TASER ELECTRONIC CONTROL DEVICES AND SUDDEN IN-CUSTODY DEATH

ABOUT THE AUTHOR

Howard E. Williams served twenty-five years with the Austin (Texas) Police Department, advancing through the ranks from patrol officer to Commander before becoming Chief of the San Marcos (Texas) Police Department in 2003. During his career, Chief Williams commanded the Training Division of the Austin Police Department, where he was responsible for developing cadet and officer training programs, including programs in the use of force and the use of less-lethal weapons.

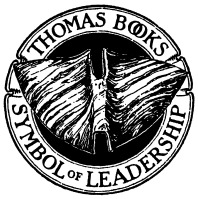
Chief Williams holds a Master Peace Officer's license from the Texas Commission on Law Enforcement Officers Standards and Education (TCLEOSE), and has served on TCLEOSE's Education Committee. Additionally, he also holds a Master of Science degree in Criminal Justice from Texas State University. He is also a graduate of the Leadership and Command College at the Law Enforcement Management Institute of Texas at Sam Houston State University. Chief Williams is an adjunct instructor in the Criminal Justice Department at Texas State University, where he instructs classes in management and forensic evidence, and he has been a guest lecturer for criminology classes at the University of Texas. He is also the author of two other books in criminal investigations, *INVESTIGATING WHITE-COLLAR CRIME: Embezzlement and Financial Fraud*, Second Edition and *ASSET FORFEITURE: A Law Enforcement Perspective.*

TASER ELECTRONIC CONTROL DEVICES AND SUDDEN IN-CUSTODY DEATH

Separating Evidence from Conjecture

By

HOWARD E. WILLIAMS



CHARLES C THOMAS • PUBLISHER, LTD.
Springfield • Illinois • U.S.A.

Published and Distributed Throughout the World by

CHARLES C THOMAS • PUBLISHER, LTD.
2600 South First Street
Springfield, Illinois 62704

ISBN 978-0-398-07775-4 (hard)
ISBN 978-0-398-07776-1 (paper)

Library of Congress Catalog Card Number: 2007021989

With THOMAS BOOKS *careful attention is given to all details of manufacturing and design. It is the Publisher's desire to present books that are satisfactory as to their physical qualities and artistic possibilities and appropriate for their particular use.* THOMAS BOOKS *will be true to those laws of quality that assure a good name and good will.*

Printed in the United States of America
CR-R-3

Library of Congress Cataloging-in-Publication Data

Williams, Howard E.
Taser electronic control devices and sudden in-custody death : separating evidence from conjecture / by Howard E. Williams.
p. cm.
On t.p. the registered trademark symbol "R" is superscript following Taser.
Includes bibliographical references and index.
ISBN 978-0-398-07775-4 (hard) -- ISBN 978-0-398-07776-1 (pbk.)
1. Restraint of prisoners--United States--Case studies. 2. Prisoners--United States--Death--Case Studies. 3. Stun guns--United States--Evaluation. 4. Nonlethal weapons--United States--Evaluation. I. Title.

HV8778.W55 2007
363.2'3--dc22

2007021989

PREFACE

Basic research is what I'm doing when I don't know what I'm doing.
(Wernher Von Braun, Attributed)

In 2001, I was the Commander of the Northeast Area Command of the Austin (Texas) Police Department (APD), and I was the first Commander at the APD to purchase TASER® electronic control devices for the patrol officers.[1] Special Weapons and Tactics (SWAT) officers had them, but line officers did not. It seemed to me that more line officers would unexpectedly encounter violently resisting subjects than would SWAT officers. Shortly after we trained the officers and deployed the TASER M26 devices, I began to hear success stories relating how well they worked. I was so sure of the effectiveness of the weapons that, when I became Chief of the San Marcos (Texas) Police Department in 2003, I purchased TASER X26 devices for the line officers there. Once again, I soon heard the success stories. I also noticed that lost work time due to on-the-job injuries decreased more than 70 percent in the first year following purchase of the TASER electronic control devices. The next year, lost time fell to zero. Officers were also taking fewer prisoners to the hospital for treatment following arrests. I was satisfied that conducted energy weapons were a beneficial addition to the arsenal.

