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11 as the personal representatives of Robert C. Heston, deceased

12 **UNITED STATES DISTRICT COURT**
13 **NORTHERN DISTRICT OF CALIFORNIA**
14

15 BETTY LOU HESTON and ROBERT
16 H. HESTON, individually, and MISTY
KASTNER, as the personal
17 representative of ROBERT C.
HESTON, deceased,

18 Plaintiffs,

19 v.

20 CITY OF SALINAS, SALINAS
21 POLICE DEPARTMENT, MICHAEL
DOMINICI, JAMES GODWIN, LEK
22 LIVINGSTON, JUAN RUIZ and
TASER INTERNATIONAL, INC.,

23 Defendants.
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Case No. C 05-03658 JW (RS)

**PLAINTIFFS' OPPOSITION TO
DEFENDANTS' MOTIONS IN
LIMINE TO LIMIT TESTIMONY
OF THEIR EXPERT WITNESSES
AND TERRI L. HADDIX, M.D.:**

**SALINAS DEFENDANTS'
MOTIONS IN LIMINE NOS. 1-2**

**TASER'S MOTIONS IN LIMINE
NOS. 1-3**

Pretrial Conference:

Date: April 29, 2008
Time: 1:00 p.m.
Courtroom: 8

Trial:

Date: May 13, 2008
Time: 9:00 a.m.
Courtroom: 8

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<i>Salem v. United States Lines Co.</i> , 370 U.S. 31, 82 S. Ct. 1119, 8 L. Ed.2d 313 (1962)..	3

FEDERAL RULES OF EVIDENCE

Fed. R. Evid. § 702.	<i>passim</i>
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PEER REVIEWED ARTICLES

Hicks, et al., <i>Metabolic Acidosis in Restraint-Associated Cardiac Arrest: a Case Series</i> (1999).	14
Jauchem, et al., <i>Acidosis, Lactate, Electrolytes, Muscle Enzymes, and Other Factors in the Blood of Sus Scrofa Following Repeated TASER Applications</i> (2005).	14
Dennis, et al., <i>Acute 16 of TASER X26 Discharges in a Swine Model</i> (2007).	15

1 **I. INTRODUCTION**

2 Defendants filed four motions in limine challenging testimony by three of the
3 four expert witnesses plaintiff retained, police practices expert Roger Clark, Electrical
4 Control Device (ECD) expert Ernest Burwell, and cardiology expert Mark Myers, M.D.
5 Salinas Motions in Limine Nos. 1-2 and TASER Motions in Limine Nos. 1 and 3.
6 Defendant TASER International has also challenged an independent expert, Terri L.
7 Haddix, M.D., the forensic pathologist hired by the County of Monterey Sheriff-
8 Coroner to autopsy Robert C. Heston and to determine his cause of death. TASER
9 Motion in Limine No. 2.

10 The challenges range from barring the experts' explanations for the bases of their
11 opinions to barring the experts altogether. Defendants' substantive challenges to these
12 four experts can be generally grouped into the following three categories:

- 13 1. Testimony that relies on facts which defendants dispute;
- 14 2. Testimony based on expertise the expert witness allegedly lacks; and
- 15 3. Testimony based on science or methodology that does not meet the
16 standards for Rule 702. *See Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509
17 U.S. 579, 592, 113 S.Ct. 2786, 2796 (1993), and *Kumho Tire Co., Ltd. v.*
18 *Carmichael*, 526 U.S. 137, 149, 119 S.Ct. 1167, 1174-75 (1999).

19 Much of what the defendants raise, however, fall into none of these categories, and
20 goes solely to the weight the jury should give the experts' opinions rather than their
21 admissibility. These issues are not subject to resolution on motions in limine.

22 The defendants' bulky motions have deliberately created an unwieldy and
23 convoluted mass of contentions and arguments that in places run far afield from the
24 narrow issues presented. There is no practical way plaintiffs could possibly answer all
25 defendants' myriad contentions without bogging everyone down in hopeless detail.
26 The Court should instead slice this Gordian Knot by fashioning reasonable guidelines
27 to apply to *all* the expert witnesses in this case, setting forth clearly what each expert
28 can opine about, rather than trying to pick through the parties' assertions one-by-one.

1 The first category is easily addressed. An expert should be allowed to explain to
2 the jury the basis of the opinions being rendered. That at times requires reference to
3 controverted facts and testimony, which the expert might accept or discount.

4 For example, one expert might credit Sgt. Ruiz's testimony that he did not pull
5 his ECD's trigger after Mr. Heston hit the floor in his parents' living room. Another
6 might base an opinion on the fact that Ruiz's dataport information shows he pulled the
7 trigger five more times. Such disputed facts relate to the grounds for the expert's
8 opinion. The jury will ultimately decide those facts, and weigh the experts' opinions
9 accordingly. That is how the jury system is designed to operate. The integrity of the
10 jury can be protected by the Court's reading an instruction at the beginning of the
11 evidence explaining that determinations regarding the credibility of witnesses, and
12 ultimately the facts of the case, are solely within its province, and that jurors are free
13 to reject expert testimony based on facts they conclude are not supported by the
14 evidence.

15 Plaintiffs will submit such a proposed instruction before the pretrial conference.

16 The second two categories obviously present more complex matters that require
17 the Court to consider the specific issues presented by this case, the expertise of the
18 witness, and the methodologies underlying their opinions.

