

Circuit Court of Fairfax County

Commonwealth of Virginia v. Alfredo R. Prieto

Prepared in STATE OF VIRGINIA

Declaration of Stuart M. Lowson, M.D.

1. My name is Stuart M. Lowson. I have been asked by counsel for Alfredo Prieto from the law firm of Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, to provide this affidavit in the above case.
2. I am an Associate Professor of Anesthesiology at the University of Virginia and the Director of Surgical Intensive Care. I passed the American Board *Examination* in Anesthesiology in 1996 and the American Board Examination in Critical care in 1997.
3. In order to provide an affidavit in this case, I have reviewed public information concerning Virginia's lethal injection protocols. In addition to relying on my education, training, research, and experience as a practicing anesthesiologist in a teaching hospital, I have reviewed information concerning Virginia executions by lethal injection.
4. It is my understanding that the lethal injection procedures in Virginia comprise the following steps: 1) IV access is established by team members; 2) Sodium Thiopental 2 grams is administered in 80 ml total volume, divided between two syringes; 3) A 25 ml saline flush; 4) Pancuronium Bromide (also known as Pavulon) 50 mg is administered in 50 ml total volume in one syringe; 5) A 25 ml saline flush; 6) Potassium Chloride 240 mEq is administered in 120 ml total volume, divided between two syringes; 7) A 25 ml saline flush.
5. It would violate the prevailing medical standard of care to subject any person, including a prisoner in Virginia, to a planned and anticipated highly painful procedure without first providing anesthesia sufficient to ensure that the patient does not experience pain.
6. Presumably because of the excruciating pain caused by potassium chloride and the suffocation caused by Pancuronium bromide, also known as Pavulon, Virginia's lethal injection protocol plans for the provision of general anesthesia by the inclusion of sodium thiopental.
7. However, if the sodium thiopental is not administered properly, if the prisoner does not reach a certain anesthetic depth, or if it wears off before the other two drugs are administered, the administration of potassium chloride would cause the prisoner excruciating pain.
8. It is my opinion that Virginia's protocol is deficient in numerous respects.
9. In the state of Virginia, anesthesia may be delivered by either medically trained anesthesiologists or a nurse anesthetist (CRNA) under the supervision of medically trained doctor. For an individual to qualify as an anesthesiologist, he/she must first attend and satisfy the exam requirements

of five years of medical school, during which time they receive a broad postgraduate before entering an anesthesiology residency. The anesthesiology residency is of three years duration and teaches the resident both the scientific and clinical basis of anesthesia and trains them in the scientific scary skulls to safely care for anesthetized patient. At the end of the three years, the resident must pass an oral and written examination, which tests the judgment and knowledge base of the anesthesiology candidate.

10. Nurse anesthetists must complete a four-year bachelor's degree in nursing. On satisfactory completion of the degree, they must spend a minimum of two years in postgraduate clinical training, one year to be spent in an intensive care unit and the second year to be spent in emergency medicine training. In practice, most nurse anesthetists spend more than two years in postgraduate training before-being accepted into nurse anesthetist school. Nurse anesthetist school consists of a further three years of postgraduate training, at the end of which they must satisfy exam requirements before being permitted to practice as a nurse anesthetist.

11. In Virginia and elsewhere in the United States, the provision of anesthetic care is performed only by personnel with advanced training in the medical subspecialty of Anesthesiology. Anesthetic care is complex and can only be safely performed by individuals who have completed the extensive aforementioned requisite training to permit them to provide anesthesia services.

12. One vital skill -- learned in both residency and CRNA school -- is the ability to accurately judge the depth of anesthesia and to be able to adjust the delivery of the anesthetic agents appropriately. The clinical goals are (1) not to deliver too large a dosage of anesthetic such that the patient's life is endangered, while (2) delivering an amount sufficient to ensure that the patient is not exposed to pain during surgery. The ability to deliver the correct amount of anesthetic agent is one of the key learning points in training and one of the hardest to teach.

13. Failing to properly administer a general anesthetic creates a substantial risk of inadequate anesthesia, resulting in the awakening of patients during surgery, a dreaded complication known as "intraoperative awareness," which may result in the patient experiencing excruciating pain and is terrifying experience.

14. When anesthesia is induced in a patient the clinician relies on clinical signs to judge the depth of anesthesia. He/she will talk to the patient and watch as consciousness is lost and the patient no longer responds to verbal commands. The practitioner will usually test for at least one superficial reflex, usually the eyelid reflex. He will touch the patient's eyelashes to see if the patient blinks. Only if he can be sure that the patient does not blink will he conclude that the medical procedure may safely proceed. The important point is that the practitioner remains in close physical proximity to the patient, talking to the patient and making physical contact during the induction of anesthesia. Adequate depth of anesthesia cannot be accurately assessed by simply observing the patient from a distance, even a distance as short as a few yards. A patient may appear asleep after giving the anesthetic agent but may not be anesthetized and may be responsive to and potentially aware of noxious stimuli.

15. Virginia's procedures, which require the execution team to remain behind a curtain,

several feet from the prisoner, are utterly inadequate for assessing the prisoner's anesthetic depth. In my opinion, the personnel involved in the administration of lethal injection in Virginia lack the training and experience to judge depth of anesthesia.

16. In addition, Virginia does not take the essential step of assessing the prisoner's anesthetic depth before proceeding with the administration of pancuronium bromide and potassium chloride.

17. Sodium thiopental is an ultra-short-acting barbiturate that is used in surgery to induce anesthesia for a brief period of time.

