7. Affidavit of Dr. Mark Dershwitz, *In re:John Glenn Roe*, Case No. 04-3014.

IN THE UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

In Re: Lewis Williams, Appellant :

and Case No. 04-3014

In Re: John Glenn Roe, Appellant :

AFFIDAVIT OF DR. MARK DERSHWITZ, M.D., PH.D.

COMMONWEALTH OF MASSACHUSETTS :
: S.S.
COUNTY OF WORCESTER :

Affiant, being first duly cautioned and sworn, states as follows:

1. I am Dr. Mark Dershwitz, an M.D. with a Ph.D. in Pharmacology. A true and accurate copy of my curriculum vitae is attached as Exhibit A. I am licensed to practice medicine in the states of Massachusetts and Maine. I am currently an Anesthesiologist at the University of Massachusetts and I am certified by the American Board of Anesthesiology. I am currently a Professor of Anesthesiology and Biochemistry and Molecular Pharmacology at the University of Massachusetts.

2. I have done extensive research and written numerous review articles and research papers on the use of anesthetics and I regularly practice medicine in that capacity. My research includes the study of the pharmacodynamics and the pharmacokinetics of drugs. Pharmacokinetics is the study of the time course of a drug, while pharmacodynamics refers to the effects of a drug.

3. Prior to my current appointment at the University of Massachusetts, I have been an Instructor, Assistant Professor and Associate Professor at Harvard Medical School. I have testified as an expert witness concerning the pharmacokinetics and/or pharmacodynamics of anesthetic medications and other medications. I have testified in court as an expert witness on six occasions. I have given eleven depositions as an expert witness.

4. I have been requested to render an expert opinion concerning the effects of administering thiopental sodium, pancuronium bromide and potassium chloride with respect to Ohio's procedures for executing prisoners by lethal injection. I understand that

STATE'S EXHIBIT B

Ohio uses the following procedures for administering thiopental sodium and other drugs for the execution of condemned prisoners:

A. Approximately 30 minutes before the execution, the drugs used in the execution are prepared and mixed. Two grams (equal to 2000 milligrams, or thousandths of a gram) of thiopental sodium are dissolved in a total volume of 80 mL yielding a final concentration of 25 mg/mL. This solution is divided among two syringes labeled "one" and "two." This is a commonly used 2.5% solution.

B. A third syringe is prepared with 20 mL of saline used as a flush and labeled as syringe "three."

C. 100 mg of pancuronium bromide, supplied as a solution containing 2 mg/mL for a total volume of 50 mL, is placed into two 25 mL syringes labeled "four" and "five."

D. A sixth syringe is prepared with 20 mL of saline used as a flush and marked as syringe "six."

E. 100 milliequivalents of potassium chloride, supplied as a solution containing 2 mEq/mL for a total volume of 50 mL is placed in a syringe labeled "seven."

F. An eighth syringe is prepared with 20 mL of saline used as a flush and marked as syringe "eight."

G. Upon signal from the Warden, the syringes are injected in order "one" through "eight" at a rate of approximately 1 mL/second depending on resistance of flow. The injection process takes about four to eight minutes to complete.

H. The injections are prepared and administered by a licensed EMT-Paramedic trained in the administration of hypnotic and paralytic drugs. A nurse is present as the solutions are prepared.

5. I have performed a detailed pharmacokinetic and pharmacodynamic analysis of the effects of a two gram dose of thiopental sodium given to an average man with a mass of 80 kilograms or about 176 pounds. It is my opinion, to a reasonable degree of medical certainty, that a condemned inmate who is administered two grams of thiopental sodium will be rendered unconscious, and not experience pain, for the time period necessary to complete the execution. The following discussion will quantitate the miniscule probability that the person could be conscious during the period of time that elapses between the administration of the thiopental sodium and the person's death. Even in persons of greater size or with inherent drug tolerance (due, for example, to the prior administration of therapeutic medications), the listed probabilities would not be altered in a meaningful way.

6. From my pharmacokinetic analysis I have generated two graphs, attached as Exhibits B and C. These pharmacokinetic graphs show the concentration of thiopental in the blood in an average man as a function of time. In Exhibit B, the time course considered is twenty minutes, while in Exhibit C it is three hours. In both Exhibits B and C, the y-axis is the concentration of thiopental in blood measured in mcg/mL

(micrograms, or millionths of a gram). As shown in Exhibit B, after the administration of two grams of thiopental sodium, the blood concentration of thiopental would be about 240 mcg/mL about one minute after drug administration, falling to about 22.4 mcg/mL after twenty minutes. It should be noted that twenty minutes is more than twice as long as any prior execution in Ohio has required using the procedure described herein. Over the three hour time course shown in Exhibit C, the blood concentration of thiopental would fall to about 5.7 mcg/mL. The blood concentration of thiopental at which 50% of people are conscious and 50% are unconscious is 7 mcg/mL: about 133 minutes must elapse until this point is reached.

7. From my pharmacodynamic analysis, I have generated a graph, attached as Exhibit D. This pharmacodynamic graph shows the probability that an average man will be conscious as a function of the blood concentration of thiopental. In other words, the graph shows the likelihood of consciousness in the presence of varying blood concentrations of thiopental. The graph shows that it is extraordinarily unlikely that someone will remain conscious during the hour following the administration of two grams of thiopental sodium.

8. It is my opinion, to a reasonable degree of medical certainty, that this concentration of thiopental sodium given at the rate of approximately 1 mL/second as outlined above, would render most people unconscious within sixty seconds from the time of the start of administration. By the time all 80 ml of thiopental sodium solution are injected, at the rate of 1 mL/second, it is my further opinion, to a reasonable degree of medical certainty, that over 99.99999% of the population would be unconscious. Furthermore, this dose of thiopental sodium will cause virtually all persons to stop breathing within a minute of drug administration. Thus, although the subsequent administration of pancuronium bromide, a paralytic agent, would have the effect of paralyzing the person and preventing him from being able to breathe, virtually every person given two grams of thiopental sodium will have stopped breathing prior to the administration of pancuronium bromide. Thus, even in the absence of the administration of pancuronium bromide and potassium chloride, the administration of two grams of thiopental sodium by itself would be lethal in almost everyone.

9. It is my opinion, to a reasonable degree of medical certainty, that there is approximately a 0.00006% probability that a condemned inmate given this dose would be conscious, and able to experience pain, after a period of five minutes.

10. It is my opinion, to a reasonable degree of medical certainty, that there is approximately a 0.003% probability that a condemned inmate given this dose would be conscious, and able to experience pain, after a period of ten minutes.

11. It is my opinion, to a reasonable degree of medical certainty, that there is approximately a 0.03% probability that a condemned inmate given this dose would be conscious, and able to experience pain, after a period of thirty minutes.

12. It is my opinion, to a reasonable degree of medical certainty, that there is approximately a 0.7% probability that a condemned inmate given this dose would be conscious, and able to experience pain, after a period of sixty minutes.

13. Finally, it is my opinion, based upon a reasonable degree of medical certainty, the administration of two grams of thiopental sodium would render most people unconscious for a period of approximately two hours.

14. Therefore, it is my opinion to a reasonable degree of medical certainty that there is an exceedingly small risk that a condemned inmate under these circumstances would experience any pain associated with the infusion of lethal doses of pancuronium bromide and potassium chloride.

15. I have reviewed the affidavit of Dr. Mark Heath, filed in the Federal District Court in this case. I note that Dr. Heath's published works focus on the molecular mechanisms of pain. It does not appear that Dr. Heath has particular expertise with respect to the pharmacodynamics and pharmacokinetics of anesthetic medications. In other words, Dr. Heath has no apparent expertise in the time course of a medication's effect, which in my view is the primary medical and scientific issue raised in this case. While all anesthesiologists should be familiar with the use of thiopental sodium, pancuronium bromide, and potassium chloride, my primary research interest throughout my career in anesthesiology has been the study of the time course of the effects of anesthetic medications.

16. Paragraph 17 of Dr. Heath's affidavit states that the "failure to require continuous infusion of thiopental places the condemned inmate at a needless and significant risk for the conscious experience of paralysis during the excruciating pain of both suffocation and the intravenous injection of potassium chloride." This statement is scientifically erroneous. It is my opinion, to a reasonable degree of medical certainty, that continuous infusion would not significantly decrease the already exceedingly small risk that a condemned inmate would regain consciousness. In fact, the difference between the procedure outlined above for administering thiopental sodium versus a continuous infusion of 200 milligrams per minute for ten minutes is negligible.

