# EXHIBIT "A"

Mark R. Myers, MD, FACC
55 E California Boulevard, 3rd Floor
Pasadena, California, 91105

626-793-1227

November 28, 2006

John Burton
414 South Marengo Avenue
Pasadena, CA 91101

Re: *Heston v City of Salinas*
N.D. Cal. Case No. C 05-03658 JW

Dear Mr. Burton,

At your request I have reviewed the facts pertinent to the demise of Robert Clark Heston and have now reached a medical opinion on the cause of death and contributory factors. In addition to drawing on my medical training and experience as a board certified cardiologist and cardiac electrophysiologist, I have reviewed the documents listed at the end of this report in the course of arriving at a final determination of the cause of death.

The circumstances of Mr. Heston's demise are well documented in several of the documents on my review list (1-4, 9, 10) and need not be restated here. Relevant issues will be discussed below.

| | |
|---|---|
| **Cause of Death:** | Multiple System Organ Failure |
| Due to: | Cardiopulmonary Arrest |
| Due to: | Applications of TASER® |

Contributory causes: Agitated state associated with methamphetamine intoxication
Cardiac dilatation and hypertrophy
Rhabdomyolysis

**Case Discussion:**

The likely mechanism of cardiac arrest due to TASER® applications is its documented ability to cause respiratory arrest and severe metabolic (lactic) acidosis.[16] In the setting of methamphetamine intoxication and an abnormal heart, susceptibility to a malignant ventricular rhythm (ventricular tachycardia / ventricular fibrillation) which would degenerate to asystole would be high. Alternatively, the metabolic derangements may have led more directly to a brady-arrhythmia and asystole.

Ventricular arrhythmia in this setting need not have been due to direct electrical stimulation of the heart by the TASER®, but rather to the ventricular irritability that is seen in this abnormal metabolic milieu. However, I cannot exclude the possibility of direct stimulation of the heart as a mechanism of arrhythmia induction. As many as five TASER® devices were applied for as long as 74 seconds continuous duration. No human or animal studies address the response of the heart to such a stress, but the swine study of comparable body mass to humans by Jauchem and colleagues[16] does document respiratory arrest with single 5 second applications and severe academia with less aggressive application than was rendered to Mr. Heston. Conduction of the electrical impulses to the heart may have also been facilitated by the first and second degree burns that were evident on the right anterior chest wall and the multiple, simultaneous vectors of stimulation.

The TASER® M26 device used by the Salinas Police Department has an electrical output of 50,000 volts, 11 msec pulse width, half sine wave pulses, average current of 3.6ma and 1.76 Joules of energy per pulse. In cardiac electrophysiology studies to test implantable pacer defibrillator systems, a shock of 1 Joule during the "vulnerable period" of the T wave (cardiac electrical cycle) reliably provokes ventricular fibrillation. The imbalances described above widen the "window of vulnerability" of induction of malignant arrhythmia.

In support of TASER® induced respiratory arrest was the observation by multiple officers that "within seconds of the final TASER deployment, Mr. Heston stopped resisting and became cyanotic."[1] Officers initiated CPR which was continued by Paramedics, including in-field intubation. Paramedics reported initial rhythm as asystole. Epinephrine, atropine and narcan were administered and a rhythm was restored. Paramedics estimated decedent's "down time" at 10 minutes. At Natividad Medical Center the admitting arterial blood gas showed severe metabolic acidosis: pH 6.83 (normal 7.35-7.45), pCO2 42, pO2 313, HCO3 7. The admitting ECG showed no evidence of acute coronary syndrome (myocardial infarction). "If blood pH drops too low then death, attributed to cardiac arrest, is a certainty..." [18]

The evidence does not appear to support a "diagnosis" of "excited delirium":

- Hyperthermia was not present in the current case. No peer reviewed studies or societal statements have been made to remove hyperthermia as a diagnostic criterion.
- Forced restraint was not applied in the current case prior to the time of collapse. In a study by Stratton and colleagues (2001, cited in reference 18), 18 deaths resulting from 216 arrests made of subjects requiring restraint for excited delirium were reported. 198 excited delirium subjects who were physically arrested and hobbled did not die. The 18 deaths were associated with a struggle by the victim which resulted in forced restraint.

