



Engineering Sciences Section – 2005

C27 Lethality of Taser Weapons

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Upon completion of this presentation, attendees will understand applications of some engineering applications.

This presentation will impact the forensic community and/or humanity by identifying innovative technologies, critical thinking and application of engineering to judgment and conclusions in forensic science.

On April 28, 2004, Montgomery County Police MD police responded to a disturbance. A 45-year-old mentally ill adult, 6'4", 275-pound son pushed his elderly mother when he became agitated when a car carrying Chinese delivery food parked in front of the suspects house. The driver left the headlights on and ran next door to deliver food. Family members said the suspect apparently believed the car carried agents coming to take him away. He then pushed his mother and ran out of the house. The son had received prior treatment for a mental disorder and reportedly was "off" his medication. The police found the suspect in a nearby back yard and the officers noticed the suspect had in his possession a large machete-type knife. Apparently, the knife was a gift he had received when he was a boy and the suspect was screaming that the police would never take him alive. The suspect ignored the officer's commands to get down on the ground. A Taser weapon was used, but did not take effect. The suspect was again commanded to get down on the ground and told that the Taser would be used a second time if he did not comply. The suspect was physically aggressive and verbally combative and failed to comply with the second command. The same Taser was used a second time and the suspect dropped to the ground. The suspect fought and wrestled with the officers but unexpectedly lost consciousness. Three officers immediately began administering Cardio Pulmonary Resuscitation (CPR). CPR was maintained until Fire/Rescue personnel arrived on the scene. The suspect was taken to an area hospital where he was pronounced dead. Seven officers were placed on administrative leave pending an investigation and autopsy results. The preliminary autopsy report found that the suspect died of cardiac arrhythmia in a setting of acute psychosis and had a blood alcohol content of 0.18.

The final autopsy report confirmed the cause of death as cardiac arrhythmia in the setting of acute psychosis during restraint, and the death determined to be a homicide. Other contributing factors were alcohol intoxication and a markedly enlarged heart with scarring in the heart muscle, yet the medical examiner concluded that the Taser did not contribute to death.

At the time of the preparation of this document, there have been about 50 Taser-related in-custody deaths, and this expert was asked to opine by a local police department on the lethality of a weapon characterized by the manufacturer as "less-than-lethal" or as "non-lethal." Following review of the available documents and uncovering incontrovertible and important technical errors on the part of the manufacturer, this expert opined that the device, although likely to be less lethal in many cases than a conventional handgun projectile, was indeed capable of killing. This paper identifies and discusses these errors, and discloses fallacies in the manufacturer's argument when contrasted to fundamental electrical engineering principles and affirmed technical standards governing electric shock and electrocution.

Taser, Cardiac Arrhythmia, Electrocution