentation, such as the use of the ICP/MS, lead levels below 1.0 ug/dL can be detected and lower limits below 10 ug/dL can be set for intervention in children.

There are five classes that the Centers for Disease Control classify children according to their blood lead level.

Class 1: ≤ 9 ug/dL: Children considered having normal blood lead levels.

Class 2: 10-19 ug/dL: Children with blood lead levels in this range should receive nutritional and educational interventions and more frequent screenings.

Class 3: 20-44 ug/dL: Children in this range should receive environmental evaluation, remediation and a medical evaluation and furthermore may also need pharmacological treatment for lead poisoning.

Class 4: 45-69 ug/dL: Children in this range will need both medical and environmental interventions, including chelation therapy. Chelating agents used in treating

children are edetate disodium calcium, dimercaprol, D-penicillamine and succimer.

Class 5: ≥ 70 ug/dL: Children in this range are considered a medical emergency and medical and environmental management must begin immediately.

Lead poisoning prevention programs targeted at children have had a tremendous impact on reducing the occurrence of lead poisoning in the United States. Due to these programs, the number of lead poisoning deaths and lead encephalopathy are now rare. Most of the

programs have dealt with children at a high risk for lead poisoning, overseeing periodic screening, providing education to caretakers about the causes, effects, symptoms and treatments for lead poisoning, and ensuring medical treatment and environmental remediation is provided to the children.

Nevertheless, lead environmental sources and oral and respiratory pathways still remain in our society. The primary source and pathways for lead exposure in children are lead-based paints and lead contaminated dusts and soils.

Lowest Observed Effect Levels of Inorganic Lead in Children*

*Note: The levels in this diagram do not necessarily indicate the lowest levels at which lead exerts an effect. These are the levels at which studies have adequately demonstrated an effect.

Source: ATSDR, 1990.

Death--	150 µg/dL
Encephalopathy--	100 µg/dL
Nephropathy--	
Frank Anemia--	
Colic--	
Decreased Hemoglobin Synthesis--	50 µg/dL
Decreased Vitamin D Metabolism--	40 µg/dL
Decreased Nerve Conduction Velocity--	30 µg/dL
Increased Erythrocyte Protoporphyrin--	20 µg/dL
Developmental Toxicity (IQ, Hearing, Growth)--	10 µg/dL
Transplacental Transfer--	

DRUGS IN THE NEWS (CONTINUED)

In 2007 it was discovered that Chinese-made products contained high levels of lead. The main concern of the Food and Drug Administration were Chinese products of children's jewelry, toys, baby bibs, etc. This caused a number of new laws to be written to control the spread of lead poisoning among U.S. children. The Consumer Product Safety Commission recalled millions of children's items all imported from China.

At least 10% of Chinese children suffer from lead poisoning due to the excessive use of lead based products. The formation of the Healthy People Program was created in response to the lead poisoning outbreak due to the spread of lead poisoning from Chinese imported children toys. The main goal of the Healthy People Program is to eliminate lead poisoning in children by 2010.

The public and private sectors must continue to work to-

gether to eradicate lead poisoning in children. Public agencies must work with private health care providers to provide lead screening and identify unusual sources of lead. Public housing and private housing owners must work for lead abatement in all structures. These are just a few examples of the cooperation that is needed between public and private sectors to protect our society from the spread of lead poisoning. Enough is known about the sources of lead and the pathways of lead exposure that primary prevention efforts, that is, elimination of lead hazards before children are poisoned, should be the main focus of permanently eradicating lead poisoning in children.

The renewed interest in lead quantification has brought about the use of new techniques and the use of state of the art instrumentation such as, inductively coupled plasma mass spectrometry (ICP/MS), to test for trace metals at lower concentrations and higher specificity.

Furthermore, elemental speciation has become extremely important in clinical work. An element's toxicity, environmental persistence, bioavailability, volatility, and chemical reactivity often depend on the species, or chemical form, of the element present.

As testing continues to evolve with the use of hyphenated instrumentation (LC-ICP/MS, LC-MS, etc.) and methodologies become more sophisticated with the speciation of trace metals, the forensic toxicologist will be called upon to provide their expertise in testing and interpretation.

References:

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China Exports Lead Poisoning. *World Net Daily*, March 11, 2009.

Lead Poisoning: A Historical Perspective. Jack Lewis, *EPA Journal*, May 1985.

Preventing Lead Poisoning in Young Children. Centers for Disease Control, 1990.