19 The specific issues, as relates to the challenged experts, are the following:

20 1. Whether the repeated shocks defendants Ruiz, Livingston and Godwin
21 administered to the decedent after he hit the living room floor served no law
22 enforcement purpose and therefore violated the Fourth Amendment's prohibition
23 of excessive force. Plaintiffs are offering Mr. Clark and Mr. Burwell to opine in
24 this area.

25 2. Whether the supervisory defendants, Dominici and Ruiz, failed to control
26 their subordinates, causing the foregoing constitutional violation to occur.
27 Plaintiffs are offering Mr. Clark and Mr. Burwell to opine in this area.
28

1 3. Whether the entity defendants, the City of Salinas and the Salinas Police
2 Department, adequately trained or supervised their police officers in the use of
3 ECD's. Plaintiffs are offering Mr. Clark and Mr. Burwell to opine in this area.

4 4. Whether repeated exposures to ECD shocks caused dangerous increases
5 in blood acid (metabolic acidosis) that triggered decedent's cardiac arrest.
6 Plaintiffs' are offering Dr. Myers and Dr. Haddix to opine on this issue.

7 5. Whether defendant TASER adequately tested the risks of acidosis from
8 repeated exposures before marketing its ECD's. Plaintiffs intend to prove this
9 issue through TASER's CEO (and its designated expert) Rick Smith.

10 6. Whether defendant TASER adequately warned users about the risks of
11 repeated ECD exposures. Plaintiffs are offering Dr. Myers, Mr. Clark and Mr.
12 Burwell on this subject, as well as numerous defendants.

13 As explained below, plaintiffs' retained experts and Dr. Haddix have specialized
14 opinion testimony within their recognized areas of expertise. Their opinions rest on
15 reliable foundations, sound methodology and are relevant to the issues. Accordingly,
16 they should be allowed to present them to the jury. Defendants are free to attack the
17 testimony within the Federal Rules of Evidence, but it should not be excluded.

18 **II. PRINCIPLES APPLICABLE TO THE CASE IN GENERAL.**

19 **A. The Applicable Law.**

20 The touchstone for opinion testimony is, of course, Fed. R. Evid. 702, which
21 provides as follows:

22 If scientific, technical, or other specialized knowledge will assist the trier
23 of fact to understand the evidence or to determine a fact in issue, a witness
24 qualified as an expert by knowledge, skill, experience, training, or
25 education, may testify thereto in the form of an opinion or otherwise, if
(1) the testimony is based upon sufficient facts or data, (2) the testimony
is the product of reliable principles and methods, and (3) the witness has
applied the principles and methods reliably to the facts of the case.

26 The trial court has broad discretion in admitting and excluding expert testimony.
27 Appellate courts routinely sustain the trial court's action unless it is manifestly
28 erroneous. *Salem v. United States Lines Co.*, 370 U.S. 31, 35, 82 S. Ct. 1119, 1122,

1 8 L.Ed2d 313 (1962); *Reno-West Coast Distribution Co. v. Mead Corp.*, 613 F.2d 722,
2 726 (9th Cir.), *cert. denied*, 444 U.S. 927, 100 S. Ct. 267, 62 L. Ed.2d 183 (1979).

3 **B. The Claims Against the Salinas Defendants**

4 Fundamental to all plaintiffs' claims against the various Salinas defendants is
5 their contention that the decedent was subjected to excessive force in violation of
6 *Graham v. Connor*, 490 U.S. 386, 109 S.Ct. 1865, 104 L.Ed.2d 443 (1989). The Court,
7 as it indicated at the last hearing, is familiar with these issues from the extensive
8 briefing on the motions for summary judgment and reconsideration.

9 Briefly stated, plaintiff contends that the Fourth Amendment was violated when
10 defendants Ruiz, Livingston and Godwin continued to shock their son repeatedly after
11 he collapsed to the livingroom floor. Those 22 five-second shocks were objectively
12 unreasonable and, in fact, counterproductive. The two supervisors, Dominici and Ruiz,
13 share liability for that excessive force because they allowed the officers under their
14 command to shock the decedent repeatedly, without formulating an appropriate tactical
15 plan or directing them to stop shocking him. The City of Salinas and its police
16 department are liable because they chose not to buy the necessary software (\$150.00) to
17 monitor their officers' ECD use, and failed to keep abreast of safety warnings.

18 Plaintiffs contend that the Salinas defendants' repeated application of electrical
19 current from three M26's was a substantial factor in causing Mr. Heston's February 19,
20 2005 cardiac arrest, the consequent irreversible brain damage, and his death on
21 February 20, 2005.

22 **C. The Claims Against TASER.**

23 Plaintiffs do not contend that Mr. Heston died due to direct electrical stimulation
24 of the heart – commonly known as electrocution – which induces a potential lethal
25 arrhythmia known as ventricular fibrillation (VF). They contend, rather, that
26 defendants' multiple and repeated ECD cycles induced severe, involuntary muscle
27 contractions, which in turn discharged lactic acid (lactate) into his blood stream,
28 causing a precipitous increase in his blood acid level (measured as a decline in pH), and

1 resulting in a deadly condition known as metabolic acidosis, which alone is known to
2 cause cardiac arrest.

3 Like plaintiffs' cardiologist, Mark Myers, M.D., all but one of TASER's medical
4 experts attribute Mr. Heston's cardiac arrest to metabolic acidosis. The dispute for jury
5 determination is whether that metabolic acidosis was generated solely by the decedent's
6 agitated behavior (defendants call this purported cause of death "excited delirium" or
7 "excited delirium syndrome"), or whether the ECD shocks contributed to Mr. Heston's
8 metabolic acidosis as well.