17. Paragraph 18 of Dr. Heath's affidavit states that "Ohio's relatively low dose of thiopental amplifies the concern relating to the single injection (as opposed to continuous infusion) ..." This statement is scientifically erroneous. It is my opinion, to a reasonable degree of medical certainty, that a two gram dose of thiopental sodium administered as described above is a dose sufficient to induce unconsciousness for a period well in excess of the time necessary to complete an execution. When thiopental sodium is commonly used for general anesthesia in surgery, it is normally administered in a dose of 300 to 400 milligrams. Two grams, the amount of thiopental sodium used in Ohio's executions, is at least five times the commonly used surgical dosage

18. Paragraph 13 of Dr. Heath's affidavit states that pancuronium bromide as used in executions, "nullifies the ability of witnesses to discern whether or not the condemned

prisoner is experiencing a peaceful or agonizing death." This statement is scientifically erroneous. The inmate would not experience any pain or discomfort because he has been rendered unconscious by thiopental sodium. Pancuronium bromide acts to stop an inmate's breathing. It would also act to prevent the manifestations of seizure activity. Such seizures occur commonly after a person's heart stops beating. Thus, the absence of pancuronium bromide may be erroneously interpreted by the lay observer as pain or discomfort. It is my opinion, to a reasonable degree of medical certainty, that Ohio's use of thiopental sodium before, and in combination with, pancuronium bromide and potassium chloride results in an inmate's rapid and painless death.

19. Paragraph 15 of Dr. Heath's affidavit states that thiopental sodium has "a very short shelf life in liquid form," and that therefore, this results in a "major concern" relating to its use. It is my opinion, to a reasonable degree of medical certainty, that preparation of a 2.5% solution of thiopental sodium within one hour of its use presents no concern as to its stability and effectiveness when used. It is my further opinion that such a concentration should remain stable in liquid form for at least twenty-four hours at room temperature after preparation.

20. I have reviewed information relating the training and experience of the person who prepares the solutions and administers the injections of the thiopental sodium, pancuronium bromide and potassium chloride. It is my understanding that the person who administers these drugs is a licensed emergency medical technician-paramedic. Under Ohio and Massachusetts law, EMT-Paramedics can prepare and administer drugs. Both Ohio and Massachusetts law are consistent with the requirements of the EMT-Paramedic National Standard Curriculum.

21. The concentration of a 2.5% solution of thiopental sodium is a standard concentration that is commonly used in medical procedures. It is my opinion, to a reasonable degree of medical certainty, that a licensed EMT-Paramedic with the qualifications described above, is competent to prepare and administer these drugs properly.

FURTHER AFFIANT SAYETH NAUGHT.

Dr. Mark Dershwitz, M.D., Ph.D.

Sworn to and subscribed before me on this 8th day of January 2004.

LISA L. NICHOLSON
Notary Public
Commonwealth of Massachusetts
My Commission Expires
Feb...

Notary Public, Commonwealth of Massachusetts

CURRICULUM VITAE

(prepared 5 January 2004)

NAME Mark Dershwitz

ADDRESS: 33 Wildwood Drive
Sherborn, MA 01770
Telephone (508) 651-1120

PLACE OF BIRTH: Dearborn, MI

EDUCATION:

1974	B.A. cum laude Chemistry, with Departmental Honors Oakland University, Rochester, MI 48063
1982	Ph.D. (Pharmacology) Northwestern University, Evanston, IL 60201
1982	M.D. Northwestern University, Chicago, IL 60611

POSTDOCTORAL TRAINING:

INTERNSHIPS AND RESIDENCIES:

1983	Transitional Resident Carney Hospital, Boston, MA 02124
1984-1986	Resident in Anesthesia Massachusetts General Hospital, Boston, MA 02114

RESEARCH FELLOWSHIPS:

1986-1988	Department of Anesthesia Massachusetts General Hospital, Boston, MA 02114

LICENSURE AND CERTIFICATION:

1984	Massachusetts
1987	American Board of Anesthesiology
1990	Maine

ACADEMIC APPOINTMENTS:

1977-1979	Lecturer in Pharmacology, Illinois College of Podiatric Medicine
1979-1982	Lecturer in Pharmacology, Illinois College of Optometry
1984-1987	Clinical Fellow in Anæsthesia, Harvard Medical School
1987-1990	Instructor in Anæsthesia, Harvard Medical School
1990-1997	Assistant Professor of Anæsthesia, Harvard Medical School
1997-2000	Associate Professor of Anæsthesia, Harvard Medical School
2000-	Professor and Academic Vice Chair of Anesthesiology Professor of Biochemistry & Molecular Pharmacology University of Massachusetts Medical School

HOSPITAL APPOINTMENTS:

1986-1990	Assistant in Anesthesia, Massachusetts General Hospital
1990-1996	Assistant Anesthetist, Massachusetts General Hospital
1996-2000	Associate Anesthetist, Massachusetts General Hospital
2000-2002	Clinical Associate in Anesthesia, Massachusetts General Hospital
2000-	Anesthesiologist, UMass Memorial Medical Center

AWARDS AND HONORS:

1972	Michigan Higher Education Association Scholarship
1972-1974	Oakland University Competitive Scholarship
1973-1974	National Merit Scholarship
1979	American Society for Pharmacology and Experimental Therapeutics Travel Award
1981	Biophysical Society Samuel A. Talbot Award
1982	Alpha Omega Alpha Research Award
1986-1988	NIH National Research Service Award
2001	Distinguished Alumnus Award Oakland University Department of Chemistry
2002-2003	Outstanding Teacher Award University of Massachusetts Department of Anesthesiology
2003	Outstanding Medical Educator Award University of Massachusetts Medical School
2004-	Listed in Who's Who in America

MEMBERSHIPS IN PROFESSIONAL SOCIETIES:

Association of University Anesthesiologists
American Society of Anesthesiologists
American Society for Pharmacology and Experimental Therapeutics
American Society for Clinical Pharmacology and Therapeutics
International Anesthesia Research Society
Biophysical Society
International Society for Anesthetic Pharmacology
Massachusetts Medical Society
Anesthesia History Association

RESEARCH INTERESTS:

Intravenous anesthetics
Antiemetics
Monitoring depth of anesthesia
Malignant hyperthermia

RESEARCH FUNDING:

1986-1988	National Institutes of Health GM11656 (PI) The role of glutathione in malignant hyperthermia
1988-1989	Anaquest, Inc. (PI) Comparison of the sedative effects of midazolam and butorphanol
1989-1990	Glaxo, Inc. (Co-I) A randomized, double-blind comparison of intravenous ondansetron and placebo in the prevention of postoperative nausea and vomiting in female patients undergoing abdominal gynecological surgical procedures
1990-1991	Glaxo, Inc. (Co-I) A randomized, double-blind, placebo-controlled study of the effects of two dose levels of intravenous ondansetron on respiratory depression induced by alfentanil in healthy male volunteers
1991-1992	Glaxo, Inc. (Co-I) A dose finding and comparative trial of GI87084B and alfentanil for anesthesia maintenance
1992-1993	Glaxo, Inc. (Co-I) Pharmacokinetics and pharmacodynamics of GI87084B in subjects with hepatic impairment compared to subjects with normal hepatic function

1993-1994	Marion Merrell Dow, Inc. (PI) A randomized, double-blind, placebo-controlled, dose response trial to assess single dose intravenous dolasetron mesylate in patients experiencing postoperative nausea and vomiting
1993-1994	Marion Merrell Dow, Inc. (PI) A randomized, double-blind, placebo-controlled, dose response trial to assess single dose intravenous dolasetron mesylate in preventing postoperative nausea and vomiting
1993-1994	Glaxo, Inc. (Co-I) Pharmacokinetics and pharmacodynamics of GI87084B in subjects with renal impairment compared to subjects with normal renal function
1995-1996	Glaxo, Inc. (PI) A randomized, double-blind, dose-response study of ondansetron in the prevention of postoperative nausea and vomiting in inpatients
1996-1997	Aradigm Corporation (Co-I) Comparison of the pharmacokinetics and pharmacodynamics of inhaled versus intravenous morphine sulfate in healthy volunteers
1999-2000	Searle, Inc. Clinical Protocol for a Double-blind, Placebo-Controlled, Randomized Study of the Efficacy of Parecoxib 20 mg IV and Parecoxib 40 mg IV Given Postoperatively to Determine Narcotic-Sparing Effectiveness in a Post-General Surgery Pain Model

CLINICAL RESPONSIBILITIES:

1986-1988	Attending Anesthesiologist (20% clinical responsibility) Massachusetts General Hospital
1988-2000	Attending Anesthesiologist (50% clinical responsibility) Massachusetts General Hospital
1994-1997	Team Leader, East-West Anesthesia Service Massachusetts General Hospital
1997-2000	Team Leader, General Surgery Anesthesia Service Massachusetts General Hospital
2000-	Attending Anesthesiologist (50% clinical responsibility) UMass Memorial Medical Center

