



Pathology/Biology Section - 2015

H146 **Worked to Death: A Detailed Discussion of At-Work Deaths in Harris County, Texas**

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After attending this presentation, attendees will better understand the importance of investigations of deaths at work and the proper procedures for this type of investigation.

This presentation will impact the forensic science community by providing instruction on the proper steps to take in the investigation of at-work deaths and by increasing awareness of the importance of a thorough investigation, including collaboration with regulatory agencies, such as local Occupational Safety and Health Administration (OSHA) representatives.

Deaths occurring at work are very disconcerting for all parties involved. Finding a co-worker dead or witnessing an accident or event that results in death can be emotionally traumatic. The employer is responsible for maintaining the safety of their employees, so when a fatal accident occurs, they are potentially liable for the death. Regulatory agencies are charged with monitoring and enforcing safety and health regulations in the workplace and the type of workplace determines which agency will be involved. A multi-agency death investigation has many challenges, including proper communication and information sharing. Lack of either may result in further harm to other employees of the business or harm to those doing the investigation and subsequent autopsy.

Harris County, TX, which includes the city of Houston, has 31 different law enforcement agencies and a population of almost 4.1 million people (as of the 2010 United States census). The Harris County Institute of Forensic Sciences (HCIFS) investigates approximately 4,000 deaths each year, of which approximately 3.5% are considered to be deaths at work. Of the at-work deaths, approximately half are due to accidental injury and the other half due to underlying natural disease processes. Accidental injuries can include falls from heights, malfunctioning or improperly utilized machinery, electrocutions, motor vehicle accidents while driving, or exposure to toxic chemicals. Many of these incidents result in the individual being transported to the hospital; therefore, it is critical to have someone respond to the scene of the incident for proper investigation and documentation. Determining the level of training/experience the worker has with the particular equipment being utilized is important and could reveal improper techniques being utilized or uncover the need for better training in order to prevent further injuries. This presentation will review some typical as well as some atypical at-work deaths that were investigated at the HCIFS. Injuries documented during the autopsy should be compared with scene photographs and investigative statements to ensure correct interpretation of the trauma.

Toxicology testing is performed on all at-work deaths reported to the HCIFS. This testing includes, but is not limited to, an alcohol screen and full Enzyme-Linked Immuno-Sorbent Assay (ELISA) screen (cocaine metabolite, amphetamines, Phencyclidine (PCP), opiates, benzodiazepines, methadone, and barbiturates). Due to the prevalence in this region, screening is also performed for carisoprodol/meprobamate and marijuana metabolites. Other substances are tested for as indicated by the scene investigation. Harris County is home to many chemical manufacturing plants; therefore, specific chemical analyses are performed to identify potential exposures. The HCIFS has a collaborative working agreement with local emergency responders to ensure the safety of their employees when responding to scenes involving potentially hazardous materials.

Proper handling of at-work deaths is critical for many reasons, not the least of which is monetary. The potential financial concerns of the employer, the employer's insurance carrier, the family, and the possibility of workman's compensation reimbursement may affect the ability to conduct the investigation. It is important to maintain a fact-based presence with all parties involved in order to obtain the necessary information. Inappropriately maintained equipment found to be implicated in the death of an individual may result in significant fines and reprimands for the employer. On the other hand, the family of an individual who has an accident while impaired by drugs or alcohol may not be entitled to any financial reimbursement. Litigation in these instances can be costly, time consuming, and may hinge on details or information that may not initially seem important. Good communication with all parties involved in a timely fashion could help prevent additional accidents and injuries as well as potentially reducing the number of unnecessary lawsuits.

At-Work Deaths, Accidental Injuries, Scene Investigation