Soon, however, I began to hear concerns regarding the deaths that had followed the use of a TASER device. I read the Amnesty International reports that questioned the safety of TASER electronic control devices and the many news media articles that insinuated, or in some cases alleged, that TASER products were the cause of many deaths. I also read articles defending TASER devices, including some that employees at TASER International, Inc. had written. However, I noticed that many of the criticisms I read were rife with conjecture. I could understand questioning the safety and efficacy of the weapons that the police use, but, being an old cop, I did not want Amnesty International or TASER International telling me what to think. I

1. TASER® is a trademark of TASER International, Inc. registered in the United States. All rights reserved.

wanted to see the evidence. As I have often told my students at Texas State University, where I am adjunct faculty in the Criminal Justice Department, "You do not have to trust what anyone tells you. Research it yourself."

So, I determined to take my own advice. Not being sure exactly what I needed to learn, with apologies to the memory of Doctor Von Braun, I began with some basic research. I decided that one cannot draw conclusions regarding the use of TASER devices without first knowing how the devices work, knowing what other researchers and scientists have learned about the workings of electronic control devices, knowing the facts of what happened in each case, and knowing what the medical examiner or coroner said about each death. The amount of information necessary to make an informed decision was not available in the reports that I had read.

Finding journal articles and published reports of scientists and other researchers was not too difficult. The library resources at Texas State University made that part of the research simple enough. Obtaining the relevant police and autopsy reports was another matter. The public information laws of the various states made that task much more difficult, and, in some cases, made it impossible. Nevertheless, I gathered as much information as I could from the primary sources, and when primary sources of information were not available, I relied on news reports. I then analyzed the information by comparing what happened in each incident to what we know about the phenomenon of sudden death and the workings of TASER electronic control devices. I tried to set aside my preconceived ideas and simply examine each case on the merits of its own evidence. Was there sufficient evidence to confirm the TASER devices as the cause of death? Was there sufficient evidence to exclude the TASER devices as the cause of death?

I believe that the evidence presented in *TASER ELECTRONIC CONTROL DEVICES AND SUDDEN IN-CUSTODY DEATH: Separating Evidence from Conjecture* will show why, after completing the research, I am still a proponent of the use of TASER devices. Of course, TASER electronic control devices are weapons, and I will never refer to them as anything but weapons. The police should never take lightly using weapons on the citizenry, but the judicious use of force is necessary to enforce the law and to maintain order. As with any new tool, police officers will have to adapt and learn to use the tool with the proper discretion. As with any new technology, police managers will have to define policies and procedures to govern the use of TASER electronic control devices and other conducted energy weapons, but policy discussions are for another book.

TASER International does not need me to defend their products. They are quite capable of defending themselves. My purpose is only to try to separate the evidence from conjecture. The evidence makes the case that TASER devices are not instruments of death, and I believe that the only conclusion the evidence supports is that TASER electronic control devices are safe weapons. At least, they are as safe as weapons can be.

In the spirit of full disclosure, I have no financial interest in TASER International, Inc. I do not own stock, I am not on their payroll, and I have re-

ceived no financial support from anyone in conducting the research for/or the writing of this book.

Additionally, while researching this book, I may not have discovered cases that occurred between 1983 and 2006. If anyone knows of a case that I should examine for future research, please contact me at my e-mail address: howardewilliams@ msn.com.

CONTENTS

TASER ELECTRONIC CONTROL DEVICES AND SUDDEN IN-CUSTODY DEATH

Chapter 1

SUDDEN IN-CUSTODY DEATH

Death is terrifying because it is so ordinary. It happens all the time.
Susan Cheever, *Home Before Dark*

No single incident can spark as much controversy and create as many public relations difficulties for a law enforcement executive than an in-custody death, especially when someone who appears strong and healthy suddenly dies. Now, more than ever, the public, the news media, and the courts scrutinize the actions of law enforcement officers. Nowhere is that scrutiny more apparent than in use of force encounters, and the scrutiny intensifies dramatically when a death is involved. Unexpected deaths generally create great public controversy regarding police tactics and the legitimate need for the use of force.