TEACHING EXPERIENCE:

1976-1980	Dental Hygiene Pharmacology Northwestern University Dental School 5 hours and Course Director
1977-1979	Medical Pharmacology Illinois College of Podiatric Medicine 22 hours and Course Director
1978-1981	Dental Pharmacology Northwestern University Dental School 3 hours
1979-1982	General Pharmacology Illinois College of Optometry 20 hours and Course Director
1979-1982	Ocular Pharmacology Illinois College of Optometry 10 hours and Course Director
1980-1981	Nursing Pharmacology, Northwestern University 5 hours
1994-	HST 150 Introduction to Pharmacology Harvard-MIT Program in Health, Science and Technology 4 hours
1996-	Harvard Anesthesia Review and Update 1-2 hrs
2001-	Medical Pharmacology University of Massachusetts Medical School 11-14 hrs

VISITING PROFESSORSHIPS:

April 6-7, 1994:	University of Pennsylvania
May 17-18, 1994:	University of North Carolina at Chapel Hill
Sept. 20-22, 1994:	State University of New York at Stony Brook
April 5-6, 1995:	Albany Medical College
May 8-10, 1997:	University of Texas Southwestern Medical Center
Dec. 8-9, 1998	Temple University
Dec. 16-17, 1998	University of Pittsburgh

COMMITTEE MEMBERSHIPS:

LOCAL:

2000 -	Pharmacy and Therapeutics Committee UMass Memorial Medical Center
2001 -	Physician Health and Well-Being Committee UMass Memorial Medical Center

NATIONAL:

1999 -2002	Subcommittee on Anesthetic Action and Biochemistry American Society of Anesthesiologists
2001 -	Subcommittee on Drug Disposition American Society of Anesthesiologists

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ORIGINAL REPORTS:

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5. Dershwitz M, Novak RF. Generation of superoxide anion via the interaction of nitrofurantoin with human hemoglobin. **J. Biol. Chem.** 1982;257:75-9.

6. Dershwitz M, Novak RF. Studies on the mechanism of nitrofurantoin-mediated red cell toxicity. **J. Pharm. Exp. Ther.** 1982;222:430-4.

7. Dershwitz M, Ts'ao CH, Novak RF. Metabolic and morphologic effects of the antimicrobial agent nitrofurantoin on human erythrocytes in vitro. **Biochem. Pharmacol.** 1985;34:1963-70.

8. Dershwitz M, Sréter FA, Ryan JF. Ketamine does not trigger malignant hyperthermia in susceptible swine. **Anesth. Analg.** 1989;69:501-3.

9. Dershwitz M, Ryan JF, Guralnick W. Safety of amide local anesthetics in patients susceptible to malignant hyperthermia. **J. Am. Dent. Assoc.** 1989;118:276-80.

10. Dershwitz M, Sréter FA. Azumolene reverses episodes of malignant hyperthermia in susceptible swine. **Anesth. Analg.** 1990;70:253-5.

11. Dershwitz M, Rosow CE, Di Biase PM, Zaslavsky A. Comparison of the sedative effects of butorphanol and midazolam. **Anesthesiology** 1991;74:717-24.

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16. Dershwitz M, Randel GI, Rosow CE, Fragen RJ, Connors PM, Librojo ES, Shaw DL, Peng AW, Jamerson BD. Initial clinical experience with remifentanil, a new opioid metabolized by esterases. **Anesth. Analg.** 1995; 81:619-23.

17. Dershwitz M, Hoke JF, Rosow CE, Michałowski P, Connors PM, Muir KT, Dienstag JL. Pharmacokinetics and pharmacodynamics of remifentanil in volunteer subjects with severe liver disease. **Anesthesiology** 1996; 84:812-20.

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23. Dershwitz M, Conant JA, Chang YC, Rosow CE, Connors PM. A randomized double-blind dose-response study of ondansetron in the prevention of postoperative nausea and vomiting. **J Clin Anesth** 1998; 10:314-20.

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26. Dershwitz M, Walsh JL, Morishige RJ, Connors PM, Rubsamen RM, Shafer, SL, Rosow C. Pharmacokinetics and pharmacodynamics of inhaled versus intravenous morphine in healthy volunteers. **Anesthesiology** 2000; 93:619-28.

27. Dershwitz M, Michałowski P, Chang YC, Rosow CE, Conlay LA. Postoperative nausea and vomiting following total intravenous anesthesia with propofol and remifentanil or alfentanil. How important is the opioid? J Clin Anesth. 2002; 14:275-78.

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PROCEEDINGS OF MEETINGS:

1. Kharasch ED, Dershwitz M, Novak RF. Differential hemeprotein involvement in microsomal and red cell lysate quinone and nitro group reduction. In: Sato R, Kato R, eds. **Microsomes, Drug Oxidations, and Drug Toxicity.** New York: Wiley Interscience, 1982:237-8.

BOOKS:

1. Stelmack TR, Dershwitz M. **Manual for the Use of Pharmaceutical Agents for Ocular Diagnostic Purposes,** ICO Press, Chicago, 1980.

2. Dershwitz M, ed. **The MGH Board Review of Anesthesiology.** 4th ed. Norwalk, CT: Appleton & Lange, 1994.

3. Dershwitz M, ed. **The MGH Board Review of Anesthesiology.** 5th ed. Norwalk, CT: Appleton & Lange, 1998.

CHAPTERS IN BOOKS:

1. Dershwitz M, Ten Eick RE. Pharmacology. In: **National Boards Examination Review for Part I, Basic Sciences.** Garden City, NY: Medical Examination Publishing Co., 1981.

2. Dershwitz M. Pharmacology. In: **National Boards Examination Review for Part I, Basic Sciences.** New Hyde Park, NY: Medical Examination Publishing Co., 1984.

3. Dershwitz M. Pharmacology. In: **National Boards Examination Review for Part I, Basic Sciences.** New York: Elsevier Science Publishing Co., Inc., 1987.

4. Dershwitz M. Local anesthetics. In: Firestone LL, Lebowitz PW, Cook CE, eds. **Clinical Anesthesia Procedures of the Massachusetts General Hospital**, 3rd ed. Boston: Little, Brown and Co., 1988.

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REVIEWS AND EDUCATIONAL MATERIALS:

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2. Dershwitz M. How can the costs of anesthesia be decreased? **Intravenous Anesth. Today** 1994;1(3):4-9.

3. Dershwitz M. 5-HT_3 antagonists in postoperative nausea and vomiting. **Ambulatory Anesth.** 1995; 10(1):9-11.

4. Ballantyne JC, Dershwitz M. The pharmacology of non-steroidal anti-inflammatory drugs for acute pain. **Curr. Opin. Anaesthesiol.** 1995; 8:461-68.

5. Dershwitz M, Rosow CE. Remifentanil: a truly-short-acting opioid. **Semin. Anesth.** 1996: 15:88-96.

6. Dershwitz M, Rosow CE. Remifentanil: an opioid metabolized by esterases. Exp Opin Invest Drugs 1996; 5:1361-76.

7. Dershwitz M. Should we measure depth of anesthesia? Semin. Anesth. 2001; 20:246-56.

NON-PRINT MATERIALS:

1. Dershwitz M. Use of short-acting analgesia in surgery: achieving cost-effective care (videotape). Rancho Mirage, CA: Annenberg Center for Health Sciences, 1996.

2. Dershwitz M. General considerations (section editor). In: Bailin M. ed. Harvard Department of Anesthesia Electronic Library (CD-ROM). Philadelphia: Lippincott Williams & Wilkins, 2001.

3. Dershwitz M. Practical pharmacokinetics of intravenous anesthetics. In: Bailin M. ed. Harvard Department of Anesthesia Electronic Library (CD-ROM). Philadelphia: Lippincott Williams & Wilkins, 2001.

ABSTRACTS:

1. Bruer P, Cantarella J, Dershwitz M, Undy L, Young DC. Polarographic studies of copper (II) complexes of glycine peptides. Abstract #6, Anachem Society Meeting, Detroit, MI, 1976.

2. Dershwitz M, Novak RF. The interaction of nitrofurantoin with human hemoglobin. Fed. Proc. 1979;38:544.

3. Dershwitz M, Novak RF. Metabolic effects of nitrofurantoin on the human erythrocyte. The Pharmacologist 1979;21:170.

4. Dershwitz M, Novak RF. Depletion of erythrocyte adenosine-5'-triphosphate and reduced glutathione levels by nitrofurantoin and unnitrated derivatives. Fed. Proc. 1980;39:748.