- Common to the Stratton cases and others is a description of unanticipated and short period of calm (estimates 5 min or less) before suffering cardiopulmonary arrest. Not seen in this case.

Mr. Heston was found to have a mildly enlarged and hypertrophic heart. Although this does enhance his susceptibility to malignant ventricular arrhythmia, it is unlikely to have been a primary cause of death. There is no evidence that his functional status (New York Heart Association Functional Class) was diminished, and therefore the likelihood of his heart abnormality being a primary determinant of his collapse is very low.

The unique circumstances and sequence of events of this case have led to my conclusion that the particular applications of TASER® led to cardiopulmonary arrest and the secondary multi-system organ failure which resulted in Mr. Heston's demise.

Sincerely,

Mark R. Myers

Mark R. Myers, MD, FACC

Appended: List of Materials Reviewed
Curriculum vitae

Re: *Heston v City of Salinas*
N.D. Cal. Case No. C 05-03658 JW

Materials Reviewed:

1. Autopsy report of Terri L. Haddix, MD
2. Case Review and Opinion of John R. Hain, MD
3. Case Review and Opinion of Steven B. Karch, MD
4. Monterey County Sheriff-Coroner Case Summary by Detective J D Davidson, 8/12/05
5. Central Valley Toxicology Report (CVT-05-2739)
6. Stanford Pathology Consultants heart post mortem & brain autopsy
7. University of Miami School of Medicine Neurochemical Pathology Exam
8. Robert Heston Taser Dataport Readings (Ruiz, Livingston & Goodwin)
9. Paramedic Run Sheet
10. Natividad Hospital medical records, 2/19-20/2005
11. Deposition of Terri L. Haddix, MD
12. Deposition of John R. Hain, MD
13. Deposition of Steven B. Karch, MD
14. McDaniel, W.C., et al: Cardiac Safety of Neuromuscular Incapacitating Defensive Devices. PACE 2005; 28:S284-S287
15. Ho, J.D., et al: Cardiovascular and Physiologic Effects of Conducted Electrical Weapon Discharge in Resting Adults. Academic Emergency Medicine, 2006
16. Jauchem, J.R., et al: Acidosis, lactate, electrolytes, muscle enzymes, and other factors in the blood of *Sus scrofa* following repeated TASER exposures. Forensic Science International. 2005
17. Victoria Police Department report: Taser Technology Review, Final Report. OPCC File No 2474; June 14, 2005
18. Laur, D: Excited Delirium and its correlation to sudden and unexpected death proximal to restraint; a review of the current and relevant medical literature. Victoria Police Department; November 2004
19. Maier, A, et al: Human Effectiveness and Risk Characterization of the Electromuscular Incapacitation Device—A limited analysis of the Taser. Part 1—Technical Report (M26, X26). 1 March 2005
20. Domill Statement on the comparative medical implications of the use of the X26 and the M26 Advanced Taser
21. Webster, J.G.: Electromuscular Incapacitating Devices
22. McBride, DK et al: Efficacy and Safety of Electrical Stun Devices. Potomac Institute for Policy Studies. 29 March 2005
23. TASER International. Product Warnings—Law Enforcement. LG-INST-LEWARN-001 Rev K August 28, 2006

# MARK R. MYERS, M.D., F.A.C.C., F.A.C.P.

CURRICULUM VITAE

**SOUTHERN CALIFORNIA HEART SPECIALISTS**
55 East California Blvd, Third Floor
Pasadena, CA 91105
(626) 793-1227, Fax (626) 793-3794
**Partner**

| | |
|---|---|
| Tax I.D. Number: | 95-4557282 |
| Date of Birth: | October 3, 1955 |
| Staff Privileges: | Huntington Memorial Hospital<br>Active, 1988-Present |
| | Methodist Hospital of Southern California, Arcadia, CA<br>Active, 1992-Present |

**EDUCATION:**

| | |
|---|---|
| High School: | Lynbrook High School<br>San Jose, California<br>1969-1973 |
| University: | University of Southern California<br>Los Angeles, California<br>1973-1977; BS, Biology |
| | USC Medical Center<br>Los Angeles, California<br>1976-1978; Research |
| Medical School: | University of Southern California, School of Medicine<br>Los Angeles, California<br>1978-1982; M.D. |

