

WRITTEN TESTIMONY IN SUPPORT OF H.B. No. 6628 (RAISED) AN ACT
CONCERNING THE SAFE USE OF ELECTRONIC DEFENSE WEAPONS BY PEACE
OFFICERS.

Dear Committee Members:

Last year, I published an article "Sudden Cardiac Arrest and Death Following Application of Shocks From a TASER X26 Control Device" (Circulation. 2012;125:2417-2422), detailing 8 sudden cardiac arrests resulting in seven deaths following TASER X26 discharge. In my opinion, the TASER ECD caused the cardiac arrests. I noted then, and emphasize now, that I am a plaintiff expert in multiple cases against TASER, International.

As I stated in the article, "The animal and clinical data support the conclusion that ECD [electronic control device] shocks from a TASER model X26 delivered via probes to the chest can cause cardiac electrical capture [i.e., control of the heartbeat]. Furthermore, if the capture rate increases sufficiently ... the development of VF [ventricular fibrillation; responsible for cardiac arrest], either directly or via a transition through VT [ventricular tachycardia], occurs in animals and, in my opinion, in humans as well. How often this happens is unknown. Although it would seem more likely to occur in individuals exposed to potentially arrhythmogenic drugs, in those who have structural heart disease, and after long or repeated ECD shocks, electrophysiological studies in humans clearly show that only 1 or 2 extra stimuli can provoke VT/VF in particularly susceptible individuals."

I also stated, "The incidence of ECD-induced sudden cardiac arrest/death cannot be determined without accurate data compiled in a national registry of ECD deployments and outcomes. Such a registry should also chart precise dart locations and should be administered and reviewed by an independent oversight group."

Finally, I said, "It is important to stress that the purpose of this article is not to condemn ECD use by trained professionals. Law enforcement experts must make those decisions, not physicians...The main purpose of this article is to make ECD users aware that cardiac arrest caused by VF can result from an ECD shock. Users should be judicious in how and when to use the ECD weapon, avoid chest shocks if possible, as TASER International recommended in September 2009, monitor the person after an ECD shock, and suspect this adverse response in any victim who loses consciousness.

Users should be prepared to resuscitate, including deployment of an automated external defibrillator if indicated.”

I followed this paper with an erratum (Circulation. 2012 Jul 10;126(2):e27) that indicated “... where it is stated that “Individuals were previously clinically healthy males...” it was meant that they were clinically healthy from a cardiovascular standpoint without manifest cardiovascular symptoms.” This had no impact on the conclusions from my article, however.

Four letters to the editor were published in response to my article, one stating the article shed light on a complicated topic, and three criticizing what I wrote. In “Response to Letters Regarding Article, “Sudden Cardiac Arrest and Death Following Application of Shocks From a TASER Electronic Control Device”” (2013;127:e261-e262 Circulation), I stated the following, “...the 3 letters of criticisms were sent by physicians with TASER relationships and were directed toward aspects of a few single cases, not against the overall concept of TASER-induced VF. In my opinion, to a reasonable degree of medical certainty, the published body of evidence now makes it perfectly clear that a TASER X26 ECD shock can induce VF in humans, transforming the argument from *if it can happen to how often it happens.*” (Bold italics added). My position today has actually strengthened, as I have become involved with additional cases of what, in my opinion, represent TASER-induced cardiac arrest.

In part because of the Circulation article, the Cincinnati Police Department revised its Use of Force Policy, specifically with use of Tasers on 9/18/12, stating “frontal shots are prohibited except in situations of self-defense or defense of another.”

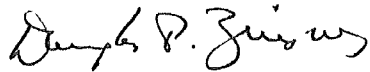
TASER, Inc., now warns of an ECD causing “heart rate, rhythm, capture” and “cardiac arrest,” (May 31, 2011 Instructor and User Warnings, Risk, Liability Release and Covenant Not to Sue) and their counsel (Michael Brave, Liability Assessment Awareness International, Inc.) indicates that current estimates of the risk are on the order of 1:100,000 applications.

Because of these facts, I strongly support the above bill, which is totally consistent with the points I made in my article.

It is my opinion, to a reasonable degree of medical certainty, that ECDs can cause cardiac arrest and therefore I would recommend that ECD users:

- 1) Be educated and trained in application of ECD technology and be aware of potential complications of its use;
- 2) Be judicious in ECD deployment and treat the ECD like a firearm;
- 3) Avoid the chest area if possible;
- 4) Avoid long and repeated trigger pulls to minimize the number of shocks and durations;
- 5) Call for medical support immediately after ECD application;
- 6) Suspect cardiac arrest in an individual nonresponsive after being shocked and be prepared to administer CPR and apply an external defibrillator;
- 7) Keep careful tracking of all ECD applications, circumstances of use, and outcomes.

Submitted April 1, 2013 by

A handwritten signature in black ink, appearing to read "Douglas P. Zipes". The signature is written in a cursive style with some loops and flourishes.

Douglas P. Zipes, MD
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