



Doctor's docket

## Special doctor's docket. Lethal injection: policy considerations for medicine

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### 1. Facts

Michael Morales was convicted of brutally raping and killing 17-year-old Terri Winchell in 1981. For his crimes, he was sentenced to death by lethal injection using the State of California's protocol.

Morales challenged the use of lethal injection in federal court. He claimed the process was cruel and unusual punishment in violation of the 8th Amendment of the US Constitution. Specifically, he claimed that it was possible that the State's sedation process may not result in his

unconsciousness. Hence, he could be subject to excruciating pain associated with potassium chloride administration while not being able to communicate this fact because of muscle paralysis induced by intravenous (IV) drip of pancuronium bromide that preceded potassium chloride infusion.

Because the State's execution logs and witness accounts of 6 previous executions "raise[d] ... concerns as to the manner in which the drugs used in the lethal-injection protocol are administered," the court fashioned a remedy that "preserve[d] both the State's interest in proceeding with the Plaintiff's execution and the Plaintiff's constitutional right not be subject to an undue risk of extreme pain." The State could "proceed with the execution ... provided they do one of the following:

1. Certify in writing ... that they will use only sodium thiopental or another barbiturate or combination of barbiturates in [Morales'] execution.
2. Agree to independent verification, through direct observation and examination by a qualified individual or individuals, in a manner comparable to that normally used in medical settings where a combination of sedative and paralytic medications is administered, that [Morales] in fact is unconscious

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before either pancuronium bromide or potassium chloride is injected. . . . [T]he presence of such person(s) shall be continuous until [Morales] is pronounced dead. . . . A 'qualified individual' shall be a person with formal training and experience in the field of general anesthesia [1]."

Several unusual aspects were associated with court's order. First, it is the general standard that no one but the condemned remains in the execution chamber during lethal injection and the executioner's identity is kept confidential. Hence, any presence of, particularly, an anesthesiologist under alternative 2. would be highly unusual, if not unprecedented. Second, use of barbiturates alone to execute a prisoner has never been performed and would amount to medical experimentation. Third, which became apparent later, only a "licensed medical professional" could administer the barbiturates in alternative 1. via an IV push of sodium thiopental and would have to remain in the execution chamber. And fourth, which also became apparent later, if the "qualified individual" detected inadequate sedation of Morales under alternative 2. he or she would have to order additional sedative to be given to Morales to ensure sedation for the execution to proceed.

## 2. Legal analysis

Initially, two anesthesiologists were recruited to monitor the execution. However, confusion over the role of the anesthesiologists became apparent. Just hours before the execution was to begin, both anesthesiologists withdrew their participation. Withdrawal occurred because it appeared that the anesthesiologists would be expected to order executioners to provide additional anesthetic to be administered to ensure sedation so that the execution process could be completed under the terms of the court's order. Both anesthesiologists believed that only monitoring was required, and that this level of participation would be a violation of their medical ethics. They subsequently refused to participate.

After withdrawal of the anesthesiologists, the State went to the federal court and were given permission to reschedule the execution for later that day. The State then attempted to use alternative 1. of the court's order. However, no "licensed medical professional" could be recruited to perform the IV push that would kill Morales, again on the basis of professional ethical norms [2].

Because the State could not fulfill alternative 1 or alternative 2 of court's order, Morales' execution was stayed.

## 3. Policy commentary

### 3.1. An old debate

The Michael Morales death penalty case has pitted the validated legal concept of humane execution using lethal

injection against the established tenets of medicine and medical ethics. Some might muse that this is a modern debate, steeped in the advances of medical science and, as the US Supreme Court has put it, the "evolving standards of decency that mark the process of a maturing society" [3]. Yet in actuality, this debate has been present for over a century.

In 1888, the State of New York sought a new, humane means by which it could execute prisoners to replace the "inhumane" and macabre method of hanging. Authorities came up with what they believed was the perfect solution: injection of a lethal substance into the condemned [4].

Yet this choice was immediately decried by the medical profession. Physicians indicated that injections were the tools of medicine, and their use should be limited to healing, not harming. Ethical considerations demanded that medicine and medical tools should be excluded from facilitating the ultimate harm of death. Hence, New York adopted its new "humane" execution machine: the electric chair, the first in the nation. This would remain the mainstay of US execution for almost a century. Yet lethal injection has once again arisen in the interface between law's needs and medicine's ethics.