**Mark R. Myers, M.D., F.A.C.C., F.A.C.P.**

**EDUCATION (continued):**

| | |
|---|---|
| Internship: | Los Angeles County<br>USC Medical Center<br>Los Angeles, California<br>1982-1983 |
| Residency: | Los Angeles County<br>USC Medical Center<br>Los Angeles, California<br>1983-1985; Internal Medicine |
| Fellowship: | Cardiology<br>Cedars-Sinai Medical Center<br>Los Angeles, California<br>1985-1988 |
| | NASPE Pacemaker Fellow<br>Newark Beth-Israel Medical Center<br>Newark, New Jersey<br>July 1987 – December 1987 |
| Certification: | Diplomate, American Board of Internal Medicine<br>September 11, 1985<br>Certificate #104351 |
| | Diplomate, ABIM Cardiovascular Disease<br>November 10, 1987<br>Certificate #104351 |
| | ABIM, Diplomate in Clinical Cardiac Electrophysiology<br>November 4, 1992 and December 31, 2002<br>Candidate #104351 |
| | Testamur/NASPEXAM<br>October 31, 1988<br>Certificate #229 |
| Licensure: | California, 1983-Present<br>G050231 |

**Mark R. Myers, M.D., F.A.C.C., F.A.C.P.**

**FOUNDER & MEDICAL DIRECTOR:**

Pacemaker Center and Cardiac Electrophysiology Program
Huntington Hospital, Pasadena, California
August 1988 to December 2000

**HONORS AND AWARDS:**

AMA – ERF / Western Student Medical Research Forum Awards for presentation of meritorious research, February 1979 and February 1980 (Abstracts listed with publications).

Traveling Fellow, North American Society of Pacing and Electrophysiology. Pacemaker Fellow under Victor Parsonnet, M.D. at the Pacemaker Center, Newark Beth-Israel Medical Center, Newark, New Jersey. June 1987 through July 1987.

Named as one of LA's **Best Doctors**. The November 1996 issue of **"Los Angeles Magazine"** published, "The Essential Guide to LA's **Best Doctors**" naming Dr Myers as among best Cardiologists as voted by peers.

**SOCIETY MEMBERSHIP:**

American Heart Association; Chairman, Pasadena Branch / Founder, 1993-1994
American Medical Association
American Federation for Clinical Research
American College of Physicians
American College of Cardiology
North American Society of Pacing and Electrophysiology
- Member, Advisory Council, 1990-1994
- Member, Continuing Medical Education Committee, 1994-1998
- Member, Computer Communications Technology Committee, 1995-1996
- Chair, CME-Education for Primary Care Physicians, 1995-1996
- Member, Web Site Tech Advisory Committee, 1996-1998
- Chair, Primary Care Subcommittee, 1997-1998
- Member, Primary Care Subcommittee, 1998-2000
- Member, Web Site Committee, 2000-2002

**Mark R. Myers, M.D., F.A.C.C., F.A.C.P.**

## RESEARCH ACTIVITIES:

Bibliography: Appended

Major Areas of Research Interest (Past & Present):

Hypertension
Relationship of the Renin-Angiotensin and Sympathetic Cardiac Nervous Systems and Hypertension
Cardiac Electrophysiology and Arrhythmias
Surgical Therapy for Arrhythmias
Implantation Anti-tachycardia and Defibrillator Device Therapy for Arrhythmias
Pacemaker Therapy

Medical Advisory Panel: Siemens Pacesetter Systems, Inc.
Jan 1993 – Dec 1998

## PUBLICATIONS: BOOKS AND BOOK CHAPTERS

1. DeQuattro V, Myers M R, and V Campese: Introduction, Anatomy and Biochemistry of the Sympathetic Nervous System. In: Endocrinology, Vol II, edited by L J DeGroot, et al. Chicago, Illinois: Grune & Stratton, 1979, pp 1241-1260.

2. DeQuattro V and M R Myers: The Sympathetic Nervous System and Primary Hypertension in Man. In: Endocrinology, Vol II, edited by L J DeGroot et at. Chicago, Illinois: Grune & Stratton, 1979, pp 1297-1305.