9 **III. POLICE PRACTICES EXPERT ROGER CLARK**

10 **(Salinas Motion in Limine No. 1 and Taser Motion in Limine No. 3)**

11 Defendants filed 30 pages of argument challenging plaintiffs' police practices
12 expert Roger Clark. Neither defense motion seeks to exclude his testimony in its
13 entirety, only to limit him from opining on certain matters. Salinas's objections to Mr.
14 Clark's testimony fall into the following categories: (a) statements about qualifications
15 and expertise; (b) opinions offered about the manufacture, operation, use or effect of
16 TASER (the sole basis for TASER's Motion in Limine No. 3 to Exclude Clark's
17 Testimony); (c) the methodology used in preparing a chart documenting TASER
18 discharges; (d) opinions concerning the physical, medical or mental condition of
19 Heston or the physical effects of TASER discharges on him; (e) opinions concerning
20 Heston's cause of death; (f) opinions concerning the credibility of certain witnesses;
21 (g) opinions concerning the "systemic culture" of the police department; (h) opinions
22 concerning TASER efficiency during the police encounter with Heston; (i) opinions
23 about Heston's intentions or what he was thinking; and (j) opinions about clicking
24 noises on the 911 recordings. Many of the categories listed above can be dealt with
25 quite easily by offering an explanation of what Mr. Clark will testify to rather than
26 what he will not testify to.

27 First, there is no question that Mr. Clark is highly qualified as a police practices
28 expert. He has testified hundreds of times and has been accepted as an expert witness

1 in state and federal courts throughout the United States. Nonetheless, the Salinas
2 defendants suggest that he is not qualified by claiming incorrectly that Mr. Clark
3 falsely testified that he has never been excluded as an expert witness.

4 While it is true that certain trial courts have, from time to time, entered orders
5 *limiting* his testimony to certain matters, as happens not infrequently to all expert
6 witnesses (all parties are asking the Court to limit experts in this case), no court has
7 ever excluded Mr. Clark as an expert witness.

8 One case cited by the Salinas defendants, *Morales v. County of Ventura*, 2003
9 U.S. App. LEXIS 27561 (C.D. Cal. July 14, 2003), is particularly illustrative. Counsel
10 for the plaintiffs herein know something about it inasmuch as they represented the
11 plaintiff, Anthony Morales. While Magistrate Judge Patrick Walsh did limit Mr.
12 Clark's testimony to certain issues, he was permitted to testify at great length regarding
13 the police tactics used in that non-fatal shooting incident. Mr. Clark's testimony was
14 deemed highly persuasive by the jury, which returned a verdict for plaintiff in the sum
15 of \$2.1 million dollars. Plaintiffs' counsel intend to elicit the same sort of testimony
16 from Mr. Clark in this case. The defense will have the full opportunity to cross-
17 examine Mr. Clark regarding his qualifications. If he testifies untruthfully, defense
18 counsel can impeach him. Motions in limine are not intended for such fine-tuning of
19 expert testimony.

20 Given his expert qualifications, Mr. Clark should be permitted to offer his
21 opinions concerning the tactics and procedures employed by the individual defendant
22 officers and their supervisors during their encounter with Mr. Heston. The fact that the
23 officers specifically employed TASER ECD's during this incident is somewhat
24 tangential to the thrust of Mr. Clark's opinions, which do not necessarily hinge on the
25 particular tool or device used. For example, Mr. Clark's opinions would not be any
26 different if baton blows or kicks had been employed against Mr. Heston while he lay
27 helpless on the floor, rather than shocks from three ECD's.

28

1 Likewise, Mr. Clark should be permitted to tell the jury about his understanding
2 of the TASER dataport, its general purpose and why the Salinas Police Department's
3 failure to purchase the dataport software in order to keep records of TASER discharges
4 prevented the department from monitoring and taking action, if necessary, to stop
5 abuses of the device. This opinion supports plaintiffs' claim that the Salinas Police
6 Department was deliberately indifference to the civil rights of people with whom it
7 comes into contact.

8 And, finally, Mr. Clark should be permitted to testify from the viewpoint of a law
9 enforcement supervisor regarding the general administrative procedures by which
10 equipment warnings, such as those associated with the health risk of repeated TASER
11 ECD shocks on persons in excited delirium, are disseminated from manufactures such
12 as TASER to line officers in the field, and the duty of departments to make sure its
13 officers understand the dangers of their tools.

14 Both TASER and the Salinas defendants primarily seek to preclude Mr. Clark
15 from expert opinions on the characteristics of the TASER Model M26 ECD. It is a
16 fact that Mr. Clark retired from law enforcement seven years before the Model M26
17 was first marketed. He does not claim to be an expert as to its specific characteristics
18 such as electrical output, or its precise mannerof operation. It is for this reason that
19 plaintiffs designated Ernest Burwell, a TASER certified instructor who, prior to his
20 recent retirement, trained Los Angeles County Sheriff's Department deputies in the use
21 of the device. However, Mr. Clark has sufficiently familiarized himself with the
22 TASER training materials, use instructions and the device itself to render opinions
23 regarding police tactics used in this matter and whether such tactics were reasonable
24 and appropriate.

