

TASER® X26™ ECD Safety Theory Disputed

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"Sudden Cardiac Arrest and Death Following Application of Shocks from a TASER Electronic Control Device" was published in *Circulation* on April 30, 2012. Its author, Dr. Douglas P. Zipes, M.D. (Dr. Zipes) concluded that TASER X26 electronic control device (ECD) probe contact stimulation can cause cardiac electrical capture of the human heart when the ECD probes are shot into the chest area. This could result in ventricular tachycardia (VT) and/or ventricular fibrillation (VF), which, without resuscitation, could cause the heart to develop asystole (flat line) resulting in death. This is the first peer-reviewed article that concluded an X26 probe deployment to the chest area can cause cardiac arrest leading to sudden death. It also has disputed the long-held theory that a TASER X26 was safe in probe deployment mode on humans. An earlier study that examined 56 arrest-related deaths that were temporally associated with ECD shocks identified one 25-year-old male who lost consciousness and died after being shot with ECD probes in the chest (Swerdlow, Fishbein, Chaman, Lakkireddy, & Tchou, 2009).

Although the safety of ECD probe deployments has been questioned by many people and organizations for several years (e.g., Plaintiff's and the ACLU), Dr. Zipes' retrospective analysis focused on 8 cases where suspects lost consciousness (7 died) after being shot in the chest near or over the heart. The ages ranged from 17 to 48. According to Dr. Zipes, an ECD shock in probe mode to the human chest area "can produce cardiac electrical capture at rapid rates in animals and humans" (p. 2419).

Although the findings and conclusions were immediately contested by TASER International, Inc. (manufacturer of TASER-brand ECDs) citing research error, factual error, and bias (Dr. Zipes has served as Plaintiff's expert against TASER International, Inc.), the theory of ECD safety has now been disputed. Unlike the social sciences (e.g., criminal justice) when a theory is often challenged based upon conflicting scientific outcomes (e.g., cause of crime) the theory is usually kept with the study often replicated by other researchers. By contrast, when a theory is shown to be invalid and/or not reliable in the hard sciences (e.g., physics, chemistry, etc.) the theory is discarded. The conclusions of Dr. Zipes' research have significant economic and tactical implications for law enforcement.

Law enforcement officers who choose to deploy an ECD must follow TASER training guidelines that suggest targeting a person's back area, or splitting the belt line when facing the person in a tactical situation. These recommendations were widely circulated in TASER training materials and product

warnings as early as 2009. Because arrest situations are often dynamic, tense, and uncertain, directional targeting is at best difficult, unless there other officers are present with ECDs who can safely maneuver behind the person for a deployment into the back muscles.

An Editorial by Myerburg, Goodman, and Ringe also in the April 30, 2012 issue of *Circulation* noted: "The most salient points [made by Dr. Zipes] are that the energy delivered by the device is sufficient to achieve transthoracic capture when delivered to the anterior chest, analogous to clinical transthoracic pacing" (p. 2407). The authors' also discussed the hurdle of proving that an ECD caused a person's death. Noting that VF is an unintended consequence of an officer's decision to deploy the ECD, they noted that indiscriminate use of ECDs by officers is both an ethical and a practical challenge.

Coupling the 2012 article, companion Editorial, and TASER ECD product warnings that put ECD users and governmental entities on notice that as early as September 2009 its ECDs have not been scientifically tested on at-risk "susceptible populations" (e.g., frail, elderly, pregnant, small children, individuals with low body mass indexes, etc.) there will not be a quick fix to the ECD-associated arrest-related or in-custody deaths controversy (Daigle & Peters, 2010). In the meantime, criminal justice professionals, lawyers, and risk managers must be aware the previously-held ECD X26 safety theory has been scientifically disputed and may eventually be discarded.

References

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