3. DeQuattro V, Stein D, DeQuattro E, Kolloch R, Myers M, Pineda J, and M Esler: Plasma and Tissue Noradrenaline Concentrations in Primary Hypertension: A Guideline for Sympatholytic Therapy. In: Proceedings of the International Symposium on Methyldopa, edited by M Zerneck, et al. 1980.

4. Kolloch R, DeQuattro V, Myers M, and J Bornheimer: Plasma Catecholamines During Isometric Exercise in Patients with Essential Hypertension: Effects of Combined Alpha and Beta-blockade. In: Catecholamines and Stress: Recent Advances, edited by E Usdin, R Kvetnansky, and I J Kopin. New York: Elsevier North Holland, Inc., 1980, pp 507-512.

5. DeQuattro V, Myers M, and V Campese: Anatomy and Biochemistry of the Sympathetic Nervous System. In: Endocrinology, Vol II, 2nd ed, edited by L J DeGroot et al. Philadelphia, Pennsylvania: W B Saunders. Stratton, 1989, pp 1717-1737.

6. DeQuattro V, Myers M, and V Campese: Pheochromocytoma. In: Endocrinology, Vol II, 2nd ed, edited by L J DeGroot et al. Philadelphia, Pennsylvania: W B Saunders, 1989, pp 1780-1797.

## PUBLICATIONS: Peer Review Articles

1. Campese V, Myers M R, and V DeQuattro: Plasma Catecholamines and Neurogenic Hypertension. Letter to the editor. N Engl J Med 297: 53, 1977.

2. DeQuattro V, Eide I, Myers M R, Eide K, Kolloch R, and H Whigham: Enhanced Hypothalamic Norepinephrine Biosynthesis in Goldblatt I Renovascular Hypertension. Clin Sci Mol Med 55: 109S-111S, 1978.

3. Eide I, Myers M R, Kolloch R, Eide K, Whigham H, and V DeQuattro: Increased Hypothalamic Noradrenergic Activity in One-Kidney Renovascular Hypertensive Rats. J Card Pharmacol 2: 833-841, 1980.

4. Campese V, Myers M R, and V DeQuattro: Neurogenic Factors in Low Renin Essential Hypertension. Am J Med 69: 83-91, 1980.

5. Nalos P C, Myers M R, Peter T, and W J Mandel: The Role of Electrophysiology Testing in Intensive Care Unit Patients. J Crit Care Med, 1987.

6. Nalos P C, Myers M R, Gang E S, Mandel W J, and T Peter: Orthodromic Tachycardia Initiation Dependent on 1:2 Atrioventricular Conduction in the Presence of a Left Lateral Bypass Tract. Chest 92(3): 557-560, 1987.

7. Nalos P C, Myers M R, Gang E S, Peter C T, Mandel W M: The Role of Invasive Electrophysiologic Testing in Patients in the Intensive Care Unit. J Int Care Med 2: 241-259, 1987.

8. Nalos P C, Gang E S, Mandel W J, Myers M R, Oseran D S, Peter T: The Utility of the Signal-Averaged Electrocardiogram in Patients Presenting with Sustained Ventricular Tachycardia or Fibrillation While on an Antiarrhythmic Drug. American Heart Journal 115: 108-114, 1988.

**PUBLICATIONS: Peer Review Articles (continued):**

9. Gang E S, Peter T, Nalos P C, Meesmann M, Karagueuzian H S: Subthreshold Atrial Pacing in Patients with a Left-sided Accessory Pathway: An Effective New Method for Terminating Reciprocating Tachycardia. JACC 11: 515-521, 1988.

10. Parsonnet V, Myers M, Perry G Y: Paradoxical Paroxysmal Nocturnal Congestive Heart Failure as a Severe Manifestation of the Pacemaker Syndrome. American Journal of Cardiology 65(9): 683-5, 1990.

11. Myers M, Peter T, Weiss D, Nalos P C, Gang E S, Oseran D S, Mandel W J: Benefit and Risks of Long-term Amiodarone Therapy for Sustained Tachycardia/Fibrillation: Minimum of three year follow-up in 145 patients. American Heart Journal 119(1): 14, 1990.