25 Mr. Clark's opinions go to the overall police tactics, supervision and control in
26 this case. He is basing those opinions in significant part on the published materials
27 available regarding TASER ECD's, including materials produced by TASER itself, and
28 his familiarity, generally, with the intended effects (knocking a subject to the ground),

1 range and dataport tracking software. This information is not subject to dispute. If, in
2 the course of his expert testimony, Mr. Clark misstates such information, defendants
3 can impeach him.

4 The Salinas defendants also seek to exclude any reference made by Mr. Clark to
5 a chart that he helped prepare along with plaintiffs' counsel. They argue that the
6 "purpose of admitting the chart is to support his opinion that electricity was delivered
7 to Heston for approximately 74-seconds." (Salinas MIL No. 1, P. 8, ll. 21-22) (actually
8 it was more current than that, but over a 74-second period.) The chart referenced by
9 defendants does not illustrate "opinions." Rather, it graphically depicts "facts"
10 established by TASER's expert witness, Dr. Adam Aleksander, and Salinas Police
11 Sergeant Michael Groves, who both independently analyzed the dataport information
12 downloaded from the M26's used during this incident. They both independently
13 determined the number of trigger pulls recorded on the M26's of each officer involved.
14 The chart simply illustrates the number and duration of the trigger pulls in relation to
15 each other. This information is fact, not expert opinion as claimed by defendants.

16 Defendants further argue that Mr. Clark should not be permitted to offer any
17 opinions to the effect that Sgt. Dominici violated Heston's Fourth Amendment rights
18 by allowing multiple M26's from firing at the same time or in sequence (Salinas
19 Opposition MIL No. 1, P. 9, ll. 24-27). Insofar as these opinions relate to the failure
20 of Sgt. Dominici to employ reasonable and appropriate tactics and to properly supervise
21 the officers under his command during their encounter with Heston, it is clearly
22 appropriate for Mr. Clark to offer such opinions.

23 Defendants next seek exclusion of a number of opinions offered by Mr. Clark
24 at his deposition that relate to the medical issues involved in this case including such
25 things as the physical, medical or mental conditions of Mr. Heston, the cause of Mr.
26 Heston's death, and the physical effects of the TASER. Plaintiffs agree that Mr. Clark
27 should not opine at trial on the medical consequences of TASER ECD shocks, or on
28 the cause of Mr. Heston's death. Those opinions should be left to physician experts

1 such as Mark Myers, M.D., and Terri L. Haddix, M.D., and defendants’ seven
2 designated medical doctors. Plaintiffs would request that this exclusion be made
3 mutual and apply to all non-physician witnesses.

4 However, without rendering a medical opinion, Mr. Clark should be permitted
5 to discuss the objective factors that should have formed the basis for the officers’
6 decision regarding force. One of those factors is their physical observations of Mr.
7 Heston and his demeanor at the time of the encounter. All of the defendant officers
8 believed that Mr. Heston was either under the influence of drugs or suffering from
9 mental illness or both. This was plainly apparent to everyone at the scene. Mr. Clark
10 may offer opinions concerning the specific public safety tactics to be employed when
11 encountering someone in Mr. Heston’s state of mind. He is certainly well qualified
12 to do so. But such opinions will be offered from the perspective of an officer and not
13 delve into the medical aspects of Mr. Heston’s physical or mental condition.

14 Finally, defendants seek to exclude a number of opinions purportedly offered by
15 Mr. Clark including the credibility of witnesses, the credibility of the City of Salinas
16 and the Salinas Police Department, the systemic culture of the Salinas Police
17 Department, what Heston was thinking and intending, and about clicking noises on the
18 911 recordings. All of these issues can be dealt with in short shrift — Mr. Clark will
19 not be offering opinions on any of these issues at the time of trial.

20 To reiterate, the Court should issue an omnibus ruling concerning opinions as
21 to Heston’s cause of death and the medical effects of TASER discharges that applies
22 to all experts. Like all the other non-medical doctor witnesses, Mr. Clark should not
23 be allowed to testify on these issues, but should stick to areas within his expertise.

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1 **IV. POLICE PRACTICES EXPERT ERNEST BURWELL**

2 **(Salinas Motion in Limine No. 2)**

3 The Salinas defendants filed another rambling 12 pages of argument challenging
4 plaintiffs' ECD expert, Ernest Burwell. Once again, defendants' motion does not seek
5 to exclude his testimony in its entirety, but, only to limit him from opining on certain
6 matters. Defendants commence their argument by launching into a personal attack of
7 Mr. Burwell and his qualifications to serve as an expert. Yet, their motion does not
8 seek to exclude him as an expert because he is unqualified. The reason is obvious —
9 Mr. Burwell was an approved training instructor in the Los Angeles County Sheriff's
10 Department. Mr. Burwell's training to be a TASER instructor is the same or more than
11 Salinas' designated experts Sergeants Groves and Gibson received (it is interesting to
12 note that Sgt. Gibson received his initial training at the Los Angeles County Sheriff's
13 Department, the department that Mr. Burwell was assigned as an ECD instructor).

14 Mr. Burwell served not only as a TASER instructor but also downloaded data
15 from the dataport of each TASER used in his unit. Because of this assignment, he
16 became intimately familiar with the TASER dataport and its download features. He is
17 also intimately familiar with the types of data produced by the dataport.

