

## Letter by Ho and Dawes Regarding Article, “Sudden Cardiac Arrest and Death Following Application of Shocks From a TASER Electronic Control Device”

To the Editor:

We read with interest the case series “Sudden Cardiac Arrest and Death Following Application of Shocks From a TASER Electronic Control Device” (ECD),<sup>1</sup> where Zipes focused on the issue of sudden death related to law enforcement restraint. We are emergency medicine physicians and also sworn peace officers. We have also examined these cases in detail. We are concerned that potential misinterpretation of these cases will lead to the unintended consequence of elevated officer and suspect morbidity and mortality.

In this analysis, it is our opinion that several facts were missed, dismissed, or misunderstood. This has led to an overreaching association between the ECD and sudden death in several cases. An example includes one of the cases where there is video, forensic, and metallurgic evidence indicating no ECD probe contacting the subject’s chest and no current conducted through the probes (meaning the officer missed). Another example is a separate case where the subject had a long QT interval (QTc >480 ms), was on chronic antipsychotic medication, and had a 0.35% blood alcohol level around the time of the incident. This case involved significant physical resistance and required 3 ECD applications in the same body location. In the first case it is difficult to conclude that the ECD induced cardiac arrest because an incomplete electrical circuit was present. In the second case, it is our opinion that it is inappropriate to represent this subject as a “...previously clinically healthy male...” Failure to collapse with the first 2 ECD applications in combination with physiological conditions known to be higher risk for sudden death, independent of ECD application, should create significant questions regarding statements of causation.<sup>2–4</sup> These examples create significant doubt with respect to ECD causation and may artificially inflate the presented case numbers. It is our opinion that it is difficult at best to make affirmative statements of causation based on these examples.

We agree with Zipes<sup>1</sup> that sudden death after ECD deployment occurs infrequently. However, we are concerned that his case series provides an opinion of these cases that a lay public will misinterpret as fact. This will potentially lead to restricted availability of ECDs for professionals who need them to deal with complex, dynamic, and high-risk situations. It is our opinion that the unintended effect will be to resort to control methods with a guaranteed risk of significant injury and death, such as impact weapons or firearms.

### Disclosures

Dr Ho is the medical director of, and Dr Dawes is an expert medical consultant for, TASER International, Inc. Both personally own shares of stock in the company and have provided expert witness testimony in litigation involving ECDs.

**Jeffrey D. Ho, MD**

Department of Emergency Medicine  
Hennepin County Medical Center  
Minneapolis, MN

**Donald M. Dawes, MD**

Department of Emergency Medicine  
Lompoc Valley Medical Center  
Lompoc, CA

### References

1. Zipes DP. Sudden cardiac arrest and death following application of shocks from a TASER electronic control device. *Circulation*. 2012;125:2417–2422.
2. Moss AJ. Long QT Syndrome. *JAMA*. 2003;289:2041–2044.
3. Ray WA, Chung CP, Murray KT, Hall K, Stein CM. Atypical antipsychotic drugs and the risk of sudden cardiac death. *N Engl J Med*. 2009;360:225–235.
4. Rosenqvist M. Alcohol and cardiac arrhythmias. *Alcohol Clin Exp Res*. 1998;22(7 suppl):318S–322S.

## Letter by Ho and Dawes Regarding Article, "Sudden Cardiac Arrest and Death Following Application of Shocks From a TASER Electronic Control Device"

Jeffrey D. Ho and Donald M. Dawes

*Circulation*. 2013;127:e259

doi: 10.1161/CIRCULATIONAHA.112.118000

*Circulation* is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231

Copyright © 2013 American Heart Association, Inc. All rights reserved.

Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://circ.ahajournals.org/content/127/1/e259>

**Permissions:** Requests for permissions to reproduce figures, tables, or portions of articles originally published in *Circulation* can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the [Permissions and Rights Question and Answer](#) document.

**Reprints:** Information about reprints can be found online at:  
<http://www.lww.com/reprints>

**Subscriptions:** Information about subscribing to *Circulation* is online at:  
<http://circ.ahajournals.org/subscriptions/>