Disposition of Toxic Drugs and Chemicals in Man. Randall C. Baselt, Seventh Edition, 600-602.





TOXICOLOGY - BITS & PIECES

Section Editor, J. Robert Zettl, MPA

AAFS/
SOFT
JOINT
DRUGS &
DRIVING COMMITTEE
Submitted by Jennifer Limoges, M.S.

The Drugs & Driving Committee is continuing its Special Sessions. **Amy Cochems** (cochemak@mail.slh.wisc.edu) will coordinate the SOFT 2009 session in Oklahoma City. **Michael Corbett** (Michael.Corbett@utoronto.ca) will do the AAFS 2010 session in Seattle. Information on methods, laboratory programs, statistics, and especially case reports are all valuable information to share with your colleagues. If you are interested in presenting, please contact Amy or Michael. Presentations go through the normal meeting submission and review process, including adherence to all deadlines.

TIAFT NEWS

The International Association of Forensic Toxicologists welcomes all to their 2009 annual meeting in Geneva Switzerland, August 23-27, 2009. Refer to website, www.tiaft2009.org for further information.

SAT NEWS

The Southwestern Association of Toxicologists will hold their annual Fall Business Meeting in Oklahoma City in conjunction with SOFT's annual meeting. The SAT Spring Business Meeting will be located in Dallas.

DUID WORKSHOP

The SOFT Continuing Education Committee recently completed a DUID Workshop in Houston, involving 34 attendees, one traveling all the way from New Zealand to attend. Special thanks to **Ashraf Mozayani** for Chairing this very successful event.

AAFS NEWS
TOXICOLOGY SECTION
Submitted by Jeri Ropero-Miller, Ph.D.

Redacted from the May/June 2009 "Academy News". Source Jeri Ropero-Miller, PhD, Section Chair (Misprinted as Kenneth Ferslew, PhD, Section Secretary).

Ken Ferslew was Section Program Chair and he put together a wonderful and worthwhile program along with Phil Kemp who was the Workshop Chair. Their hard work was rewarded with a number of great workshops.

The Tox Section had special sessions on Drugs and Driving and one on Postmortem Pediatric Toxicology and a Multidisciplinary Session with Path/Bio.

Tox Section Awards:

Dr. **Barry Levine** was presented the Alexander O. Gettler Award. Dr. **Timothy Rohrig** was presented the Rolla N. Harger Award, and **Teresa Gray** was given the June K. Jones Award.

Jeri Ropero-Miller was elected Section Chair and **Ken Ferslew** was elected Section Secretary. Congratulations to the new Section Officers.

This year's Tox Section Workshop Chair is **Ruth Winecker**. **Phil Kemp** is Program Chair. Submission deadline for both Workshop and Scientific Abstracts is August 1st, so don't delay. Please submit abstracts and workshop proposals through the AAFS website (AAFS website), however, please notify Dr. Winecker (winecker@ocme.unc.edu) in addition to submitting a workshop proposal electronically so she can facilitate Tox Section submissions. If you are interested in volunteering for the 2010 AAFS meeting please contact the program chair, Dr. Phil Kemp (PKemp@arlok.com).

If you are not a member of AAFS Toxicology Section, you are welcome to join. If you are a member and need to update your membership to Fellow, see one of the Section Officers.

NATIONAL SAFETY
COUNCIL —
COMMITTEE ON
ALCOHOL AND OTHER
DRUGS
Submitted by Laura Liddicoat, B.S.

Due to a continuing hot issue circulating in the arena of defense of DUI's, it is important to reiterate that the committee adopted the following position statement regarding access to the Source Code of the software for evidential breath-alcohol analyzers:

It is the position of the National Safety Council's Committee on Alcohol and Other Drugs that access to the Source Code of the software of an evidential breath-alcohol analyzer is not pertinent, required, or useful for examination or evaluation of the analyzer's accuracy, scientific reliability, forensic validity, or other relevant characteristics, or of the trustworthiness and reliability of analysis results produced by the analyzer. These matters can be and have been fully assessed and examined by multiple other well established and recognized methods and procedures in common use worldwide; and many other adequate and appropriate means exist to challenge evidential breath-alcohol analysis results.

In February 08 the committee also adopted new recommendations for "Acceptable Practices for Evidential Breath Alcohol Testing". The committee found that forensic breath alcohol programs differ widely in their approach to instrumentation protocols, personnel training and responsibility, administrative rules and subject testing protocols.