18 The Salinas defendant's objections to Mr. Burwell's testimony fall into the
19 following categories: (a) opinions offered about the mechanics, operation, or use of
20 TASER; (b) opinions concerning the physical, medical or mental condition of Heston
21 or the physical effects of TASER discharges on him; and (c) opinions about Heston's
22 intentions or what he was thinking; Many of the categories listed above can be dealt
23 with quite easily by offering an explanation of what Mr. Burwell will testify to rather
24 than what he will not testify to.

25 Mr. Burwell has been designated by plaintiffs as an ECD expert in order to offer
26 opinions including, but not limited to, TASER training, the deployment criteria for
27 TASER's, the purpose of TASER deployments, tactics and strategies to be utilized
28 during TASER deployments, the expected effects from TASER discharges and

1 generally how the discharges incapacitate the subject, and the existence of, or lack
2 thereof, of warnings concerning TASER use.

3 Mr. Burwell should be permitted to offer opinions regarding proper use of the
4 TASER. If he is not qualified to render opinions about usage of this device, it is
5 doubtful that anyone else is qualified.

6 Mr. Burwell will not be asked to offer opinions concerning the physical, medical
7 or mental condition of Heston or the physical effects of TASER discharges on him.

8 Mr. Burwell will also not be asked to offer any opinions about Heston's
9 intentions or what he was thinking. Plaintiffs agree that speculative opinions about
10 Heston's intentions are improper and should be excluded from the testimony of all
11 witnesses. Nor will Mr. Burwell offer any opinions about Mr. Heston's cause of death.
12 As previously mentioned, only physician experts should be permitted to opine on cause
13 of death and there should be such an order applying to all non-medical experts in this
14 case.

15 It should be noted that many of the arguments that defendants make to exclude
16 Mr. Burwell's opinions center on his recitation of facts that have been established by
17 the defendants' own experts. For example, defendant seek to exclude comments by
18 Burwell that Officer Godwin "fired and cycled his TASER a total of five times."
19 (Salinas MIL No. 2 at 8:9-20) Defendants confuse facts with opinions. An expert is
20 entitled to rely on the opinions of any other expert in the case in formulating his own
21 opinions. The "fact" that Officer Godwin fired and cycled his TASER a total of five
22 times is not mere conjecture on Mr. Burwell's part but rather was established by the
23 testimony of TASER's expert, Dr. Adam Aleksander, who independently tested and
24 analyzed the ECD's used during this incident and their dataports. Mr. Burwell merely
25 relies on Dr. Aleksander's conclusions in opining about Officer Godwin's number of
26 TASER discharges. Another example of defendants' mis-characterizing opinions
27 offered by Mr. Burwell is his reference to the fact that Livingston's dataport "indicates
28 repeated trigger pulls and lengthy discharges with the trigger being held down."

1 (Salinas MIL No. 2 at 8:23-24) Once again, this testimony is based on Dr. Aleksander's
2 inspection and analysis.

3 Finally, Mr. Burwell will not offer any opinions concerning Heston's physical
4 condition before or during this incident. However, such an exclusion should apply to
5 all witnesses, including those of the defendant officers and any other experts who have
6 no personal knowledge or expertise as to Heston's physical condition prior to this
7 incident.

8 **V. MARK MYERS, M.D., SHOULD BE ALLOWED TO TESTIFY ON THE**
9 **CAUSE OF MR. HESTON'S CARDIAC ARREST**

10 Based principally on a declaration by Mark Kroll, a TASER advisor and
11 stockholder, who is an electrical engineer with no medical education, TASER contends
12 that plaintiffs' retained expert cardiologist, Mark Myers, M.D., should be barred from
13 testifying. The motion lacks merit.¹

14 There is no question that Dr. Myers is an eminently qualified physician. He has
15 been board certified for more than two decades in internal medicine and cardiology,
16 and is a recognized expert in electro-physiology (the medical specialty addressing the
17 heart's electrical system). He has published extensively. Opining on the cause of Mr.
18 Heston's cardiac arrest – the cessation of the heartbeat – falls squarely within Dr.
19 Myers' professional expertise.²

20 There is also no competent challenge to his methodology. TASER designated
21 two cardiology experts, Drs. Luceri and Ideker. Neither criticized Dr. Myers
22 methodology, or used a method that contradicted his.

24 ¹Indeed, Mark Kroll's criticisms of Dr. Myers do not meet themselves meet Rule
25 702 standards, as Kroll is an electrical engineer who lacks the education and training to
26 criticize a cardiologist regarding the cause of a cardiac arrest. Plaintiffs have filed their
own motion in limine urging the Court to issue an omnibus order limiting all the expert
witnesses, including Kroll, to opinions within their own established areas of expertise.

27 ²Dr. Myers' resume and expert reports are attached as exhibits to TASER's
28 moving papers. They establish he is qualified to opine on the cause of Mr. Heston's
cardiac arrest. Any purported deficiency in his experience specifically with regards to
TASER ECD's goes to the weight of his testimony, not its admissibility.