The most significant controversy of the past decade is the use of electromuscular disruption technology to subdue aggressive or resisting subjects. Electromuscular disruption technology is a less-lethal technology that uses pulses of electricity to incapacitate suspects. Conducted energy weapons are defensive systems that deploy an electromuscular disruption technology to affect the sensory and motor functions of the somatic nervous system, the part of the peripheral nervous system associated with the voluntary control of body movements through the action of skeletal muscles and with the reception of external stimuli. Although many different types and brand names of conducted energy weapons exist, because of their popularity with law enforcement agencies across the United States, the controversy has centered on TASER devices, which are manufactured by TASER International, Inc. of Scottsdale, Arizona.

Unlike most discussions about police tactics, which attract little public attention, the debate over the use of TASER devices is a very public battle. Newspapers consistently publish headlines announcing deaths supposedly related to the use of TASER electronic control devices. Amnesty International and the American Civil Liberties Union are waging campaigns, if not to ban law enforcement from using electromuscular disruption technology, at least to impose a moratorium on using conducted energy weapons. Critics of the technology argue that research on conducted energy weapons is lacking and that the numbers of deaths following the use of such weapons are evidence that they are not safe. Supporters counter that conducted energy weapons are safer than traditional less-lethal weapons, such as batons and chemical sprays, and that they reduce the incidence of injury to officers and to the public. The crux of the debate is whether the TASER devices are responsible for the sudden unexpected deaths that have followed their use.

We know little about the frequency or causes of sudden in-custody deaths; however, we do know that people die unexpectedly while in police custody, with and without the use of a TASER device. To understand whether TASER devices significantly contribute to sudden in-custody deaths, one must

first understand something of the phenomenon of sudden death. The World Health Organization, a specialized agency of the United Nations that acts as a coordinating authority on international public health, compiles the internationally recognized International Classification of Diseases. The International Classification of Diseases (ICD) defines sudden death as cardiorespiratory collapse occurring within twenty-four hours of the beginning of symptoms (ICD 798.2). Roberts (1986) defines sudden death as one that is nonviolent or nontraumatic, that is unexpected, that is witnessed, and that is instantaneous or occurs within a few minutes of an abrupt change in a previous clinical state. In contrast to sudden death, instantaneous death is death with immediate collapse without preceding symptoms (DiMarco, 2003). Most in-custody deaths fall within Roberts' definition of sudden death, which excludes police-related shootings, since a shooting is violent and traumatic, and death is an entirely expected consequence of the use of deadly force.

Although sudden death has recently become a hot topic for law enforcement executives, it is not a new or uncommon phenomenon. Each year in the United States, more than 300,000 individuals die suddenly from some form of cardiovascular disease, alone (DiMarco, 2003). Sudden death is a complicated and complex process, and it is not reasonable to expect law enforcement officers to diagnose medical conditions that may lead to sudden death. In fact, most predisposing factors of sudden death are not visible to officers. Only a review of a person's medical history and a physical examination will reveal those factors. Research has discovered several predisposing factors that increase the risk for sudden death:

- Obesity;
- Cardiomegaly (an enlarged heart);
- Coronary atherosclerosis (coronary artery disease);
- A previous heart attack;
- Myocarditis (an inflammation of the muscles of the heart);
- A fibrotic heart;
- Under the influence of illicit drugs, although some instances of sudden death can occur months after the last ingestion of illicit drugs;
- Too much or too little neuroleptic medication (drugs used to treat psychoses), or the medications are not working;
- Failure to take prescribed drugs;
- Diabetes and hypoglycemia (a lower than normal amount of glucose in the blood);
- Hyperthyroidism;
- A head injury, or a previous head injury;
- Dehydration;
- Underlying psychiatric disease; and
- Alcohol intoxication or withdrawal (Peters, 2006c).