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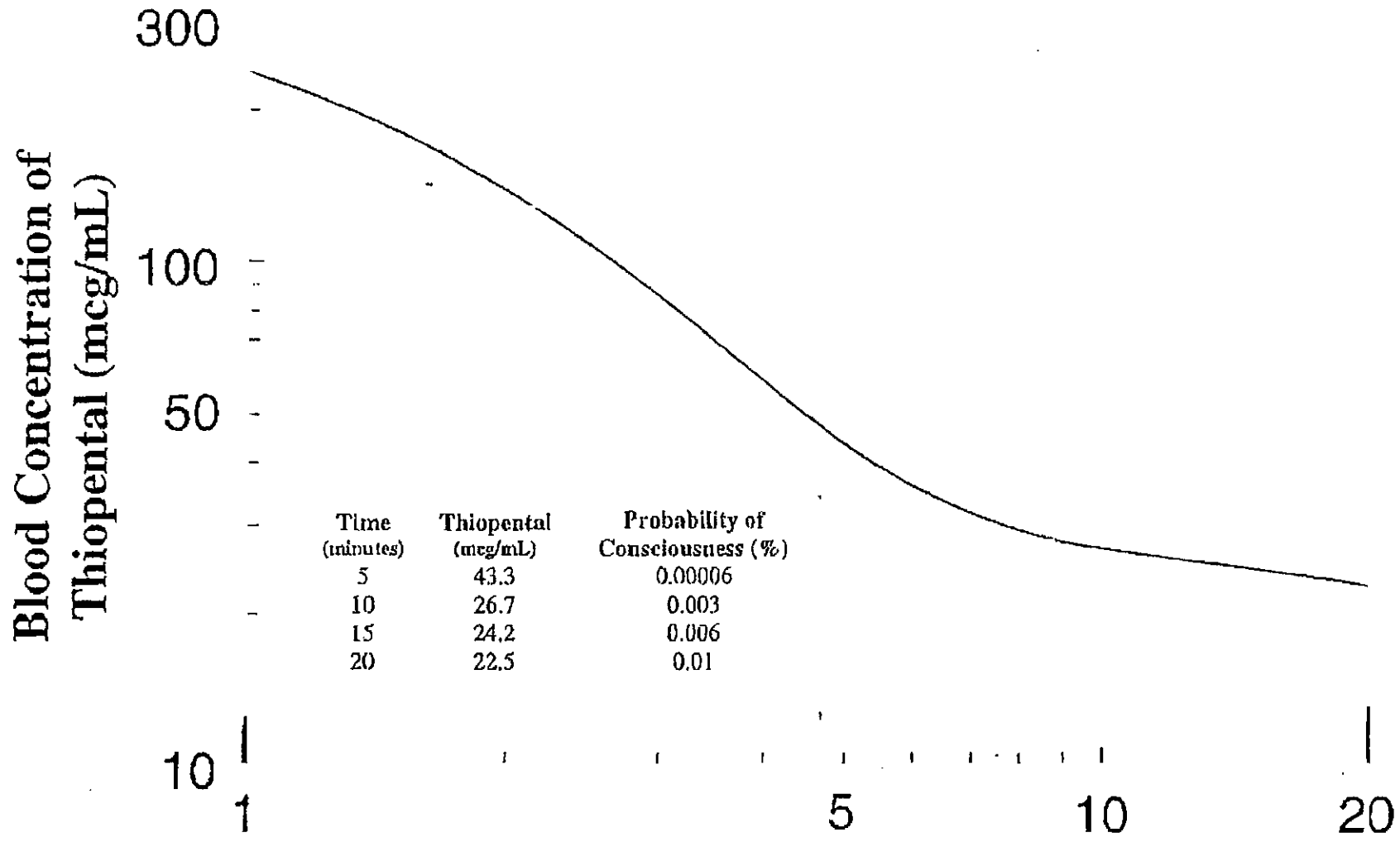
Blood Concentration After 2 grams of Thiopental Sodium in the Average Man within 20 Minutes

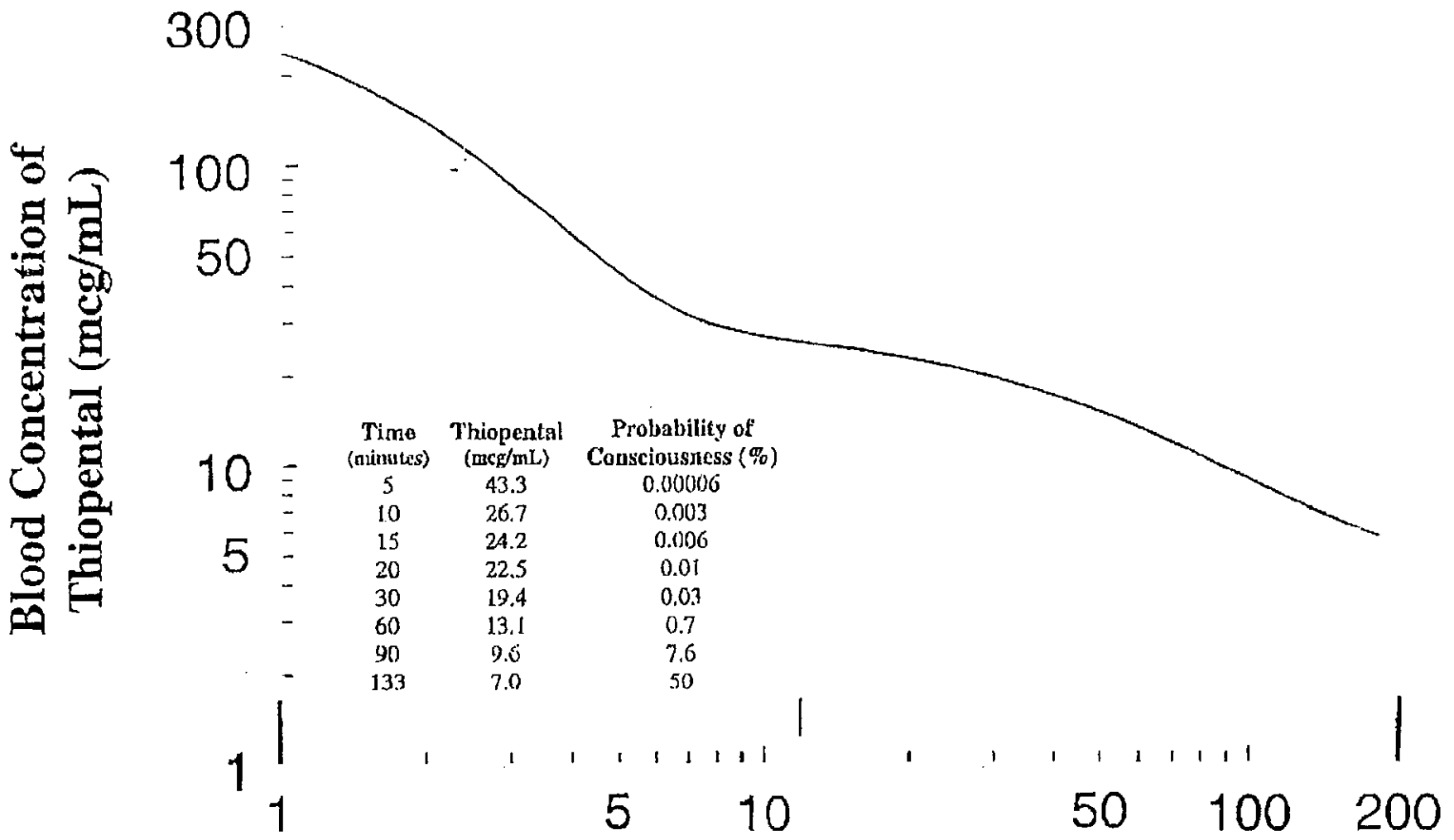


Time (minutes)	Thiopental (mcg/mL)	Probability of Consciousness (%)
5	43.3	0.00006
10	26.7	0.003
15	24.2	0.006
20	22.5	0.01

Microgram (mcg) = 1 millionth of a gram

Exhibit B

Blood Concentration After 2 grams of Thiopental Sodium in the Average Man within 180 Minutes