1 TASER incorrectly characterizes Dr. Myers’ opinions. His initial Rule 26
2 reports states his opinion on the cause of Mr. Heston’s cardiac arrest as plaintiffs intend
3 to argue it to the jury: “The likely mechanism of cardiac arrest due to TASER
4 applications is its documented ability to cause respiratory arrest and severe metabolic
5 (lactic) acidosis.” He restated this opinion in his supplemental reports:

6 Mr. Heston’s cardiopulmonary arrest occurred after and/or during
7 repeated and continuous applications of TASER by multiple TASER
8 weapons. The fact that he was immediately cyanotic [turning blue from
9 lack of oxygen] is indicative of TASER induced hypoxia for a significant
10 period of time. It is true that physiologic recording devices were not
11 attached to the decedent to prove the exact mechanisms TASER induced
12 cardiopulmonary arrest, but reasonable inferences can be made and are
13 supported by the objective clinical findings. As explained in my previous
14 report, severe respiratory and metabolic acidosis were present and
15 attributable to the use of TASER. Malignant ventricular arrhythmias may
16 have been transiently present and need not have been due to direct
17 electrical stimulation of the heart, but secondary to the adverse metabolic,
18 hypoxic milieu.

13 Dr. Myers summed up, in his final report,

14 I am persuaded however, that TASER application in the manner of
15 Heston’s case would cause metabolic acidosis, respiratory acidosis and
16 hypoxia, a malignant vasovagal reaction and the observed consequent
17 asystolic cardiac arrest that led to his demise.

16 The question whether Dr. Myers’ analysis, that Mr. Heston suffered an acidosis
17 induced cardiac arrest, meets the standards of Fed. R. Evid. 702 should be answered
18 in the affirmative.³

19 TASER characterizes Dr. Myers’ views as follows:

20 Myers’ metabolic theory in lay terms is that the ECDs caused violent and
21 prolonged muscle contractions in Mr. Heston which significantly raised
22 the lactic acid levels in his blood; his body failed to correct for this, and
23 the acidosis was allegedly so severe that it shut down his heart. Myers’
24 theory of metabolic acidosis also is wrong, and is wholly lacking in
25 scientific support and reliability.

27 ³TASER’s claim that Dr. Myers’ opinions changed over time – a contention
28 plaintiffs’ dispute – goes to the weight the jury should give the opinions, not their
admissibility under Rule 702.

1 TASER Memorandum in Support of Motion in Limine No. 1 at 15.⁴ In fact, there is
2 ample scientific support for Dr. Myers' opinion testimony to meet the Rule 702
3 "gatekeeping" standard, including two independent peer-reviewed studies directly on
4 point, and admissions by TASER's CEO and designated spokesperson in this litigation,
5 Rick Smith.

6 That metabolic acidosis triggers cardiac arrest is not disputed. *See Hicks, et al.,*
7 *Metabolic Acidosis in Restraint-Associated Cardiac Arrest: a Case Series* (1999).⁵ In
8 fact, one of TASER's own cause-of-death theories in this case is that "[e]xcited
9 delirium brings on metabolic derangements – specifically acidosis – which often leads
10 to a cardiac arrest." TASER Memorandum in Support of Motion in Limine No. 1 at 15.
11 Thus, TASER cannot dispute Dr. Myers' opinion that acidosis caused Mr. Heston's
12 cardiac arrest, only his opinion that the ECD applications were among the sources of
13 the acidosis. That issue presents a matter of historical fact for the jury to determine, not
14 an issue of law susceptible to disposition by way of an in limine motion.

15 That repeated TASER applications do cause dangerous levels of acidosis was
16 established in an independent study financed by the US Air Force, Jauchem, et al.,
17 *Acidosis, Lactate, Electrolytes, Muscle Enzymes, and Other Factors in the Blood of Sus*
18 *Scrofa Following Repeated TASER Applications* (2005).⁶ The Jauchem study provided
19 the basis for Dr. Myers' opinion that the ECD applications were the source of Mr.

21 ⁴TASER bases this argument in large part on its claim that the evidence will show
22 a "total of 5-9 seconds of ECD application." TASER Memorandum in Support of Motion
23 in Limine No. 1 at 15. Plaintiffs contend that the evidence will support a finding of
almost two minutes of ECD application in this case.

24 ⁵ The medical literature to which plaintiffs refer in their Motions in Limine are
25 attached as exhibits to the Declaration of John Burton re Exhibits in Support of
Plaintiffs' Motions in Limine filed with plaintiffs' motions in limine two weeks ago.

26 ⁶Although TASER attempts to distinguish the study because it used swine, CEO
27 Rick Smith acknowledged that his company first tested the ECD "in 1996 . . . using an
28 anesthetized pig." 1 Smith Depo. at 80-81. Obviously no human experiments can be
conducted to determine the number of ECD applications necessary to induce lethal levels
of acidosis. Comparisons of the human and swine studies for single ECD applications
show that the two species have similar blood acid responses.

1 Heston's acidosis, and therefore, his cardiac arrest.

2 TASER CEO Rick Smith embraced this study at his deposition:

3 Q. Now, the next paragraph is research done by the Air Force Research
Laboratory. That's Dr. Jauchem's study?

4 A. Yes.

5 Q. Do you agree with the last sentence of that paragraph: We believe this
6 study provides support for the proposition that police should, where
possible, be minimizing multiple TASER applications?

7 A. Yes.

8 2 Smith Depo. at 277:16-24.

9 Finally, a recent study published in the Journal of Trauma, Dennis, et al., *Acute*
10 *Effects of TASER X26 Discharges in a Swine Model* (2007), issued after Dr. Myers
11 wrote his Rule 26 reports and gave his deposition, confirms Dr. Jauchem's results and
12 therefore Dr. Myers' opinion. Two 40-second ECD applications (still less current than
13 Mr. Heston absorbed) induced severe metabolic acidosis in swine, and actually caused
14 cardiac arrest in two test animals.

