

DECLARATION OF SRIKUMARAN (SRI) K. MELETHIL, PH.D., J.D.

Srikumaran (Sri) K. Melethil, Ph.D., J.D., declares under penalty of perjury as follows:

1. My name is Srikumaran (Sri) K. Melethil, Ph.D., J.D. I am a pharmacokineticist. My curriculum vitae is attached to this declaration. Pharmacokinetics is the science of how drugs act in the body over time.

2. On September 19, 2005, I was contacted by Elizabeth Unger Carlyle, an attorney in Lee's Summit, Missouri. She explained to me that she represented an intervenor plaintiff, Richard Clay, in a U.S. District Court case involving Missouri's lethal injection procedure. She sought my expert testimony in connection with that case. I agreed to help.

3. Over the past several months, Ms. Carlyle and I have conferred several times about the issues in the case and the need for discovery as to the conclusions of the state's expert.

4. On January 18, 2006, Ms. Carlyle contacted me by e-mail and told me that a hearing date on the case might be imminent; she asked for and was given my conflict dates.

5. On January 26, 2006,, Ms. Carlyle contacted me again. She informed me that a merits hearing was scheduled for February 21-22, and that my testimony likely would be needed on February 21.

6. On January 30, 2006, Ms. Carlyle attempted to contact me by telephone and e-mail to inform me of the immediate hearing in the case. Because I was traveling, I did not receive these communications until Tuesday, January 31, 2006. I spoke with her that day.

7. I have reviewed the testimony and affidavits of Dr. Mark Dershwitz, the state's expert in this case, which was presented in the case of Timothy Johnston. For the purposes of this declaration, I am assuming that his testimony in Mr. Taylor's case was similar.

8. Dr. Dershwitz has indicated, based in part on a graph which he presented, that the blood level of sodium thiopental which would be present in the executed prisoner's blood at the time of death was sufficiently high that the prisoner would become unconscious shortly after the administration of sodium thiopental and would remain unconscious until death. Dr. Dershwitz has not, to my knowledge, provided the data on

which he bases this conclusion. My own study of the area reveals no data supporting this conclusion.

9. The level of the drug in the brain, rather than that in the blood, determines whether a person will be unconscious. Dr. Dershwitz presents no data about measured brain levels of thiopental, either in humans or in laboratory animals. (For obvious reasons, it is impossible to determine the brain level of thiopental in a living human.)

10. Attached to this declaration is a graph showing the decline in the level of sodium thiopental in laboratory rats over time. The graph indicates that the decline is quite rapid. This is no surprise, because one of the reasons sodium thiopental is used clinically is that it wears off quickly. This characteristic decline in brain levels makes me suspicious that Dr. Dershwitz's conclusions about consciousness and blood levels may be inaccurate.

11. Because I still do not know what data Dr. Dershwitz used, I cannot now express an opinion to a reasonable degree of scientific certainty

about his conclusions. However, if I had access to his data, I would be able to do so.

12. Goodman & Gilman's, *The Pharmacological Basis of Therapeutics*, 9th Ed., a standard reference in pharmacology, notes that in surgical situations, the dosage of sodium thiopental needed for sedation varies with the person. Some people need larger doses than others. At p. 323, the reference notes, "Patients who require a large initial dose of thiopental will awaken despite plasma concentrations that normally would cause sleep." Based on this reference, it is my opinion that blood levels of thiopental are not necessarily determinative of whether a particular person will actually be asleep during a procedure. Thus, I believe that the issue of whether persons subjected to the Missouri protocol will suffer unnecessarily due to the failure of anesthesia deserves further study.

Signed under penalty of perjury this 1st day of February, 2006.



Srikumaran (Sri) K. Melethil, Ph.D., J.D.