### 3.2. The next "humane" process

In 1977, Oklahoma became the first state to permit lethal injection to execute condemned prisoners, again as an effort at a more humane alternative to implement the death penalty. The first prisoner executed using this method occurred 5 years later, in Texas—one of the "top 3" in death row inmates, with California being number one and Florida, number three. States have rapidly followed Oklahoma's lead; 37 of 38 states that allow the death penalty now use lethal injection. Only Nebraska still mandates the use of the electric chair [5].

All states have essentially adopted the original three injection protocol from Oklahoma. The protocol consists of a trifold injection procedure that theoretically sedates, then paralyzes skeletal muscle, and then induces cardiac arrest. These chemicals are administered using IV drips that lead from outside the execution chamber into the room. The specific chemicals used for each stage have also been adopted from Oklahoma: sodium thiopental, pancuronium bromide, and potassium chloride. Each is given, at least theoretically, in high enough dosages to kill the prisoner. Yet there has been question as to whether dosage levels are inadequate [6] or adequate [7], to induce sedation and avoidance of pain.

### 3.3. Inadequate assessment

Although it was almost universally adopted, there has been little medical assessment of the original Oklahoma process. Unlike traditional medical procedures, which are scrutinized and reviewed constantly for efficacy and efficiency, there has been virtually no study of the process by which states put prisoners to death.

But like electrocution—where flames have burned prisoners because of poorly placed or prepared electrodes, inadequate voltage settings that required repeated shocks to kill, reversed electrodes that only partially electrocute the prisoner that are discovered only after several administered shocks that then must be corrected, as well as other botched efforts that have led to charred, sizzling, smoldering, bloody corpses that are too hot to be examined for confirmation of death until minutes later—there have been missteps in the lethal injection procedure as well [4].

Poor skills at placing IV catheters, including placement backward flowing away from the heart, inadequate securing that allows them to come undone during the process, veins blown making them unusable, IV placement into muscle, and inability to find useable veins, which may require the condemned to assist in their own death by helping executioners find one or more patent veins (most protocols require two, one as a backup), or mandate a cutdown procedure to expose and use the femoral vein, have plagued the execution process. Furthermore, catheters have been kinked, gurney straps have been placed on too tightly, and inadequate flushing of fluids between each drug's administration causing flocculation have blocked or slowed the deadly materials from reaching the prisoner.

The major cause of these debacles is that medical personnel, particularly anesthesiologists, are loath to participate in executions. 'Participation is squarely prohibited by medical ethics' [8], although there is certainly debate on this topic [9]. Hence, medical researchers do not wish to contribute to the "science" of execution, believing it to be a violation of professional ethics. The expected result is what has happened: those who would use "the tools of medicine" for nonmedical, but legal execution purposes, have generally no training in medicine, or, even "IV 101." Consequently, the "quality" and consistency of the procedure are at best uneven and at worst filled with missteps, amateurishness, and cruelty.

### 3.4. The interface of law and medicine

In the Morales case, we face a debate that has lasted for a century for lethal injection specifically, and perhaps centuries for execution generally. Can medicine participate in the lawful sentence of lethal injection of a convicted murderer and rapist? More deeply, how and when can the medical profession and its "tools" help serve the legal profession and its constitutional mandate to follow the law—including execution "without undue risk of severe pain"? Note that for the purposes of this discussion, the most challenging question requires us to accept the presence of the death penalty as a given because it is currently legal.

Both professions have their valid, professional tenets—medicine, to use those special skills imparted generation to generation to heal, and above all, first, do no harm; and law, to provide equal protection and due process as well as enforce the legal penalties that society deems appropriate for crimes that have been committed against its citizens.

But what are our obligations to the other profession? Surely, there must be mutual respect that flows from one to the other. We, in medicine, do cooperate with the law; some examples include conducting forensic investigations; combating child, domestic, and elder abuse; and ensuring appropriate scopes of practice and the public's safety.

Both professions also serve humanity. However, in considering the death penalty, we are faced with determining how serving humanity in a humane way can ever be accomplished when it results in the destruction of the ultimate expression of humanness—the individual. And it is there where the shadows of our beliefs, understanding, and perhaps fears are darkest and contribute to the greatest conflict between the professions.

Ultimately, the Morales case provides us with an important opportunity to confront these issues and participate in a dialogue to bring light where darkness falls at present. Of course, there are no easy answers. But the fact that we are still interested in a spirited discussion illustrates the hope that we, as a society, and as individual professionals, are still accountable to what we believe is ethical and appropriate. The greatest fear is if situations such as the Morales case do not engender our thoughtful and considered assessment as to what our role is in society, and, most important, the critical meaning of, "First, do no harm."

