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Letters to the Editor

☐ EMERGENCY DEPARTMENT EVALUATION OF CONDUCTED ENERGY WEAPON (CEW)- INJURED PATIENTS

☐ To the Editor:

We appreciate the recent review provided by Vilke et al. on emergency department (ED) evaluation of patients after conducted energy weapon (CEW) use (1). Their position against routine electrocardiographic and laboratory evaluation for patients presenting with *isolated* CEW injury is well supported and we agree with that conclusion. The conclusion that the use of CEWs in certain vulnerable populations (e.g., patients exhibiting signs of “excited delirium” or after extended resistance to restraint) does not, in and of itself, warrant further evaluation; however, it is concerning.

The references that comprise the majority of evidence for their conclusions are in controlled populations that do not accurately reflect the complex, clearly more dangerous environments of law enforcement restraint (which more commonly present to the ED). In the two references that retrospectively look at this population, one cites numerous examples of elevated lactate or troponin, and the other excluded this information for the patients studied (2–4). In our published study, which examined CEW-related deaths, patients who died proximal to CEW use frequently had underlying cardiac disease that would make them more likely to have coronary events and laboratory abnormalities contributing to their deaths (5).

Given the still-incomplete understanding of the physiologic effects in these circumstances, as we have argued elsewhere, we would recommend that, in patients presenting to EDs after CEW use in the context of law enforcement restraint, observation and evaluation, including cardiac monitoring, electrocardiographic studies, and laboratory evaluation, should be the standard of care (5).

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<http://dx.doi.org/10.1016/j.jemermed.2011.10.034>

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☐ RE: EMERGENCY DEPARTMENT EVALUATION OF CONDUCTED ENERGY WEAPON (CEW)-INJURED PATIENTS

☐ To the Editor:

We appreciate the comments offered by Drs. Strote and Hutson regarding our recent publication on emergency department (ED) evaluation of patients after conducted energy weapon (CEW) use (1). Their letter interpreted our article as concluding that the use of CEWs in certain vulnerable populations (e.g., patients exhibiting signs of “excited delirium” or after extended resistance to restraint) does not, in and of itself, warrant further evaluation, for which Strote and Hutson registered some concern.

However, we were very clear, particularly as to specific recommendations in regards to excited delirium syndrome when we concluded.

“Therefore, the current medical literature does not support routine performance of laboratory studies, ECGs, or prolonged ED observation or hospitalization for ongoing cardiac monitoring after CEW exposure in

an *otherwise asymptomatic awake and alert patient*. Testing for cardiac conduction abnormalities or injury, or other physiologic effects of CEWs, may be appropriate in individual cases based on medical history such as history of cardiac disease or symptoms like chest discomfort, shortness of breath, or palpitations suggestive of cardiac issues, pain suggesting muscle contraction injuries, or prolonged CEW exposure > 15 s. Coexisting conditions like intoxication, prolonged struggling, altered mental status, or *symptoms of excited delirium syndrome* may also be present in patients exposed to CEWs, although the CEW does not seem to be the precipitating factor. Presence of these findings should prompt additional evaluation or treatment of the underlying condition as clinically warranted" (bolded italics added for emphasis) (1).

We appreciate the opportunity to once again clarify these recommendations for medical evaluation after CEW usage. In addition, Strote and Hutson reference a number of their own papers about CEWs when referring to the evaluation and treatment of excited delirium syndrome (ExDS). However, they neglected to refer to important publications from independent expert panels and other authors on this important medical emergency, including the American College of Emergency Physicians White Paper on ExDS and its peer-reviewed publication, as well as subsequent publications from the ExDS Panel Workshop from the National Institute of Justice Technology Working Group on Less-Lethal Devices, on this important medical emergency (2–5).

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□ SAFETY OF TRANSCARDIAC CONDUCTED ELECTRICAL WEAPON PROBE DEPLOYMENTS REMAINS UNCLEAR

□ To the Editor:

The recently published article on conducted electrical weapons (CEWs) by Bozeman et al. is a welcome addition to the growing literature on CEW safety (1). The authors should be careful, however, about over-extending their findings of limited injury in 178 patients when they conclude that “fatal cardiac dysrhythmias are unlikely to occur when CEWs are deployed on human subjects in real life situations.”

In-custody death is a relatively rare event that some have argued requires a perfect storm of patient and environmental conditions to occur (2). These conditions may include preexisting cardiac disease, acid-base and electrolyte abnormalities, or the presence of extreme adrenergic excess (toxic or otherwise) in restraint circumstances that might limit respiratory compensation or otherwise exacerbate these underlying conditions (3).

Given the altered cardiac physiology that likely occurs in such circumstances surrounding in-custody death, especially in light of the animal findings with CEWs under extreme conditions, transcardiac probe deployment should not be deemed safe until there are enough cases examined so that the most dangerous circumstances can be captured (4).

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