For a copy of the full statement including introduction, comment and references, please contact **Laura Liddicoat**, ll@mail.slh.wisc.edu.

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ToxTalk is the official publication of the Society of Forensic Toxicologists, Inc., mailed quarterly (bulk mail) to its members. It is each member's responsibility to report changes of address to the SOFT Administrative Office. Non-members may receive ToxTalk for \$15 per calendar year. Checks payable to SOFT may be mailed to the SOFT Administrative Office. To submit articles or address ToxTalk issues please email to ToxTalk@soft-tox.org.

Future S.O.F.T. Meeting Info

- 2009:** Oklahoma City, OK.....Oct. 18-23, 2009.....Phil Kemp, Dennis McKinney
- 2010:** Richmond, VA.....Oct. 18-22, 2010.....Michelle Peace, Lisa Tarnai Moak
- 2011:** San Francisco, CA.....Aug. 29-Sep. 2, 2011.....Nikolas Lemos
- 2012:** Boston, MA.....June 30-July 6, 2012.....Michael Wagner
- 2013:** Orlando, FL.....Oct. 26-Nov.3, 2013Bruce Goldberger

ToxTalk Deadlines for Contributions

February 1 for March Issue

May 1 for June Issue

August 1 for September Issue

November 1 for December Issue

VOLUNTEER AT SOFT 2009

Deb Denson (denson@rti.org)

has once again sported her angel halo and agreed to coordinate the hefty list of volunteers who take a shift or two at the annual meeting. Please contact her if you would like to be included in the many available openings that will cumulatively pull the annual meeting in Oklahoma together. Thank you to both the seasoned volunteers and fresh willing enlisters!

2009 FUN RUN

In memory of the late Karla Moore, the annual SOFT Fun Run Event will don the name "The Karla Moore Annual Fun Run" in honor of its creator. A separate Fun Run Sign Up Sheet for 2009 has been included with this mailing of ToxTalk for those who wish to reserve a commemorative tee shirt in a specified shirt size. This event has grown larger and larger each year to approximately 100 participants (both athletes and the not so serious). Much appreciation is sent to **Linda Harty**, who has generously volunteered to chair this fun event in 2009.

2009 SILENT AUCTION

The fun and very popular (4th annual) Dr. Irving Sunshine / Dr. Fredric Rieders Silent Auction is being planned for a repeat memorial event during the 2009 annual meeting in Oklahoma. This annual tradition keeps the Sunshine / Rieders names alive and funds student enrichment programs into the future. Company or individuals may donate any variety of items for competing write-in bids. A separate "Silent Auction Donation Form" is included with this mailing of ToxTalk for those who would like to participate. Thank you, **Laurie Tobler** for kindly agreeing to chair this event.

The **Renaissance Hotel** is accepting reservations (1-405-228-8000). For SOFT room rate use code: socsoca. The on-line link is: <http://www.marriott.com/hotels/travel/OKCBRgroupCode=socsoca&app=resvlink&fromDate=10/16/09&toDate=10/24/09>

2009 S.O.F.T. COMMITTEE CHAIRS

Committee

Committee Chair

- Nominating.....Christine Moore, Ph.D., DABCC
- Membership.....Sarah Kerrigan, Ph.D.
- Strategic Planning.....Marc LeBeau, Ph.D.
- Budget, Finance, and Audit.....Robert Turk, Ph.D., DABFT
- ToxTalk Co-Editors.....Yale Caplan, Ph.D., DABFT
Vickie Watts, M.S.
- ByLaws.....Yale Caplan, Ph.D., DABFT
- Publications (JAT Special Issue)Jennifer Limoges, M.S., DABC
- Awards.....Philip Kemp, Ph.D., DABFT
- Drugs & Driving.....Jennifer Limoges, M.S., DABC
- Meeting Resource.....Bradford Hepler, Ph.D., DABFT
- Meeting GuidelinesBradford Hepler, Ph.D., DABFT
- Policy and Procedure.....William Anderson, Ph.D.
- SOFT Internet Web-Site.....Bruce Goldberger, Ph.D., DABFT
- Continuing Education.....Ann Marie Gordon, M.S.
- Web Based Continuing Ed.....Peter Stout, Ph.D., DABFT
- Laboratory Guidelines.....W. Lee Hearn, Ph.D.
- Ethics.....Aaron Jacobs, Ph.D.
- Drug Facilitated Rape & Sexual Assault.....Marc LeBeau, Ph.D.
- MS/MS Guidelines.....Dennis Crouch, M.S.

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