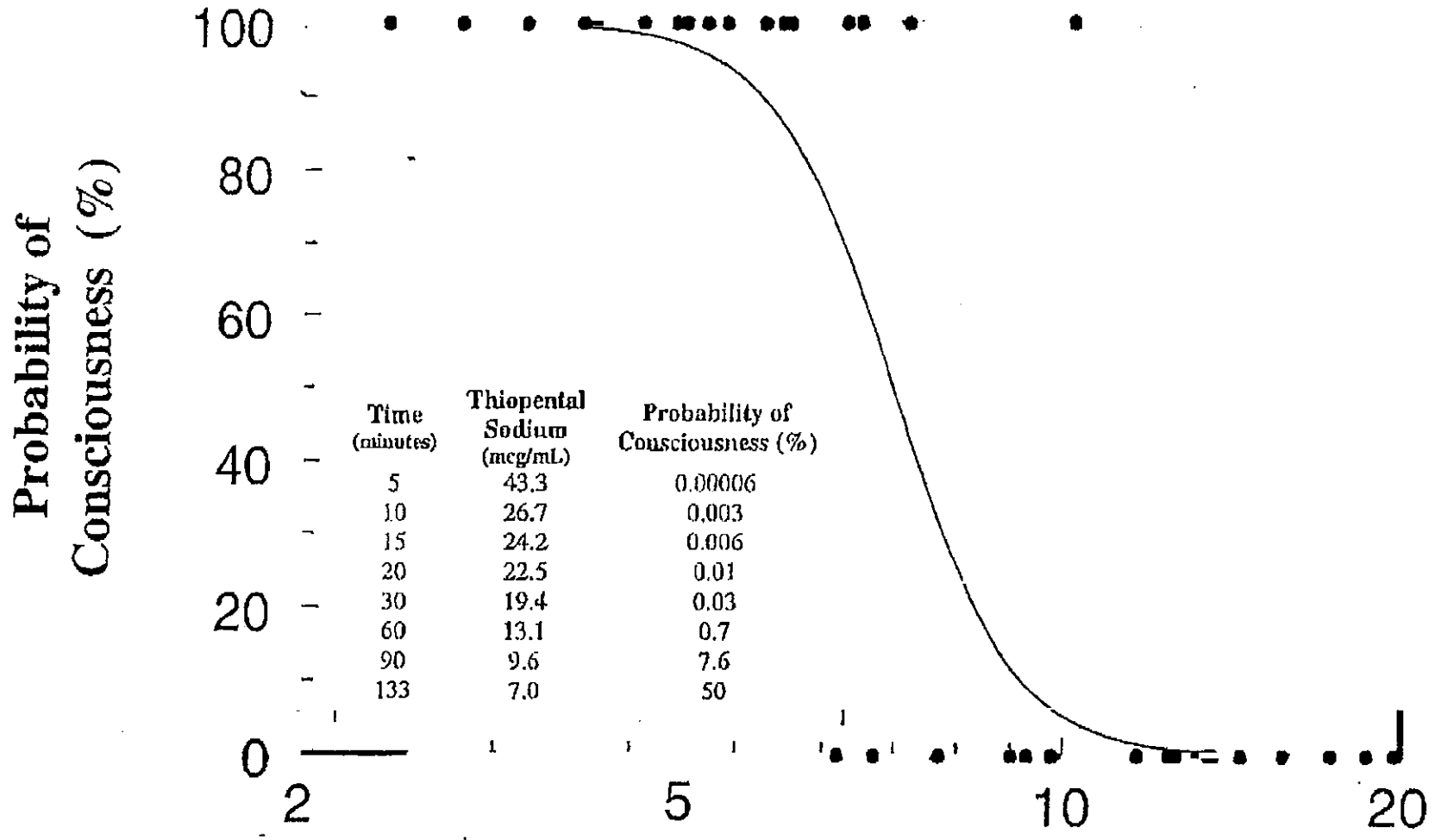


Time (minutes)	Thiopental (mcg/mL)	Probability of Consciousness (%)
5	43.3	0.00006
10	26.7	0.003
15	24.2	0.006
20	22.5	0.01
30	19.4	0.03
60	13.1	0.7
90	9.6	7.6
133	7.0	50

Microgram (mcg) = 1 millionth of a gram

Exhibit C

Probability of Consciousness as a Function of Blood Concentration After 2 grams of Thiopental Sodium in the Average Man



Time (minutes)	Thiopental Sodium (mcg/mL)	Probability of Consciousness (%)
5	43.3	0.00006
10	26.7	0.003
15	24.2	0.006
20	22.5	0.01
30	19.4	0.03
60	13.1	0.7
90	9.6	7.6
133	7.0	50

Microgram (mcg) = 1 millionth of a gram

Exhibit D

The Governor's Commission on Administration of Lethal Injection

March 1, 2007

The Honorable Charlie Crist
Office of the Governor
The Capitol
Tallahassee, FL 32999-0001

Dear Governor Crist:

Please find enclosed the final report of the Governor's Commission on Administration of Lethal Injection. A copy of this report was electronically mailed to you on March 1, 2007. I want to thank you for the opportunity to be of service to you and the citizens of the State of Florida. Every member of your staff that I interacted with on this project has demonstrated a positive attitude and a dedication to helping the Commission.

I will personally deliver a copy of the transcripts and all the other documents received or generated by the Commission to your legal office early next week. If I can be of further assistance to you on this or any other matter, please do not hesitate to contact me.

Respectfully,

Bill Jennings
Chairman

The Governor's Commission on Administration of Lethal Injection

John W. "Bill" Jennings
Senator Victor Crist
Rodney Doss
Harley Lappin
Honorable Stan Morris
Dr. Steve Morris

Representative Dennis Ross
Harry K. Singletary
Dr. Peter Springer
Carolyn Snurkowski
Dr. David Varlotta

Final Report
With
Findings and Recommendations

Presented to the
Honorable Charlie Crist
Governor of Florida
March 1, 2007

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The Governor's Commission on Administration of Lethal Injection

March 1, 2007

INTRODUCTION

On December 13, 2006, the execution of Angel Diaz created concerns whether Florida's lethal injection protocols were being adequately implemented by the Florida Department of Corrections. The amount of time required to effectuate death, eyewitness accounts of the execution and the preliminary autopsy findings prepared by William Hamilton, M.D., the Chief Medical Examiner for the Eighth Circuit, called into question the adequacy of the lethal injection protocols and the Department of Corrections' ability to implement them in a manner consistent with the Eighth Amendment to the United States Constitution.

As a result, then Governor Jeb Bush issued Executive Order 06-260 on December 15, 2006, which created the Governor's Commission on Administration of Lethal Injection to "review the method in which the lethal injection protocols are administered by the Department of Corrections and to make findings and recommendations as to how administration of the procedures and protocols can be revised". The Commission's purpose and mission was limited to evaluating these protocols and not the "policy decisions of the Legislature in enacting a death penalty or the means chosen by the Legislature for implementing the state's death penalty." While limited to evaluating Florida's lethal injection procedures and protocols, the Commission was given broad authority to re-evaluate the lethal injection process including "enforcement of those procedures and protocols."

Chapter 922 is the only legislative expression of Florida's method of execution which, under section 922.105, Florida Statutes (2006), calls for executions to be by either electrocution or lethal injection. Chapter 922 does not delineate with any detail how Florida's death penalty by lethal injection is to be implemented. The promulgation of procedures and protocols for implementing the death penalty by lethal injection was left to the discretion of the Department of Corrections.

Once this Commission was fully comprised by the current Governor, the commissioners set out to fully investigate Florida's method of execution consistent with the mandate of the Executive Order.

THE COMMISSION'S MEETINGS

The Commission met eight times in a manner that was open, transparent and conducive to citizen input on this vital issue consistent with Article I, Section 24(b) of the Florida Constitution and Florida's "Sunshine Act" under Chapter 286 of the Florida Statutes. The Commission first convened on January 29, 2007, and met subsequently on February 5th, 9th, 12th, 19th 24th, 25th, and 28th. During these meetings, numerous witnesses testified before the Commission, pages of documentary evidence were received and public comments, both oral and written, were given. An account of the evidence received by the Commission follows.

January 29th, 2007
The Commission heard testimony from the Following witnesses:
Neal Dupree: The Capital Collateral Regional Counsel for the Southern Region of Florida and attorney for Angel Diaz.
Randall Bryant: Warden of the Florida State Prison.
Randall Polk: Assistant Warden of the Florida State Prison.
William F. Mathews, P.A.: A physician's assistant employed by the Florida Department of Corrections.

February 5th, 2007
The Commission heard testimony from the following witness:
Denise Clark, D.O.: an osteopathic physician trained in vein therapy.

