



D7 An Unusual Electrocution Death From a Homemade Medical Device

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The goal of this presentation is to discuss an unusual mode of electrocution from a homemade apparatus. After review of this material, the attendees will also understand the importance of obtaining the decedent's medical history and psychosocial information in manner of death determinations.

This presentation will impact the forensic science community by highlighting how pertinent questions of family/friends and acquisition of psychosocial history is important in delineating the circumstances of death.

A man was found dead in his garage with an apparent homemade apparatus attached to his torso. The apparatus consisted of two aluminum pie tins, each connected to electrical wiring that led into an electrical plug. The electrical plug had been inserted into a 120-volt outlet. One pie tin had been placed on the chest, and the other tin had been placed on the back roughly in line with the heart. Examination of the body revealed burns on the chest and back corresponding to the placement of the pie tins. Investigation of the body and the attached device indicated electrocution as the cause of death although the manner of death was uncertain. The man's spouse was questioned regarding his possible intended use for this apparatus. She informed investigators that her husband had been very distrustful of physicians and tended to self-diagnose and self-treat. His lack of trust in established health care was demonstrated by his tendency to research drug information on the internet in order to determine his own medication doses. His medical history had been significant for atrial fibrillation; however, he had avoided following through with medical treatment for this condition. Examination of the man's personal computer uncovered engine searches for purchases of a defibrillator. With this information, it became clear that the pie tins were serving as makeshift cardioversion paddles that, when connected to an electrical source, were functioning as a cardioversion machine. Presumably, this man had intended to substitute his own treatment for his atrial fibrillation rather than submit to a physician's treatment.

Standard cardioversion usually involves low-energy electrical shocks sent through paddles or adhesive pads applied to the chest placed at the right subclavicular area and at the location of the apex of the heart. The electrical shock lasts for a short period and occurs at a specific point in the cardiac cycle to avoid the r wave in the QRS complex. Unintentional discharge on the r wave may result in ventricular fibrillation. The homemade cardioversion machine provided a sustained electrical current through the heart.

Electrocutions in a residential home are usually accidental and usually occur because of contact with faulty electrical appliances/equipment, faulty electrical wiring, or tampering with electrical outlets. Electrocutions from homemade devices are less common. A past example of accidental electrocutions from a homemade apparatus involved electric worm rod probes; a metal rod connected to a source of electricity and inserted into the ground to drive worms to the surface. Electrocution deaths have been reported with homemade electrical contraptions used for autoerotic purposes.^{1,2} Very rarely, homemade devices resembling electric chairs have been used to commit suicide.³ According to this research, this case is the first report of an electrocution death due to a homemade defibrillator.

References:

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