



D23 Forensic Pathologist, Forensic Entomologist, and Medicolegal Death Investigator: Forensic Team Approach to Death Investigation

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After attending this presentation, attendees will understand the role of the forensic pathologist, entomologist, and death investigator in determining the time of death, the cause of death, and the manner of death, also increasing the awareness of the forensic community regarding coordination of multiple forensic disciplines in death investigations.

This presentation will impact the forensic science community by showing the forensic team's value to a medical examiner/coroner's office in the investigation process, criminal trial, and for final closure for the victim's families. It also aims to allow for an organized approach to help determine if the death is criminal in nature or if the death is a result of other non-criminal circumstances.

An 18-year-old Caucasian female reportedly had been missing one week prior to being found in a remote area in a field. Reportedly, she was last seen abducted from her home by three males and forced into a vehicle. She was found clad, in a grassy area in an open field with apparent blunt force injuries of her head, neck, and abdomen with decomposition and early maggot infestation. Autopsy findings included blunt force head injuries, multiple stab wounds, defensive injuries of the hands, asphyxia due to smothering or strangulation, and postmortem changes with insect activity and decomposition. Toxicology results were positive for cocaine. The cause of death was multiple blunt and sharp force injuries and the manner of death ruled as homicide.

This presentation will increase the awareness of the forensic community and law enforcement agencies in the attempt to show, how the forensic professionals can work together in the forensic autopsy. The focus of this case presentation will highlight the forensic team approach. The difficulty of the case stems from advanced decomposition of the body, determination of the cause and manner of death, the history behind the investigation, and the final court decision. The presentation will include the role of the medicolegal death investigator to collect insects found at the scene of a decomposed body, how the forensic pathologist determines the cause and manner of death, and how the forensic entomologist determines the time of death.

The role of the Medical Death Investigator (MDI) is to communicate with police, witnesses, and the family of the deceased, and to make observations and documentation through photography, diagrams, and written reports. The MDI conducts a preliminary examination of the body to establish postmortem interval (PMI) and discover injuries. In cases of decomposition, knowledge of collection, preparation, and packaging of insects is vital in assisting the forensic entomologist in making a determination of time of death. The forensic pathologists can make a determination of the cause and manner of death through the forensic autopsy following the forensic autopsy standards established by the National Association of Medical Examiners (NAME). In decomposed bodies, it is more difficult to recognize injury patterns, assess ante-mortem from postmortem injuries, and establish positive identification. The forensic entomologist has special knowledge regarding insect succession patterns in decomposing human remains and provides information regarding time of death and possible location of death. Certain insects will lay eggs on dead bodies. Most insects exhibit predictable life cycles. By observing the development stage of insects found on a body, and by taking certain environmental factors into account, a postmortem interval can be estimated.

In conclusion, the abilities of the forensic team approach, including the forensic pathologist, forensic entomologist, and the medicolegal death investigation, can be invaluable to a medical examiner/coroner office in the investigation process, criminal trial, and for final closure for the victim's families.

Pathology, Forensic Entomology, Scene Investigation