February 9th, 2007
The Commission heard testimony from the following witnesses:
Timothy J. Westveer: Inspector with the Office of Executive Investigations, Internal Affairs Unit, for the Florida Department of Law Enforcement.
Nikolaus Gravenstein, M.D.: An anesthesiologist and professor at the University of Florida.
Primary Executioner: Anonymous testimony from the primary executioner employed by the Florida Department of Corrections.
A Medically Qualified Member of the Execution Team: Anonymous testimony from a medically qualified member of the execution team.
The Commission also received comments from the public:
Carol Weihrer
Gavin Lee
Mark Elliot
Sol Otero

February 12th, 2007
The Commission heard testimony from the following witnesses:
Brenda Whitehead: A correctional specialist employed by the Florida Department of Corrections who witnessed the execution of Angel Diaz.
Bruce A. Goldberger, Ph.D, D.A.B.F.T.: A forensic toxicologist employed at the University of Florida who conducted a blood analysis on samples taken from Angel Diaz.
Mark Heath, M.D.: An anesthesiologist employed by Columbia University.
William F. Hamilton ,M.D.: The Medical Examiner for the Eighth District of Florida who performed the autopsy on Angel Diaz.

February 19th, 2007
The Commission heard testimony from the following witnesses:
Mark Dershwitz, M.D., Ph.D.: An anesthesiologist with a Ph.D. in Pharmacology with the Department of Anesthesiology at the University of Massachusetts.
George B. Sapp: Assistant Secretary for Institutions for the Florida Department of Corrections.
James R. McDonough: Secretary of the Florida Department of Corrections.
A Medically Qualified Member of the Execution Team: Anonymous testimony from a medically qualified member of the execution team.
Bonita Sorenson, M.D.: An employee of the Florida Department of Health and a member of the December 15, 2006, Department of Corrections' Task Force.
Maximillian J. Changus: Attorney supervisor in the Office of General Counsel for the Florida Department of Corrections and member of the December 15, 2006, Department of Corrections' Task Force.
The Commission also received comments from the public:
Mary Berglund

February 24th, 2007
The Commission conducted a workshop session concerning this report.

February 25th, 2007
The Commission conducted a workshop session concerning this report.

February 28th, 2007
The Commission met telephonically by means of a conference call and conducted a workshop session concerning this report. As a result of this meeting, the final draft of this report was written and approved.

AREAS OF INQUIRY

Much of the Commission's work focused on the execution of Angel Diaz on December 13, 2006. This was aided by the *Summary of Findings of the Department of Corrections' Task Force Regarding the December 13, 2006, Execution of Angel Diaz* which was submitted on December 20, 2006, to James R. McDonough, Secretary of the Florida Department of Corrections. In summary, the task force report offered adequate details surrounding the execution of Angel Diaz, finding that several protocols were not followed that day.

The Commission built on this foundation by calling several individuals of the execution team from the Department of Corrections responsible for carrying out the lethal injection protocols during the execution of Angel Diaz. This proved to be a difficult task, complicated by the executioners' desire for anonymity under Florida Statues and a number of medical personnel requests to maintain their anonymity. The task was also complicated because the Commission lacked the ability to subpoena witnesses.

Further restraints were placed on the Commission by the very nature of the lethal injection procedure itself. The use of medical personnel in capital punishment presents a profound dilemma. Every medical organization that has commented has taken a similar position. Medical personnel are prohibited from participating in executions and rendering technical advice. This prohibition hindered the Commission's ability to gather information. Many members of the medical profession were reluctant to appear in front of the Commission and were likewise reluctant to testify in the context of lethal injection. The Commission was also concerned that this prohibition may limit the best advice, the latest technology and the most capable individuals to enact lethal injection. This issue also limited the medical members of the Commission from offering advice or recommending suggestions during this process. Although the execution by lethal injection process is not a medical procedure; the process does require some qualified medical personnel to successfully accomplish a humane and lawful execution.

Both medical and legal ethics regulating each profession limited inquiry of those commissioners affiliated with either profession. These Commission members appreciate the other Commissioners' understanding of these ethical issues.

Despite the above issues, the Commission was able to convene in a manner that was collegial, deliberate and dedicated to the mandate bestowed upon it by the Governor. As a result, the Commission is proposing several findings and recommendations to be considered by those who create policy and those charged with its implementation.

LEGAL OVERVIEW

Lethal injection is currently the method of execution used by 37 of the 38 capital punishment states. The Florida Supreme Court, like other State and federal courts, has regularly rejected arguments that lethal injection as a method of execution is cruel and unusual. *Sims v. State*, 754 So. 2d 657 (Fla. 2000); *Rolling v. State*, 944 So. 2d 176, 179 (Fla. 2006); *Rutherford v. State*, 926 So. 2d 1100, 1113-14 (Fla. 2006); *Hill v. State*, 921 So. 2d 579, 582-83 (Fla. 2006); *Diaz v. State*, 945 So. 2d 1136 (Fla. 2006). No court thus far has held that lethal injection is cruel and unusual punishment in violation of the Eighth Amendment of the United States Constitution. The courts and legal articles acknowledge that humane concerns formed a large part of the motivation in adopting lethal injection as the presumptive method of execution in most states, and it has been observed that "with lethal injection, we know exactly what the person is going through because it's exactly what someone undergoing surgery experiences." Jonathan S. Abernethy, *The Methodology of Death: Re-examining the Deterrence Rationale*, 27 Colum. Hum. Rts. L. Rev. 379, 414 (1996).
The lethal injection procedure used by most states, originated in Oklahoma when Senator Bill Dawson asked Dr. Stanley Deutsch, then chair of the Anesthesiology Department at Oklahoma University Medical School, to recommend a method for executing prisoners through the administration of intravenous drugs. In a responsive letter, Dr. Deutsch recommended the administration of an "ultra short acting barbiturate" to induce unconsciousness, followed by the administration of a neuromuscular blocking drug to induce paralysis and death. See Deborah W. Denno, *When Legislatures Delegate Death: The Troubling Paradox Behind State Uses of Electrocution and Lethal Injection and What It Says About Us*, 63 Ohio St. L.J. 63, 95-97 (2002). Shortly thereafter, in 1977, Oklahoma became the first state to adopt lethal injection as an execution method, employing the protocol described in Dr. Deutsch's letter. See Rebecca Brannan, *Sentence and Punishment: Change Method of Executing Individuals Convicted of Capital Crimes from Electrocution to Lethal Injection*, 17 Ga. St. U. L. Rev. 116, 121 (2000). The first lethal injection execution occurred in Texas in 1982. Christina Michalos, *Medical Ethics and the Execution Process in the United States of America*, 16 Med. & L. 125, 126 (1997).

The Eighth Amendment prohibits punishments that are "incompatible with 'the evolving standards of decency that mark the progress of a maturing society.' " *Estelle v. Gamble*, 429 U.S. 97, 102, 50 L. Ed. 2d 251, 97 S. Ct. 285 (1976) (quoting *Trop v. Dulles*, 356 U.S. 86, 101, 2 L. Ed. 2d 630, 78 S. Ct. 590 (1958)(*plurality opinion*)). In the context of executions, the Eighth Amendment prohibits punishments that "involve the unnecessary and wanton infliction of pain," *Gregg v. Georgia*, 428 U.S. 153, 173, 49 L. Ed. 2d 859, 96 S. Ct. 2909 (1976), "involve torture or a lingering death," *In re Kemmler*, 136 U.S. 436, 447, 34 L. Ed. 519, 10 S. Ct. 930 (1890), or do not accord with "the dignity of man, which is the basic concept underlying the Eighth Amendment," *Gregg*, 428 U.S. at 173 (internal quotation marks and citation omitted). The Ninth Circuit, for example, has held that execution by hanging under the State of Washington's protocols did not constitute cruel and unusual punishment based on the district court's findings that the "mechanisms involved in bringing about unconsciousness and death in judicial hanging occur extremely rapidly, that unconsciousness was likely to be immediate or within a matter of

seconds, and that death would follow rapidly thereafter." *Campbell v. Wood*, 18 F.3d 662, 687 (9th Cir. 1994) (*en banc*); Note: *Louisiana ex rel. Francis v. Resweber*, 329 U.S. 459 (1946).

The Eighth Amendment prohibits punishments that involve the unnecessary and wanton inflictions of pain, or that are inconsistent with evolving standards of decency that mark the progress of a maturing society. *Estelle v. Gamble*, 429 U.S. 97, 102-03 (1976); *Furman v. Georgia*, 408 U.S. 238, 269-70 (1972); *Gregg v. Georgia*, 428 U.S. at 173 (opinion of Stewart, Powell, Stevens, JJ.). Punishments are cruel when they involve torture or a lingering death. *In re Kemmler*, 136 U.S. 436, 447 (1890). A method of execution is considered to be cruel and unusual punishment under the Federal Constitution when the procedure for execution creates "a substantial risk of wanton and unnecessary infliction of pain, torture or lingering death". *Gregg v. Georgia, supra.* In reviewing whether the method of execution is a constitutional violation, courts must consider whether it is contrary to evolving standards of decency that mark the progress of a maturing society. See *Baze v. Rees*, 2006 Ky. LEXIS 301 (Ky. 2006); *Trop v. Dulles*, 356 U.S. 86 (1958); *Roper v. Simmons*, 543 U.S. 551 (2005); *Solem v. Helm*, 463 U.S. 277, 292 (1983).

