

## MEMORANDUM

**Date:** March 1, 2006  
**From:** Michael Brave, National Litigation Counsel, TASER International, Inc.  
**To:** TASER International, Inc. ("TASER")  
**Re:** Reason for June 28, 2005, TASER Training Bulletin, regarding multiple TASER electronic control device exposures alleged effects on respiration and pH levels warnings

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References used in this memorandum:

1. June 14, 2005 – *TASER TECHNOLOGY REVIEW FINAL REPORT*, File No. 2472, British Columbia: Office of Police Complaint Commissioner ("OPCC Report").<sup>1</sup>
2. June 28, 2005 – TASER International Training Bulletin 12.0 -- 04, June 28, 2005 ("Bulletin").<sup>2</sup>
3. August 22, 2005 – Conducted Energy Devices, Technical Report, TR-01-02006, Canadian Police Research Centre ("CPRC Report").<sup>3</sup>
4. Additional research – multiple TASER electronic control device ("ECD" or "device") respiration and pH levels – see Jeffrey D. Ho's, MD, FACEP, statements in the (CA) Alvarado litigation.<sup>4</sup>

### June 14, 2005 – OPCC Published TASER Technology Report

On June 14, 2005, the British Columbia: Office of Police Complaint Commissioner published its OPCC Report, that stated, in part:

#### Respiratory Impairment/pH Changes in Multiple Applications

Depending on probe location in the upper torso, it **appears likely** that the muscular tetany produced by a TASER deployment **could** impair a subject's respiration. ...

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1. [http://www.cprc.org/docs/bcopcc\\_final.pdf](http://www.cprc.org/docs/bcopcc_final.pdf)
  2. [http://www.taser.com/documents/12-04\\_Restraint.pdf](http://www.taser.com/documents/12-04_Restraint.pdf)
  3. <http://www.cprc.org/tr/tr-2006-01.pdf>
  4. February 8, 2006, Expert Report of Dr. Jeffrey D. Ho, MD, FACEP, in the Alvarado v. City of Los Angeles, et. al (CV-04-0385 TJH) case.

Training protocols, however, should reflect that multiple applications, particularly continuous cycling of the TASER for periods exceeding 15-20 seconds, **may** increase the risk to the subject and should be avoided where practical.

OPCC Report, page 31. [Emphasis added.]

Thus, the OPCC Report used key adjectives including “*it appears likely*,” “*could*,” and “*may*.” These statements were speculative and not based on published objective peer-reviewed human medical, scientific, or engineering research.

Also, note that with regard to a person’s experiencing excited delirium on page 31 of the OPCC Report, it states:

A single TASER application made before the subject has been exhausted, followed by a restraint technique that does not impair respiration may provide the optimum outcome.

OPCC Report, page 32.

### **TASER’s response to the OPCC Report**

In response to the OPCC Report, and in an over abundance of conservative caution, TASER formulated and disseminated a responsive Bulletin dated June 28, 2005.

When TASER issued the Bulletin, there existed no substantiated peer-reviewed medical, scientific, or engineering published literature evidencing respiratory impairment/pH changes in humans resulting from multiple TASER ECD applications. The Bulletin was issued in direct response to the OPCC Report speculating that multiple ECD applications “appears likely,” “could,” and “may increase” respiratory impairment/pH changes.

TASER, in a conservative and very proactive approach to the OPCC Report’s speculations, published the Bulletin with the following language:

2. Repeated, prolonged, and/or continuous exposure(s) to the TASER electrical discharge may cause strong muscle contractions that may impair breathing and respiration, particularly when the probes are placed across the chest or diaphragm. Users should avoid prolonged, extended, uninterrupted discharges or extensive multiple discharges whenever practicable in order to minimize the potential for over-exertion of the subject or potential impairment of full ability to breathe over a protracted time period.

Bulletin.

### **August 22, 2005, CPRC Report**

On August 22, 2005, the Canadian Police Research Centre published the CPRC Report. The CPRC Report conclusions included:

Definitive research or evidence does not exist that implicates a causal relationship between the use of CEDs [Conducted Energy Devices] and death.

Existing studies indicate that the risk of cardiac harm to subjects from a CED is very low.

Excited Delirium (ED), although not a universally recognized medical condition, is gaining increasing acceptance as a main contributor to deaths proximal to CED use.

CPRC Report, page 4.

The CPRC Report also stated that:

The issue related to multiple CED applications and its impact on respiration, pH levels, and other associated physical effects, offers **a *plausible theory*** on the possible connection between deaths, CED use, and people exhibiting the symptoms of ED.

CPRC Report, page 4. [Emphasis added.]

The key phrase in the CPRC Report's speculation was that there existed a "*a plausible theory*" that multiple CED applications could negatively impact respiration, pH levels, and other associated physical effects. Note, this was only a "*plausible theory*" and not proven medical or scientific fact.

### **TASER's Response to OPCC Report and CPRC Report**

In response to the unsupported speculations regarding the alleged negative effects of multiple ECD applications on a person's respiration and pH levels in the OPCC Report and the CPRC Report, TASER commissioned medical/scientific research to determine whether multiple ECD applications could in fact, rather than as negative speculation, negatively affect a person's respirations and/or pH levels.

The research findings have not yet been published. However, the principle researcher, Dr. Jeffrey D. Ho, MD, FACEP, has made written statements regarding the research in litigation documents. Dr. Ho has stated that:

The other issue is that of whether a TASER device could cause impaired respiration. This is an important issue because of the possibility of metabolic acidosis. Since respiration is the only way that a subject with metabolic acidosis can correct this condition in a short amount of time, any impairment of this could lead to a significant worsening of the acidosis which could result in death. I am in possession of preliminary data on 65 human subjects who have undergone prolonged and continuous TASER application while fitted with a form fitting capnographic monitor. Preliminary analysis of this data shows that instead of respiratory impairment, the mean respiratory rate and volume increases which should physiologically help an acidotic condition. Additionally, these subjects were videotaped during their TASER device exposure and many were able to carry on full conversations with the support personnel while undergoing exposure. ... (Note: this data is currently being written up for submission to a peer reviewed medical journal.)[1].

[Plaintiff's expert] comments on the TASER International training bulletin that warned against repeated, prolonged or continuous exposure due to concerns of respiratory impairment need to be addressed. I am also aware of this bulletin and of the context in which it was written. This bulletin was written by the manufacturer in an attempt to be proactive in an area where little information was known at the time. The data that I have cited above was not available to the manufacturer at the time this bulletin was written. I would agree that condoning the minimum force necessary for subject control should always be the goal. Failing to control a subject within the available time window provided by the first or second TASER device exposure, if adequate resources are available, is an individual department training issue. Additionally, if you understand the physiology behind metabolic acidosis and excited delirium, from a medical standpoint, a TASER device is quite possibly the best solution to discontinuing the escalation of the acidosis condition because it has the ability to prevent further exertional activity by the subject.

February 8, 2006, Expert Report of Dr. Jeffrey D. Ho, MD, FACEP, in the Alvarado v. City of Los Angeles, et. al (CV-04-0385 TJH) case.