Several clinical and autopsy-based studies have reported triggering of sudden cardiac death with exercise. Data supporting the concept that vigorous physical activity can trigger ventricular fibrillation have come from emergency medical records showing that 11 to 17 percent of adults collapsed during or immediately after exertion, but the amount of exertion is rarely quantified (Pinto & Josephson, 2004). In one review in Seattle, 11 percent of 316 consecutive victims of sudden death died during or immediately after exercise. In Miami, 17 percent of 150 patients had exertion-related sudden death. In Seattle, researchers estimated the incidence of exercise-related sudden death at 5.4 per 100,000. During vigorous activity, the incidence is 5 times higher for men who exercise frequently and 56 times higher for men who exercise infrequently (Fletcher, Flipse, & Oken, 2004). Clearly, the risk of sudden death following violent exertion, such as a struggle with police or straining against restraints, increases manifold for people with predisposing factors for sudden death.

The case studies in Chapter 3 show that, in the 213 custody deaths following the application of a TASER electronic control device from 1983 through 2005, the medical examiner or coroner observed one or more predisposing factors of sudden death in at least 187, or 87.8 percent, of those cases. In at least 75 cases, or 35.2 percent, the medical examiner or coroner observed more than one predisposing factor. Because not all autopsy reports were available, the exact number of cases with predisposing factors for sudden death is unknown.

The major difficulty with studying in-custody deaths is that, unlike crime records reporting, no central database exists to collect data on in-custody deaths. Consequently, it is difficult to ensure that data are complete and accurate. Emergency physicians at the University of Minnesota faced that daunting task when they conducted a twelve-month surveillance study of in-custody deaths in 2004 and 2005 (Ho, Miner, Heegaard & Reardon, 2005). The study relied on news reports to collect data on subject gender, age, behavior, force and weapons used to affect the arrest, time of collapse proximal to the arrest, and the presence of illicit substance abuse. They conducted follow-up interviews with law enforcement agencies when necessary to clarify information. The physicians reported on 162 in-custody deaths: 21 were instantaneous deaths, 85 deaths occurred in less than one hour, and 56 deaths occurred between one and forty-eight hours after the initial contact with law enforcement officers. Males accounted for 156 deaths, or 96.3 percent, and females accounted for six. The mean age of the deceased was 35.7 years, with an age range of 15 to 75 years. Just prior to arrest, 102, or 63 percent exhibited bizarre behavior and 101, or 62.3 percent, had confirmed illicit drug use (Ho et al., 2005).

Perhaps the most interesting finding of the study was the type of force that law enforcement officers used. In 22 cases, the law enforcement officers used no force beyond the application of handcuffs. In 111 cases, the suspect and the officers engaged in significant hands-on force. In 84 cases, the officers used intermediate or less-lethal weapons, including 20 uses of chemical spray, 14 uses of impact weapons, and 50 applications of a TASER device. Because officers sometimes used more than one level of force in a given incident, the numbers total more than the 162 cases. In every case, the police used handcuffs to secure the subject (Ho et al., 2005).

The authors of the study noted that in none of the 21 instantaneous deaths was a TASER electronic control device involved, which is an important observation. If the electrical discharge from the device disrupted the rhythm of the heart, as many critics claim, then collapse and death should have been almost instantaneous, within 5 to 15 seconds. Since death did not occur instantaneously following any of the TASER device applications in the University of Minnesota study, the cause of death must have been something other than the electrical impulses of a conducted energy weapon.

Unlike in the United States, the government in the United Kingdom, for years, has required the reporting of custody deaths. Before the introduction of TASER devices in the United Kingdom, deaths in custody occurred at the rate of approximately one a week. The subjects who died following the application of TASER devices in the United States and the subjects who died in custody in the United Kingdom shared many of the same risk factors for sudden death (Bleetman & Steyn, 2003).

The case studies in Chapter 3 show that, in the 213 in-custody deaths following the application of a TASER electronic control device from 1983 through 2005, the demographics closely match those of the University of Minnesota study. Males accounted for 204 deaths, or 95.8 percent, and females accounted for nine. The mean age of the deceased was 35.5 years of age, and the age range was 17 to 65. Just prior to arrest, 156, or 73.2 percent, exhibited bizarre behavior, and 145, or 68.1 percent, had confirmed illicit drug use. Table 1, Sudden Death Study Comparisons, demonstrates how similar the findings of the University of Minnesota sudden death study are to the findings of the TASER device case studies in Chapter 3.

