

One Source Toxicology Laboratory Involves Employees in Continuing Education Courses through the NIJ and RTI

The field and study of forensic toxicology is an ever-evolving industry. Advances in laboratory technology, changes in laws, or a new practice of medicine can affect the field of toxicology. One Source Toxicology Laboratory's Managers and Certifying Scientists participated in the following courses in 2008 sponsored by the National Institute of Justice and the Research Triangle Institute International.

Fundamentals of LC/MS/MS

This introductory course provided information on LC/MS/MS, including the basics of liquid chromatography, interface methods between LC and MS/MS, and primary MS/MS technologies currently available. The course included a review of triple quad and other combinations, such as quad-trap and quad TOF. The course was designed to provide information for associated professionals who do not necessarily run instrumentation directly but need information about the technologies.

After attending the course, participants have an understanding of the fundamental mechanics of LC/MS/MS technologies. They understand the components of the system including the LC chromatography, interface to the mass spectral platform, the various predominant mass spectral platforms and hybrid platforms and the detectors commonly used in mass spectral platforms.

There were no pre-requisites, co-requisites, and/or other restrictions in accordance with the course; however, awareness of the basic principles of forensic toxicology was recommended.

The Zzzz Drugs: From Analysis to Interpretation

With the increased prevalence of a new generation of sleep aids, toxicologists need information about the issues associated with the "Z" drugs: Zaleplon, Zopiclone and Zolpidem. This course provided an overview of the "Z" drugs, including analytical issues, pharmacology/pharmacokinetics, and interpretive issues. Case studies were also reviewed.

Other topics of study included sleep and sedation issues such as: sleep deprivation, insomnia, drowsy driving and parasomnias.

Opioids and Pain Management

This course presented information on opioids used in pain management. Pharmacologic, pharmacokinetic and pharmacodynamic information was presented for some

dominant opioids used in pain management. Discussions of analytical issues in pain management samples covered instrumentation methods as well as problems associated with this type of sample. The course also included case information and data from a pain management population.

This particular course was an intermediate to advanced course for toxicologists who are interested in opioid analysis and the unique challenges of pain management samples.

Expert Testimony for the Prosecutor and Scientist I

Many toxicologists are called to give courtroom expert testimonies in support of analyses conducted in their laboratories. This course provided a primer on expert testimony issues from the perspective of the prosecution. Material in this module included the role of the toxicologist and prosecutor, rival cause issues, rules for admitting expert testimony (e.g., Frye, Daubert), and approaches to direct and cross examination.

Expert Testimony for the Prosecutor and Scientist II

This course was a continuation of Expert Testimony for the Prosecutor and Scientist I. Material covered in this module included the laboratory's role in sample collection and preparation, admissibility standards and subpoena issues, considerations for cases involving alcohol and drugs, blood alcohol concentration determination, testing considerations, and case studies.

One Source Toxicology Laboratory employees will continue their pursuit of continuing education programs such as these in 2009 to ensure that they remain on the cutting edge of the forensic toxicology industry.

For more information regarding the National Institute of Justice or the Research Triangle Institute of Justice visit ojp.usdoj.gov/nij/ or rti.org - respectively.

For more information regarding One Source Toxicology Laboratory Inc. call (713) 920-1335 or visit onesourcetox.com