K41 Forensic Toxicology Fellowship Training Model

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After attending this presentation, attendees will be informed about a forensic toxicology fellowship program and how the more widespread implementation of such a program would benefit the forensic toxicology community.

This presentation will impact the forensic science community by drawing attention to the lack of comprehensive on-the-job training in the field of forensic toxicology and the advantages of providing a formal training program.

Programs in which a broad exposure to the various aspects of forensic toxicology in a lab holding American Board of Forensic Toxicology (ABFT) as well as ISO/IEC 17025 accreditation is provided to recent graduates are few and far between. By developing a formal training program for emerging forensic toxicologists, trainees will develop a strong foundation in the application of the fundamental principles of toxicology to actual casework.

A recent chemistry doctoral graduate was hired and given hands-on experience in the forensic toxicology laboratory, from the acquisition and processing of samples to the analysis and reporting of analytical findings for medicolegal (ML), driving under the influence (DUI), and drug facilitated sexual assault (DFSA) cases. The fellow was exposed to techniques including gas chromatography/mass spectrometry (GC/MS), enzyme-linked immunoassay (ELISA), and liquid chromatography/mass spectrometry (LC/MS). In addition to learning procedures already in place, the fellow was involved in the development and validation of methods, providing invaluable exposure to the method development process as it applies to the field of forensic toxicology. The HCIFS Forensic Toxicology Fellow developed a method for the detection of helium in postmortem specimens.

The fellow attended daily medical examiner briefings in which the medical examiners and representatives from the toxicology, anthropology, and investigation departments discuss cases that have come into the office, providing information regarding scene investigation and the circumstances of the death. Autopsies performed the previous day are also discussed. In attending these meetings, the fellow was able to see how the testing in the laboratory helps in determining cause and manner of death. Additional continuing education courses and observation of court testimony provided the fellow with exposure to a variety of areas, including medical examiner law and jurisdiction, medicolegal death scene response, determination of cause and manner of death, pathological and anthropological findings and how they contribute to determining cause and manner of death, and the role of the crime laboratory in death investigations. Being able to learn how each of the forensic disciplines work together with medical examiners in order to formulate the whole story in determining the cause and manner of death, and how toxicology analysis helps these investigations provided the fellow with a strong foundation from which to start her career.

It is encouraged that a fellowship program for toxicologists be implemented in order to provide recent graduates with a strong background which will help them establish a career in the field of forensic toxicology.

Toxicology, Training, Fellowship

