



## Pathology/Biology Section - 2015

---

### H124 Electrocution Deaths of United States Service Members From 2003 to 2012

Wendy S. Warren, DO\*, Armed Forces Medical Examiner System, 115 Purple Heart Drive, Dover AFB, DE 19902; Lisa Rivera, DO, Armed Forces Medical Examiner System, 115 Purple Heart Drive, Dover, DE 19902; and Edward Mazuchowski II, MD, PhD, 116 Purple Heart Drive, Dover AFB, DE 19902

---

After attending this presentation, attendees will be aware of the injuries and epidemiological characteristics of electrocution deaths in the United States military over a ten-year period.

This presentation will impact the forensic science community by documenting the incidence of electrocution deaths within the United States military and describing the types of injuries observed with different electrical sources.

Although uncommon, deaths due to electricity occur within the United States military. An understanding of the electrical source and injuries documented at autopsy are crucial in developing tactics, techniques, and procedures to prevent future occurrences.

**Methods:** A retrospective review was performed by querying the Armed Forces Medical Examiner Tracking System (AFMETS) for all United States Service Member deaths that occurred under the jurisdiction of the Armed Forces Medical Examiner from 2003 to 2012 for which the cause of death was certified as electrocution. For each individual case, the following information was obtained: decedent's demographics, circumstances surrounding the incident including electrical source, physical findings/injuries observed at autopsy, and manner of death certification.

**Results:** Of the more than 6,500 deaths under the jurisdiction of the Armed Forces Medical Examiner during the prescribed ten-year period, there were 26 deaths of United States Service Members due to electrocution. All of the decedents were males between 19 and 33 years of age. In 13 (50%) of the cases, the individual came in direct contact with a power line. Of these 13 cases, 5 (39%) of the decedents were on the ground, 4 (31%) of the decedents were in a vehicle, 2 (15%) of the decedents were on a rooftop, and 2 (15%) of the decedents were wearing a communication radio with an antenna that came in contact with the power lines. In 6 of the 26 cases (23%), the individual came in direct contact with an electrified source due to faulty wiring. In 4 of the 26 cases (15%), the individual was working on a power source. In the remaining three cases, an individual contacted a high-voltage junction box, the rebar the individual was guiding was electrified when the crane came in contact with power lines, and an individual placed an electrical device in a bathtub. Physical findings/injuries ranged from no injuries in an individual that was in a pool with faulty wiring to decapitation and partial amputation of an extremity in an individual that contacted a power line. The manner of death in 25 of the 26 cases (96%) was certified as accident and in the case of the electrical device in the bathtub, the manner of death was certified as suicide.

**Conclusion:** Deaths due to electrocution in the United States military are uncommon. For those that do occur, the majority of the cases involve either contact with power lines or contact with an electrified source due to faulty wiring. In order to prevent these injuries, it is crucial to develop tactics, techniques, and procedures to eliminate or reduce the hazard. Such strategies include ensuring the proper safety procedures are followed when in the vicinity of power lines or working with electrical equipment and developing mitigating devices such as the overhead wire mitigation kit that can be placed on vehicles that may encounter low-hanging wires.

---

#### Electrocution, United States Service Member, Accidents