



D36 Who Was Holding the Gun When the Fatal Shot Was Fired? Deductive Application of Crime Scene Work

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After attending this presentation, attendees will better understand the value of experimentation and collaboration of disciplines to prove or disprove a theory involving criminal investigations. Viewers will be presented information about a specific case where a young adult female was shot at close range with a handgun and it was disputed if she or her boyfriend held the firearm when it was fired. Determining the minimum and maximum range of the muzzle to the wound, coupled with deductive reasoning, were key to proving the manner of death.

This presentation will impact the forensic science community by highlighting the fact that the deductive application of experiment findings, facts, and crime scene work is required in order to find the truth.

On September 4, 2010, a young adult male called the police stating his girlfriend had shot herself in his apartment. First responders found the female deceased on the living room carpet and a handgun nearby on a table. The male claimed his girlfriend and he had been drinking heavily, and when she handed the handgun to him, it "went off" and she dropped to the ground. He was unclear who was holding it at the time of discharge. He claimed they were facing one another, standing in the living room, and the shooting was an accident. The scene investigation uncovered a secondary impact strike by the projectile at 41 inches in height, indicating a downward trajectory after it passed through the victim. The recovered semi-automatic Taurus® .40 caliber handgun had a cartridge chambered with a magazine loaded at three rounds less than capacity. One casing and two cartridges were found to the right of the male, consistent with their having been ejected while the firearm was in the same orientation as it was at the time of its fatal discharge. The autopsy showed a downward trajectory through the victim's right eye area, exiting the center back of her head, and the presence of stippling. Subsequent distance determination placed the muzzle of the firearm between three and 15 inches at time of discharge, but most likely between six and 12 inches. The investigation revealed a previously unreported incident of the male threatening the female with an unloaded gun and pulling the trigger.

The manner of death is key to every death investigation and is a crucial part of legal proceedings, both criminal and civil. Determining the manner of death is not always easy, and when a suspect's statement is vague, the outcome of an investigation is in jeopardy due to a multitude of possible manners of death. Using science to prove a minimum and maximum range, the fact that the muzzle of the gun could have been from the victim was only part of the puzzle. Measurements of the suspect's and the victim's arms, their height, and a secondary impact point of the projectile helped narrow the range of possibilities. The location of both the spent casing and the firearm and the condition of both participants' hands proved to be the key determining factors. A scene recreation with photos and diagrams to show the range of possibilities made it easier to understand and "see" the truth.

In the legal arena, the exclusion of possibilities can be as important as the inclusion of them, and inductive logic is not desired. The use of experimentation and deductive logic allowed the decedent to receive justice.

Theory, Experimentation, Deductive Logic