The United States Supreme Court has analyzed challenges to a method for carrying out the punishment, as to: (1) whether a method of execution comports with the contemporary norms and standards of society, ("the clearest and most reliable objective evidence of contemporary values is the legislation enacted by the country's legislatures." *Penry v. Lynaugh*, 492 U.S. 302, 331 (1989)); (2) whether a method of execution offends the dignity of the prisoner and society; (3) whether a method of execution inflicts unnecessary physical pain; and (4) whether a method of execution inflicts unnecessary psychological suffering. *Weems v. United States*, 217 U.S. 349, 373 (19–20). In considering objections to a particular execution method, the "methodology review focuses more heavily on objective evidence of the pain involved in the challenged method." *Campbell*, 18 F.3d at 682. To that end, "the objective evidence, though of great importance, [does] not 'wholly determine' the controversy, 'for the Constitution contemplates that in the end our own judgment will be brought to bear on the question of the acceptability of the death penalty under the Eighth Amendment.' " *Atkins v. Virginia*, 536 U.S. 304, 312, 153 L. Ed. 2d 335, 122 S. Ct. 2242 (2002) (quoting *Coker*, 433 U.S. at 597). See *Beardslee v. Woodford,* 395 F.3d 1064, 1070-71 (9th Cir. 2005).

These factors dictate that punishments may not include "torture, lingering death, wanton infliction of pain, or like methods." *Estelle v. Gamble*, 429 U.S. 97, 102 (1976); *In re Kemmler*, 136 U.S. 436, 447 (1890), but the Court has likewise held that the afore-noted does not contemplate a totally painless execution.

FINDINGS AND RECOMMENDTIONS

As a result of the review of testimony, written reports, Commission transcripts, articles and documents submitted to the Commission, it is the conclusion of the Commission that there are conflicts that the Commission believes that it has resolved that lead to our findings and recommendations. Examples of these resolved conflicts are as follows:

1. The execution team failed to ensure that a successful IV access was maintained throughout the execution of Angel Diaz.
2. Failure of the execution team to follow the existing protocols in the delivery of the chemicals.
3. The protocols as written are insufficient to properly carry out an execution when complications arise.
4. Failure of the training of the execution team members.
5. Failure of the training to provide adequate guidelines when complications occur.
6. There was a failure of leadership as to how to proceed when a complication arose in the execution process.
7. There was inadequate communication between the execution team members and the warden who was not informed of the problem and the changes implemented.

However, the Commission discovered during its investigation that there are other conflicts which remain unresolved. Examples of these unresolved conflicts are as follows:

1. Observations of the inmate during the execution process, including movement of the body, facial movements and verbal comments
2. Conflicting testimony of the expert medical witnesses regarding the impact of drugs, absorption of drugs, etc.

FINDINGS

1. Execution of inmate Diaz took 34 minutes, which was substantially longer than in any previous lethal injection execution in Florida. This was reflected in the testimony of all witnesses or participants in the Diaz execution, who had also witnessed prior executions by lethal injection.

2. The preponderance of physical evidence demonstrates that venous access at the time of execution was improperly maintained and administered. This was derived from the testimony of William F. Mathews P.A., Dr. William F. Hamilton, M.D. and FDLE Inspector Timothy J. Westveer.

3. The Department of Corrections failed to follow their August 16, 2006 Protocols, which resulted in the administration of the lethal chemicals to inmate Diaz at least in part subcutaneously. This was derived from the December 20, 2006, Department of Corrections report and testimony of William F. Mathews, P.A., Dr. William F. Hamilton, M.D. and FDLE Inspector Timothy J. Westveer.

4. There was inadequate training as to the August 16, 2006 Protocols. This was derived from testimony of the Primary Executioner, FDLE Inspector Westveer, and a Medically Qualified Member of the Execution Team.

5. Failure to adhere to Department of Corrections Protocol 14 (e) and the fact that this protocol inadequately provides direction when changing to the secondary site (B), that the lethal chemicals are to commence from the second rack (B) in the order described in protocol 14 (d). In this instance, the sequence in which the drugs were actually administered and the rack from which they were taken, created the opportunity, with or without the venous access failure, to allow the second chemical, pancuronium bromide, and the third chemical, potassium chloride, to take affect before the first drug, sodium pentothal, was able to fully take effect.

6. Because of the findings above, it is impossible for the Commission to reach a conclusion as to whether inmate Angel Diaz was in pain.

RECOMMENDATIONS: (see attachment (A) for The Physicians' Statement)

The Commission recommends that the Florida Department of Corrections, in consultation with other entities in the State of Florida, consider modifications to its written policies and procedures:

a. Related to the implementation of lethal injections carried out by officers and agents of the State of Florida;

b. Implement written policies, practices, and procedures related to ensuring optimal supervision and management of every lethal injection procedure by the appropriate officials, including the selection of personnel involved in each part of the lethal injection procedure;

c. Implement a comprehensive, systematic procedure for ensuring that persons selected to perform these official duties related to carrying out lethal injections are suitably qualified and trained to perform the assigned duties.

A. PROTOCOLS, PROCEDURES, CHECKLISTS AND DOCUMENTATION:

1. EXECUTION PROTOCOL

a. Develop and implement written procedures that clearly establish the chain of command in the lethal injection process, to include that the Warden (or other such person designated by the Secretary, Florida Department of Corrections) has final and ultimate decision making authority in each and every aspect of the lethal injection process.

b. Develop and implement procedures to insure that there is effective two-way audio communication between the execution team members in the Chemical Room and the execution team members in the Death Chamber (for example, a dedicated frequency should be considered).

2. **DOCUMENTATION OF ACTIONS AND PROCEDURES:**

a. Develop and implement procedures which require that any step or function which is required to be documented on a checklist or other document(s) be verified by utilization of the execution team member's initials or other identifier.

b. Develop and implement procedures to monitor and document all stages of the lethal injection process, including the administration of the lethal chemicals.

c. Change the designation of the lines used for the IVs and racks holding the lethal chemicals so that one has a number designation and the other has a letter designation.

d. Implement a change so that the primary FDLE agent will be located in the Chemical Room, and the agent's responsibilities are to include documenting and keeping a detailed log as to what occurs in the Chemical Room at a minimum of 30 second intervals. The log should be available at the post execution debriefing.

e. A second FDLE agent should be added to the procedures. This agent will be located in the Witness Room, and will be responsible for keeping a detailed log of what is occurring in the Death Chamber at a minimum of 30 seconds intervals. The log should be available for the post execution debriefing.

f. The duties of both the primary and secondary FDLE Agent should be defined in detail by the Department of Corrections and the Florida Department of Law Enforcement.

g. The debriefing process following an execution should be a formal process that details who should participate and what should be covered. A written record of the debriefing should be produced.

3. **LETHAL INJECTION CHEMICAL PREPARATION**

Develop and implement a procedure to ensure that each syringe used in the lethal injection process is appropriately labeled, including the name of the chemical contained therein.

4. **ESTABLISHING INTRAVENOUS (IV) ACCESS:**

a. Develop and implement a procedure which requires that the condemned inmate be individually assessed by appropriately trained and qualified persons at a minimum of one

week prior to the scheduled execution. The results of this examination shall be documented in the appropriate record.

b. Develop and implement a process to determine the most suitable method of venous access (peripheral or femoral) for the lethal injection process, considering the technical skills of available personnel and the individual circumstances of the condemned inmate.

c. Develop and implement procedures for gaining venous access to the condemned inmate which do not require movement of the condemned person after venous access is obtained. These procedures should optimize the length of tubing, so that it is as short as possible.

d. Develop and implement procedures to ensure that unexpected event(s) are identified, including inability to access a venous site, problems with tubing, apparent consciousness of the inmate, etc. In the event that an above describe event(s) occurs, the execution process should be interrupted, appropriate persons advised, and corrective steps discussed and implemented before resuming the execution process.

e. Develop and implement procedures to allow for the monitoring of the condemned inmate's restraints and the adhesive tape to eliminate the risk of restricting the flow of lethal chemicals through the IV line.

f. Develop and implement procedures to insure that a closed circuit monitoring of the inmate in the Death Chamber by the execution team members in the Chemical Room. This should include at a minimum the condemned inmate's face and IV access points. No recordings by the closed circuit monitor should be made.