15 Of particular relevance to this motion is the fact that in response to questions
16 about a US Department of Defense study questioning the safety of repeated or
17 prolonged ECD exposures, TASER CEO Smith acknowledged the same scientific
18 principles on which Dr. Myers' opinion relies:

19 Q. I'd like to invite your attention to page 19, and there's a Section
20 3.3.2.8, which has several subsections I'm going to go through. The
21 heading is Effects of Prolonged Muscle Contraction: Respiratory
Impairment, Acidosis, Rhabdomyolysis, and Nervous System Effects.
And do you have that?

22 A. I do.

23 Q. I'd like to invite your attention to the sentence, it's about two-thirds
24 of the way through that first paragraph, or halfway through. It says: Field
25 experience indicates that in most cases only one or a small number of
26 five-second activations are needed to achieve and maintain control of the
subject.

27 Do you agree with that sentence?

28 A. Yes. That's the general experience.

1 2 Smith Depo. at 202:16-203:6

2 Q. Now, the next sentence: However, repeated or constant activation of
3 the devices can deliver constant electrical output, which results in
4 sustained muscle contraction with little or no muscle recovery period.

4 Do you agree with that statement?

5 A. Yes, assuming good contact, it can cause sustained muscle
6 contractions.

6 Q. With no – little or no muscle recovery period?

7 A. In the case of constant activation, yeah, the muscle would continue to
8 flex.

9 2 Smith Depo. at 207:9-18

10 Q. Respiratory failure or muscle lactate production, or a combination of
11 these, may induce acidosis.

11 Do you see that?

12 A. I do.

13 Q. And is muscle – do muscles produce lactate when they're contracted?

14 A. Yes.

15 Q. And would that be true whether they're contracted voluntarily, let's
16 say by the brain when you were weight-lifting this morning, or when
17 they're contracted involuntarily by application of a TASER current?

17 A. Yes.

18 Q. And is it true as a general scientific principle, as your understanding,
19 that the more the muscle is contracted, the more lactate it will produce?

20 A. Generally my understanding would be the longer time duration it's
21 contracted, the more lactate it would produce.

21 2 Smith Depo. at 218:4–23.⁷

22 Q. The next sentence: Any acidosis from sustained muscle contraction
23 will at first be localized to muscle, and would affect systemic pH only if
24 lactate production were prolonged and massive, such as might occur with
25 stimulus durations much greater than the five seconds, even without
26 impaired respiration.

26 Do you agree with that?

27
28 ⁷Human tests show that limited duration ECD exposures increase blood lactate
levels similar to the effect of moderate exercise.

1 A. In general, yes.

2 2 Smith Depo. at 219:4–11.

3 Q. Now, the next sentence: When acidosis becomes severe, confusion,
4 irritability, or lethargy can occur, followed by -- I'll say "fainting" so I
5 don't mispronounce -- and if unresolved, can be fatal.

6 Do you agree with that as a scientific principle?

7 A. Yes.

8 2 Smith Depo. at 223:24–224:5.

9 Here, TASER CEO and spokesman Rick Smith is acknowledging the very same
10 scientific principles and methodology on which Dr. Myers bases his opinion, and which
11 TASER now says is "wrong" and "wholly lacking in scientific support and reliability."

12 There remains an open question on the effect of ECD discharges on breathing.
13 Impaired respirations can aggravate acidosis in two ways. First, the accumulation of
14 carbon dioxide is a second source of blood acid, usually referred to as "respiratory
15 acidosis." Second, respiration itself is the body's method of compensating for
16 metabolic acidosis. Both swine studies found that the animals stopped breathing during
17 prolonged ECD applications. Human tests, however, showed that under laboratory
18 conditions police officer volunteers were able to breath through brief 5-15 second ECD
19 applications.

20 The following testimony by Rick Smith illustrates that there are two sides to the
21 issue of respiratory impairment:

22 Q. Well, did the decision-makers at TASER International consider that
23 it should warn its users that the potential consequences of extended
24 stimulus periods are – that those consequences are not known at this time,
25 and therefore, that long stimulus durations should be avoided when
26 possible?

27 A. Well, I think we were – we were already doing that. If you look at
28 our Version 12 training from November of 2004, and I'll refer you to –

Q. That's Exhibit 4.

A. – the second page there, we have a slide in the training course for
officers using the TASER. And I'll read it into the record. It says, quote,
"Duration of Field Applications. The application of the TASER is a
physically stressful event. Although there is no predetermined limit to the

1 number of cycles that can be administered to the subject, officers should
2 only apply the number of cycles reasonably necessary to allow them to
3 safely approach and restrain the subject. Especially when dealing with
4 persons in a health crisis such as excited delirium, it is advisable to
5 minimize the physical and psychological stress to the subject to the
6 greatest degree possible.

7 “Further, TASER applications directly across the chest may cause
8 sufficient muscle contractions to impair normal breathing patterns. While
9 this is not a significant concern for short (five-second) exposure, it may
10 be a more relevant concern for extended duration applications.”

11 2 Smith Depo. at 264:25–266:1.⁸

12 Accordingly, the motion in limine as to Dr. Myers should be denied. Plaintiffs’
13 cardiology expert should be allowed to opine on the cause of Mr. Heston’s cardiac
14 arrest, and its relationship to the repeated ECD exposures. Defendants’ retained expert
15 witness medical doctors (but not their non-physician witnesses such as Mark Kroll)
16 should be allowed to opine on that subject as well. The jury then can be trusted to reach
17 the correct decision based on all the evidence.