12. Myers M, Parsonnet V, Bernstein A, EngScD.: Extraction Implanted Transvenous Pacing Leads: A Review of a Persistent Clinical Problem. American Heart Journal, Vol 121, No. 3, pp 88 –888, March 1991.

13. Loring Evans SJ, Meyers M, Zaher C, Simonson J, Nalos P, Vaughn , Oseran D, Gang E, Peter T, Mandel W: High Dose Oral Amiodarone Loading: Electrophysiological Effects and Clinical Tolerance. Journal of the American College of Cardiology, Vol 19, No 1, pp 169-173, January 1992.

**PUBLICATIONS: ABSTRACTS**

1. Campese V, Myers M R, and V DeQuattro: Sympathetic Nervous System (SNS) and Renin (PRA) in the Regulation of Blood Pressure (BP) in Normal Volunteers. Clin Res 26: 119A, 1978.

2. Campese V, Myers M R, and V DeQuattro: Sympathetic Nerve Function (SNS) in Low Renin (PRA) Primary Hypertension. Clin Res 26(3): 361A, 1978.

3. Eide I, Myers M R, et al: Altered Central and Peripheral Sympathetic Nervous System Activity in Renovascular Hypertension in the Rat. Clin Res 26: 362A, 1978.

4. DeQuattro V, Eide I, Myers M R, et al: Increased Central and Peripheral Sympathetic Nervous System Activity in Renovascular Hypertension in the Rat. Fifth Scientific Meeting of the International Society of Hypertension, 1978.

**PUBLICATIONS: Abstracts (continued)**

5. Myers M R, Eide I, Kolloch R, Whigham H, and V DeQuattro: Increased Hypothalamic Noradrenergic Activity in One-Kidney Renovascular Hypertensive Rats. Clin Res 27: 66A, 1979.

6. Kolloch R, Myers M R, Bornheimer J, DeQuattro E, and V DeQuattro: Pressor and Plasma Norepinephrine Responses to Isometric Exercise in Primary Hypertension: Effects of Combined Alpha and Beta-blockade. Clin Res 27: 66A, 1979.

7. Kolloch R, Myers M R, Kobayashi K, and V DeQuattro: Evidence for Central Dopaminergic Modulation of Sympathetic Nerve Activity and Blood Pressure in Primary Hypertension. Clin Res 28(1): 37A, 1980.

8. Kolloch R, Myers M, Bornheimer J, DeQuattro E, and V DeQuattro: Pressor and Plasma Catecholamine Responses to Isometric Exercise in Hypertensive Patients: Effects of Combined Alpha and Beta-blockage. Eur J Clin Inv 10(2): 333A, 1980.

9. Kolloch R, Myers M, Bornheimer J, DeQuattro E, and V DeQuattro: Pressor and Plasma Catecholamine Responses to Isometric Exercise in Hypertensive Patients: Effects of Combined Alpha and Beta-blockage. Eur J Clin Inc 10(2): 114, 1980.

10. Kolloch R, Eide I, Myers M, Whigham H, and V DeQuattro: Central and Peripheral Noradrenergic Activity in Renovascular Hypertensive Rats. Kidney Int 17(3): 410, 1980.

11. Gang E S, Peter T, Nalos P C, Meesmann M, Mandel W J, Oseran D, and M R Myers: Subthreshold Atrial Pacing in the Termination of Orthodromic Reciprocating Tachycardia in Patients with Left-sided Tracts. JACC 9(2): 198A, 1987.

**Mark R. Myers, M.D., F.A.C.C., F.A.C.P.**

**SCIENTIFIC PRESENTATIONS:**

1. Myers M R, Eide I, Kolloch R, Whigham H, and V DeQuattro: Increased Hypothalamic Noradrenergic Activity in One-Kidney Renovascular Hypertensive Rats. Clin Res 27: 66A, 1979. Presented at the 1979 Western Section Meeting of the American Federation for Clinical Research, Carmel, California.

2. Kolloch R, Myers M, Kobayashi K, and V DeQuattro: Evidence for Central Dopaminergic Modulation of Sympathetic Nerve Activity and Blood Pressure in Primary hypertension. Clin Res 28: 37A, 1980. Presented at the Western Section Meeting of the American Federation for Clinical Research, Carmel, California.