5. ADMINISTRATION OF LETHAL CHEMICALS:

a. Develop and implement procedures to ensure that the condemned inmate is unconscious after the administration of the first lethal chemical, sodium pentothal, before initiating administration of the second and third lethal chemicals. Under no circumstances should the execution continue with the second and third lethal chemical without the Warden's authorization.

b. Develop and implement procedures to ensure that if at any stage of the administration of the lethal chemicals a decision is made to change IV sites or utilize a secondary site, that the entire lethal chemical administration process is re-initiated from the beginning (syringe # 1{sodium pentothal}), unless the Warden, in consultation with available medical staff, determines that the process may be re-initiated at a different stage.

B. DEVELOPMENT OF COMMAND STRUCTURE AND INFLUENCE AND SELECTION OF PERSONNEL INVOLVED IN THE LETHAL INJECTION PROCESS:

1. Develop and implement written procedures that clearly establish and define the role of each person in the lethal injection process, including the duties required of the position, the expected outcome of each duty or function to be observed or performed, the necessity for compliance with established procedures, that person's responsibility to perform duties as set forth in the protocol or procedure, and to provide necessary information to supervisory level personnel as is needed or required.

2. Consider limiting appointment of persons as members of the execution team, who are otherwise responsible for the routine care and custody of condemned inmates.

3. Consider assigning as few individuals to the Death Chamber as possible to enhance an unobstructed view of the condemned inmate.

4. Develop and implement clearly defined duties for the two FDLE agents who should document what occurs during the execution.

5. Establish that the Warden is responsible for each and every decision during the execution, after receiving input from other members of the execution team.

C. DEVELOPMENT AND IMPLEMENTATION OF TRAINING PROCEDURES FOR PERSONS INVOLVED IN THE LETHAL INJECTION PROCESS:

1. Develop and implement a training program for all persons involved in the lethal injection process. This training program should consider including a requirement for periodic exercises involving all team members and the representative(s) from FDLE. If not feasible for persons to be involved in the periodic training, a procedure should be established to ensure that the person performing a given function is proficient to perform that task. The training program should be documented as to the participants (by name or other identifier) and the function rehearsed. A procedure should be developed and implemented in which each training exercise is critiqued at all levels to address contingencies and the response to those contingencies.

2. Develop and implement procedures which review foreseeable lethal injection contingencies and formulate responses to the contingencies which are rehearsed in the periodic training.

3. Develop and implement written policies, practices, and procedures requiring all team members who participate in an actual execution to have completed, to the satisfaction of the Warden or designee, any and all training necessary to ensure the team member is qualified to perform the specific function or task in a lethal injection.

D. MISCELLANEOUS RECOMMENDATIONS RELATED TO THE FLORIDA LETHAL INJECTION PROCESS:

1. Develop and implement procedures to ensure that a member of the execution team is able to communicate in the primary language of the inmate being executed.

2. Install additional clocks and any additional necessary lighting in the Death Chamber.

3. It is the Commission's opinion that an agency following the procedures framed in our recommendations can carry out an execution utilizing the three proscribed chemicals identified in the Florida Department of Corrections' August 16, 2006, protocol within the existing parameters of the Constitution. However, the Commission suggest, that the Governor have the Florida Department of Corrections on an ongoing basis explore other more recently developed chemicals for use in a lethal injection execution with specific consideration and evaluation of the need of a paralytic drug like pancuronium bromide in an effort to make the lethal injection execution procedure less problematic.

Respectfully Submitted,

The Commission

CHAIRMAN'S CLOSING COMMENTS

I feel it is important to recognize several individuals for their contribution to the Commission's effort in fulfilling the task assigned to it by the Governor. I wish to thank Governor Crist for giving me the opportunity to serve the citizens of the State of Florida. Next, I wish to recognize the enormous sacrifice of time and energy by each and every commissioner. Without their dedication to this task, it would have been impossible for the Commission to have accomplished its work in a timely manner. Additionally, Gerald Curington, Deputy Chief of the Governor's Legal Staff, was instrumental in assisting the Commission in navigating the early fiscal and structural requirements. Kathy Torian, Governor's Deputy Press Secretary, cheerfully provided all the meeting notifications to the news media on what always seemed like short notice. A special thanks to Max Changus, Deputy Council for the Department of Corrections, who was constantly required to produce Department of Corrections' personnel to testify before the Commission with only minimum notice. The Florida Bar's willingness in providing a meeting room, and daily assistance with the little details was of significant assistance to the Commission in its work. I wish to voice my appreciation to Pat Gleason of the Governor's staff, who was continually providing much appreciated advice on the Florida Sunshine Law requirements. Finally, I would like express my appreciation to the members of my office, who were constantly required to assist me on this project, while continuing to perform their normal duties. In particular, I wish to mention the efforts of Peter Cannon of my staff, who worked tirelessly behind the scenes, so that the Commissioners had all of the materials, as well as coordinating the witnesses and producing the meeting agendas. I hope that by acknowledging these individuals that it is apparent to everyone that this was a group effort, which was made possible by the dedication, congeniality and perseverance of everyone, but especially the Commission members.

APPENDIX A

The Physicians' Statement

The American Medical Association has maintained a Code of Ethics for Physicians since 1847. This Code is regularly updated and revised and is currently relevant, it is also extremely specific when addressing physician participation in legal executions, including lethal injection. According to the Code a physician is prohibited from participating in an execution, observing an execution, and assisting in an execution including providing technical advice. Indeed, countless organizations representing medical and clinical professions have adopted a similar position.

When asked to participate in the Lethal Injection Commission for the State of Florida we physicians were faced with a dilemma. Should we decline the request of the State and let others decide the direction of the Commission's actions, or should we involve ourselves at the risk of being labeled unethical physicians? Ultimately we agreed to serve as we trust that the State neither wants to create unethical physicians, nor would it be interested in consulting physicians willing to operate outside of their ethical boundaries.

It is our contention from testimony of witnesses and interacting with the other Commission members that authoritative bodies in this country are tending to require more sophisticated medical techniques and personnel to administer the lethal injection. This is a legal and societal problem, not a medical one. A physician must always act in the best interest of the individual as they apply their knowledge and skill; otherwise they risk damage to the trust that patients place in their physician. Maintaining a patient's trust is paramount. A physician must always place the individual's interest above all else. Physician participation in lethal injection places this trust in jeopardy.

We physicians are aware that the Commission rendered specific recommendations in its report. We have refrained from rendering our medical expertise or consent to these specific recommendations. After hearing the testimony of the witnesses and through our deliberations, it is of great concern to us that this task may require the use of medical personnel. The participation of these individuals requires them to operate outside the ethical boundaries of their profession. This is a unique situation. We know of no other occasion where the State employs the services of individuals operating outside of the ethical boundaries of their profession. This is not a desirable situation. It is also our conclusion that because of the above noted points, the inherent risks, and therefore the potential unreliability of lethal injection cannot be fully mitigated.

Respectfully,
Steve Morris, M.D.
Peter Springer, M.D., F.A.C.E.P.
Dave Varlotta, D.O.

APPENDIX B

February 28, 2007

Mr. John W. "Bill" Jennings
Chairman
Governor's Commission on
Administration of Lethal Injection
3801 Corporex Drive, Suite 210
Tampa, Florida 33619

RE: Objection to Commission Statement

Dear Chairman:

I must first observe that it has been a great pleasure to work with you and the other esteemed members of the Governor's Commission on Administration of Lethal Injection. While the task assigned the Commission was serious and challenging, getting to know and work with the Commission members was rewarding and educational.

I write this letter however, to register my concerns that, in questioning whether the lethal drugs utilized in Florida's method of execution should be evaluated, the Commission has moved beyond the mission and purpose assigned by Governor Bush in Executive Order 06-260. That Order set forth that the Commission's "purpose and mission shall be limited to evaluating Florida's lethal injection procedures and protocols, including enforcement of those procedures and protocols, and shall not extend to re-evaluating the policy decisions of the Legislature in enacting a death penalty or the means chosen by the Legislature for implementing the state's death penalty."

While the Commission clearly addressed a number of very important issues regarding needed enhancements of the existing protocols and shoring up identified lapses in the adherence to the existing protocols, the issues identified by the Commission dealt with personnel matters, the failure to properly deliver the lethal drugs and the failure to follow current protocols once a problem was detected, not the use of particular drugs set forth in the Department of Corrections' protocols.

Because I believe the Commission was not authorized to expand its charge beyond the Governor's Executive Order, I must respectfully voice my dissent regarding the overreaching of the Commission's remarks on this point.

Sincerely yours,

Carolyn M. Snurkowski