



## Pathology/Biology Section - 2016

---

### H102 Utility of Toxicology Screening in Older Adults Based on History and Scene Investigation

*Matthew F. Fox, MD\**, Rush University Medical Center, 1653 W Congress Parkway, Chicago, IL 60612; and *Steven M. White, MD, PhD*, County Cook OME, 2121 W Harrison Street, Unit D7, Chicago, IL 60612

---

After attending this presentation, attendees will gain a better appreciation for resource utilization with respect to toxicology screening in older (greater than 59 years of age) adults based on history and scene investigation.

This presentation will impact the forensic science community by highlighting the need for considering resource utilization with the judicious use of toxicology screening in older adults.

Toxicological testing is one of the most expensive, time-intensive, and labor-intensive aspects of death investigation. With increasing budgetary constraints, medical examiners and coroners are constantly evaluating budgets to decide where cuts can be made. Determining the cause and manner of death and completing the death certificate on the same day as the postmortem examination is ideal, if possible. In the past, the Cook County Medical Examiner's Office in Chicago, IL, performed an abbreviated toxicology panel consisting of screening tests for ethanol, opiates, and cocaine on every decedent examined. In people aged 60 years old or older, the toxicology screening tests are usually negative; however, occasionally, unexpected (no history of drug use and no drug paraphernalia present at the scene) positive drug screens occur after the cause and manner of death had been determined, necessitating amendment of the death certificate. This study was performed to determine how many positive drug screens occurred in people aged 60 years old or older occurred in the absence of a history of drug use (or drug paraphernalia present at the scene).

A search of the database of the Cook County Medical Examiner's Office for decedents aged 60 years old or older in 2012 (when toxicological testing was performed on every decedent examined), in which the cause of death was due to illicit drug use (including ethanol, opiates, and cocaine), was performed.

There were a total of 2,009 deaths in people over the age of 59 years old. Of these cases, 53 people died as a result of ethanol, opiate, or cocaine toxicity. The age range was 60 years to 89 years, with a mean of 65 years. The male:female ratio was 40:13. In 57% of the deaths, one or more drugs was listed as a cause, with the remaining 43% listed as a significant contributor. Including part I and II of the death certificate together, alcohol alone was listed in 17% of cases, cocaine in 38% of cases, and opiates alone in 15% of cases. Polypharmaceutical overdoses, which included combinations of ethanol, cocaine, and opiates, accounted for 23% of these cases. Only six cases (11% of the 53 cases) had no history of drug use and no paraphernalia was identified at the scene of death. Therefore, only 0.3% of decedents over the age of 59 years (n=2009) died from illicit drug use when there was no history of drug use or drug paraphernalia at the scene.

---

#### **Toxicology, Screening, Elderly**