18. It is delivered in powdered form and must be mixed into an aqueous solution prior to administration. If the drug is not mixed correctly, its effectiveness could be diminished. Virginia protocol does not ensure the mixing is properly done. Further, the mixing is supervised by personnel lacking this knowledge falls below the prevailing standard of care for preparing such drugs.

19. If there is a significant delay in the administration of the chemical agents necessary for lethal injection, or if the sodium thiopental is not fully and properly administered, there is a risk that the anesthetic effects of the sodium thiopental may wear off leaving the individual unable to move, or indicate to the observers that they are in fact awake, suffocating because their respiratory muscles are paralyzed by the Pavulon, and able to experience the severe pain caused by the IV injection of potassium. To ensure that there is no significant delay in the administration of each of the three agents, and to ensure that the anesthetic is fully and properly administered, the drugs should be delivered into a freely running wide bore IV cannula.

20. Some persons may have poor venous access as a consequence of previous drug abuse obesity or poor health. Such poor veins will only accept small bore IV cannula and may rupture when moderated large volumes of solution are forced through them. This increases the risk of delay in drug administration and risk that the anesthetic may not be fully and properly administered.

21. Furthermore, the Virginia protocol does not mandate the personnel involved in the delivery of lethal injection in Virginia have frequent exposure or practice in the placement of IV lines. In addition, these persons lack the training and expertise that is required to perform anesthesia in Virginia.

22. The second chemical to be administered during the Virginia's lethal injection protocol is pancuronium bromide, also called Pavulon. Pancuronium is a neuromuscular blocking agent, the effect of which is to render the voluntary muscles unable to contract. Pancuronium does not affect the brain or nerves; rather, this drug affects the voluntary muscle system of the body and causes asphyxiation or suffocation.

23. Pancuronium and other paralytic drugs in its class are used extensively during routine general anesthesia. When these drugs are used surgery, the patients are given anesthesia and placed on a ventilator.

24. Administration of pancuronium to a person who is not adequately anesthetized would necessarily result in extraordinary suffering and torture. A person who is awake but paralyzed would be desperately straining to draw breath, but the respiratory muscles would not respond. Such a person would be unable to move or signal that they were awake and experiencing the agony of suffocation.

25. In the lethal injection process, pancuronium makes the prisoner appear serene because of the drug's paralytic effect on the muscles. The facial muscles cannot move or contract to show pain or suffering if they are present, but become relaxed, thereby generating an impression of tranquility. Even if the prisoner is conscious and in excruciating agony, he will have no way of expressing it. He will be trapped in a chemical tomb. Moreover, the execution team and other witnesses will not realize that the prisoner is suffering.

26. Ensuring adequate depth of anesthesia is particularly important if paralytic agents, such as pancuronium bromide, are to be administered, as these agents will eliminate important physical signs used to judge depth of anesthesia. Many reported cases of awareness under anesthesia (patient's being inadvertently awake during surgery when they should have been anesthetized) have occurred as a result of the administration of agents such as Pavulon and the consequent masking of the clinical signs of the depth of anesthesia. If paralytic agents are not given, the patient is not paralyzed and is able to move in response to noxious stimuli. While patient movement may not always be desirable during surgery, this response is one of the most reliable indicators of inadequate depth of anesthesia. If agents such as Pavulon are given the patient will appear still and quiet but may be experiencing severe pain and discomfort

27. In *Emmett v. Johnson* (3:07cv227, E.D.Va.), the Commonwealth submitted the affidavit of Dr. Mark Dershwitz, which claimed that the administration of pancuronium bromide was necessary to prevent the manifestation of seizures. This is not true. Sodium thiopental is one of the most potent anticonvulsant drugs in existence and exerts its anticonvulsant effects at sub-anesthetic doses. See Wood M, Wood A, *Drugs and Anesthesia*, (Williams & Wilkins). That is, potent anticonvulsant effects are produced at doses less than those given to produce anesthesia. Thus, if sodium thiopental is properly administered in an amount sufficient to render prisoners unconscious then it will also prevent seizures, including grand mal seizures resulting from lack of oxygen to the brain. Therefore, pancuronium is not necessary to prevent the motor manifestations of any seizure activity that might occur.

Conclusions

28. In conclusion, the personnel involved in the administration of lethal injection would not be permitted to perform anesthesia in Virginia. They lack the necessary training and experience to deliver anesthetic agents and the skill to judge whether a satisfactory depth of anesthesia has been achieved.

29. The administration of anesthesia by untrained personnel and the failure to assess anesthetic depth represent an egregious departure from any acceptable standard of care.

30. This problem is compounded by the fact that a paralyzing agent, Pavulon, is administered that masks the clinical signs of an inadequate depth of anesthesia. The individual may appear calm and insensate while in fact experiencing severe pain. A failure to fully and properly administer the anesthetic agent, and/or a delay in the administration of the subsequent chemicals, may increase the possibility of this occurrence.

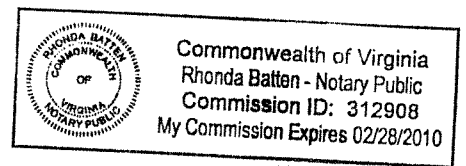
I, Stuart M. Lawson, declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Executed on September 15, 2008

Sworn to or affirmed and subscribed before me this 15th day of September, 2008.

Rhonda Batten
NOTARY PUBLIC

My commission expires: 2/28/2010



SM Lawson.
(Stuart Lawson).