Table 1
SUDDEN DEATH STUDY COMPARISONS

	University of Minnesota Study	*Case Studies from Chapter 3*
Gender		
Male	96.3 %	95.8 %
Female	3.7 %	4.2 %
Mean Age	35.7 years	35.5 years
Age Range	15 to 75 years	17 to 65 years
Bizarre Behavior	63.0 %	73.2 %
Illicit Drug Use	62.3 %	63.8 %

EXCITED DELIRIUM

Writing in the *American Journal of Insanity* in 1849, Doctor Luther Bell, who ran the McLean Asylum for the insane in Massachusetts, described the symptoms of some of his patients as being confused, having no tolerance to light, making low muttering noises, being suspicious of food being filthy or poisoned, and having a dull impression of impending danger. He recognized the patients' propensities for violence, noting that they would attack "anyone who approaches . . . with a blind fury," "struggle with the utmost desperation, irrespective of the numbers or strength of those who may be endeavoring to restrain [them]," and have "no disposition to yield to an overpowering force, noticeable in some degree in the blindest fury of the most intense forms (Peters, 2006a)." Bell reported that the onset of symptoms was rapid, usually about one week, and that three out of four patients died within two or three weeks. The behavioral issues that Bell described are similar to behaviors that officers note today in sudden in-custody death cases.

The University of Minnesota physicians noted that in 102 of the 162 cases they studied, the subject engaged in what they described as bizarre behavior just prior to the arrest (Ho et al., 2005). One of the most notable conditions of sudden in-custody death cases is excited delirium. Excited delirium, alternatively known as Bell's mania, lethal catatonia, and agitated delirium, is characterized by an acute onset of bizarre and violent behavior. Combativeness, hyperactivity, unexpected strength, paranoid delusions, incoherent shouting, hallucinations, and hyperthermia often accompany the condition (Wetli, Mash & Karch, 1996; Farnham & Kennedy, 1997). Underlying causes of excited delirium include:

- Bipolar disorder, a psychiatric diagnostic category describing a class of mood disorders in which the person experiences clinical depression and/or mania, hypomania, and/or mixed states;
- Chronic schizophrenia, a psychiatric diagnosis that describes a mental disorder characterized by impairments in the perception or expression of reality and/or by significant social or occupational dysfunction;
- Intoxication with sympathomimetics, a class of drugs whose effects mimic those of a stimulated sympathetic nervous system, such as increased cardiac output, dilated bronchioles, and constricted blood vessels including cocaine, methamphetamine, and intoxication with anticholinergics, members of a class of pharmaceutical compounds which serve to reduce the effects mediated by acetylcholine in the central nervous system and peripheral nervous system;
- Cocaine intoxication;
- Alcohol withdrawal; and
- Head trauma (Park, Korn & Henderson, 2001).

Little information exists on the frequency of incidents because prospective studies are rare and retrospective studies show a bias toward fatal cases, but Doctor Vincent DiMaio, chief medical examiner in Bexar County, Texas, estimates that excited delirium kills as many as 800 people nationwide each year (Glick, 2006). Case reports seem to cluster in summer months and in areas noted for high temperature and high humidity (Ruttenber, McAnally & Wetli, 1999), and a Quetelet Index, or body mass index, in the upper three quartiles seems to increase the risk for fatal excited delirium (Ruttenber, Lawler-Heavner, Yin, Wetli, Hearn & Mash, 1997).

Fatal excited delirium appears to consist of four distinct and sequential phases: elevated body temperature, agitated delirium, respiratory arrest, and death (Wetli, Mash & Karch, 1996). Patients initially appear agitated to grossly psychotic, and they exhibit feats of superhuman strength, especially during attempts to restrain them. In one study, an average of four officers was required to subdue each suspect, with a range of three to six officers. Shortly after the patients were restrained, their violent struggling ceased, and witnesses noted that they had developed a labored or shallow breathing pattern. Some patients died moments later, but death typically occurred within one hour of first contact with police. More than 75 percent of patients died either