18 **VI. THE MEDICAL EXAMINER WHO CONDUCTED THE AUTOPSY FOR**
19 **MONTEREY COUNTY SHOULD BE ALLOWED TO TESTIFY.**

20 TASER challenges Terri L. Haddix, M.D., as an expert witness to opine on Mr.
21 Heston’s cause of death. She is a board certified forensic pathologist who teaches
22 medicine at Stanford University. Dr. Haddix was hired by the Monterey County
23 Sheriff-Coroner to autopsy Mr. Heston and to determine his cause of death.

24 Dr. Haddix, the only truly independent medical expert in this case, opined that
25 the multiple ECD applications caused Mr. Heston’s cardiac arrest. TASER’s challenge
26 to Dr. Haddix credentials are similar to those levied against Dr. Myers, that neither has
27 enough direct experience with TASER death cases to qualify as a cause-of-death expert
28 in this case.

⁸Although issued three months before this incident, this directly apposite warning
apparently never made it to the defendant officers, plaintiffs contend due to the
malfeasance of TASER, the Salinas Police Department, or both.

1 Disregarding the maxim that sauce for the goose is sauce for the gander, TASER
2 is simultaneously urging that the Court allow seven *non-physicians* it has retained as
3 expert witnesses to opine on cause of death.

4 Dr. Haddix testified that in addition to conducting an autopsy, she reviewed the
5 medical records from Mr. Heston's final hospitalization, and she gathered as much
6 information as possible from the Salinas Police Department. She also contacted TASER
7 directly and corresponded with one of its employees, Mark Johnson, who provided her
8 the same Department of Defense study that Rick Smith answered questions about.
9 Finally, she did research and spoke to her colleagues before rendering her opinion. All
10 this is referred to in her deposition testimony. The sheriff-coroner then submitted her
11 report to two other forensic pathologists, Dr. Hain and Dr. Karch. They praised her
12 thoroughness and concurred that the ECD shocks contributed to the death.

13 TASER, although it has designated three forensic pathologists, has submitted
14 no evidence from any of them that Dr. Haddix did not follow correct methodology in
15 conducting her examination or rendering her opinion. All indications are that she
16 followed the established methodology for medical examiners to rule out various
17 factors, and then make a finding for the local government on the cause of death. Absent
18 competent evidence that she deviated from the methodology used by comparable
19 medical examiners – not complaints from Mark Kroll about her “logic” – the testimony
20 should be admitted.

21 Dr. Haddix issued her report before the publication of the critical Jauchem study.
22 Nevertheless, without using the term “acidosis” – she referred to “additional stress” –
23 Dr. Haddix came to essentially the same conclusion as Dr. Myers.

24 Q. So if I understand you correctly, are you saying that the mechanism
of injury from the TASER is electrocution?

25 A. Well, in this case, what I'm worried about -- and this gets back to
26 what you mentioned earlier. I'm worried about that there's a couple
27 different ways in which this happened or in which TASER has a role in
28 this. First, is along the lines what Dr. Hain said previously as well, that
is, the additional -- the additional stress, the additional strain placed upon
his heart, et cetera, related to that, related to the struggle, related to a

1 number of things going on.

2 But what I'm worried about is the induction of a cardiac rhythm,
3 abnormal or fatal cardiac rhythm that happened with that last application.
4 And I guess this also gets back to a couple other things that kind of
5 muddy things to some degree. And that is, it is my understanding that
6 while Mr. Heston was on the floor, there were barbs from several different
7 TASERs still within his body and I'm not a hundred -- in contact with --
8 this point, I'm not clear how many TASERs were actually being cycled at
9 that time as well, too.

10

11 Q. Now, you indicated first of all you're concerned about the, as you
12 put it, the same factor that Dr. Hain has expressed concern about is your
13 understanding that there may have been additional stress and strain put on
14 the heart by the application of the TASER as well as the police physical
15 struggle with Mr. Heston in this case; is that correct?

16 A. As well as the effects of drugs as well, too. Yes. That's right.

17

18 Q. Do you have any percentage of probability as far as these three
19 different issues that you are concerned about with the TASER as to which
20 one is your greater concern or more likely to have occurred than the other
21 two?

22 A. Well, I think the first part, the addition of the strain and the stress,
23 et cetera, it's my reading of some studies that they found indeed there's
24 increased heart rate associated with the application of TASERs, et cetera.
25 So, I think that is supported in that regard.

26 Haddix Depo, at 99-101.

27 Most of TASER's Memorandum in Support of Motion in Limine No. 2 might be
28 relevant to cross examination, but not a Rule 702 determination. Much of their
argument arises from facts which are disputed, such as whether Mr. Heston had a
highly elevated temperature (hyperthermia). The paramedics measured his temperature
at 97 degrees, which is not hyperthermic. Defendants can use such purported facts to
attack Dr. Haddix's opinions at trial, but her testimony on cause of death is within the
standard of her profession and should be expressed to the jury.

1 **VII. CONCLUSION**

2 For the foregoing reasons, defendants motion to limit or exclude plaintiffs'
3 expert witnesses and Dr. Haddix should be denied.

4 DATED: April 15, 2008

5 Respectfully submitted,

6 THE LAW OFFICES OF JOHN BURTON
7 WILLIAMSON & KRAUSS

8
9 BY: /s/ John Burton
10 Attorneys for Plaintiffs

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