## 4. Commentary

Capital punishment has been used as a means of administering justice for various crimes throughout recorded history. The search for more "humane" methods to accomplish the act has continued for hundreds of years. In the Middle Ages, a rapid execution was considered merciful and usually reserved for the aristocracy. The Halifax Gibbet (1286), the Maiden (1307), and the Guillotine (1789) [10] were examples of innovative methods to accomplish rapid execution in a relatively "painless" fashion. Hanging became the most common mode used in the United States. The electric chair, gas chamber, and, finally, lethal injection were attempts at successive improvements. The seemingly clean and simple technique of lethal injection is now under scrutiny.

From an ethical viewpoint, capital punishment has enjoyed mixed reviews, with support from both the deontological (Kant) [11] and utilitarian (Mill) [12] perspectives and equal degrees of condemnation. The American Medical Association (AMA) [13] and many professional medical societies consider physician participation in capital punishment an unethical act that is not in the best interest of the profession. In 1993, Truog and Brennan [14] reviewed the ethical considerations of physician participation in capital punishment. The authors concluded that such participation is harmful to the profession because it involves killing, it falls outside of the moral sphere defining medicine, and it "offends the sense of community by

prostituting medical knowledge and skills to serve the purposes of the state . . .” These authors and others [15] have called for sanctions against physicians who participate in the process. Nevertheless, Farber et al [16] showed that most of the surveyed physicians approve of at least some of the actions proscribed by the AMA Code of Medical Ethics involving participation in capital punishment. A follow-up study [17] revealed similar results. The authors speculated that a lack of stigmatization by colleagues and a lack of knowledge of the ethical guidelines might be the reasons for these opinions. Physicians who would participate were more likely to support the death penalty, agree with physician-assisted suicide, and perceive participation as a societal duty. Some physicians equate execution with end-of-life care [18].

From the societal perspective, capital punishment has significant support. Recent polling data [19] suggest that two thirds of Americans support the death penalty. There is a raging debate over the deterrence value, equity in application, and morality of capital punishment. That debate aside, it seems that medicine is caught between a societal mandate and professional ethics.

Bryan Liang comments above on the facts of a recent planned California execution by lethal injection. The condemned inmate challenged an injection protocol that may cause unnecessary pain and suffering, thereby violating the US Constitution's prohibition against cruel and unusual punishment. New information suggesting potential problems with the protocols used lent credence to the appeal. One legal remedy issued by the federal court judge included participation by someone trained in the administration of anesthesia. Unable to find participants because of ethical concerns, the state was forced to stay the execution. Since then, numerous challenges to lethal injection protocols in several states have occurred, the US Supreme Court opened the door to these legal challenges, and North Carolina changed its protocol by using a brain function monitor during lethal injection [20]. The most disturbing development is a recent Missouri Federal Court ruling [21], which mandates the active participation of a “board certified anesthesiologist” and outlines specific duties for the mixing of drugs, monitoring, presence, and certification of appropriate anesthetic depth during the execution. The court also refers to the “operations room” in the order. In addition, the court attempts to nullify ethical concerns by stating that the involved physicians will not violate their ethical obligations by participating in the execution. Liang correctly points out that we do interface with the legal profession. The Missouri decision makes that interaction all too clear. However, the legal profession has an obligation to acknowledge and respect our ethical views just as they would expect of us.

The president of the American Society of Anesthesiologists (ASA), Orin Guidry, MD, responded by posting an eloquent summary of the facts to date, a review of the ASA's position on physician participation in capital punishment,

and a warning to steer clear [21]. He further states: “Lethal injection was not anesthesiology's idea. American society decided to have capital punishment as part of our legal system and to carry it out with lethal injection. The fact that problems are surfacing is not our dilemma. The legal system has painted itself into this corner and it is not our obligation to get it out.”

In medicine, we usually consider risks, benefits, and alternatives in the care we provide to patients. Applying the same standard to our participation in state-sponsored execution, a risk to the profession is obfuscation of the goals of medicine in the minds of our patients. A risk to the condemned prisoner is a potential for awareness. A potential benefit is that the condemned prisoner gets the expertise of an anesthesiologist during execution. And some alternatives are the application of other legal methods of execution and the exploration of different techniques that do not involve the medical profession. Although this simple analysis is not by any means complete, my assessment is that the risks to our profession outweigh the benefits and the alternatives deserve further investigation. Many professional medical societies have considered this issue with great care. All have come to the same conclusion. Although opinions on capital punishment are personal, physician participation in execution is not good for the profession. Although lethal injection uses pharmaceuticals and intravenous catheters in its protocol, it is not the practice of medicine and it is certainly not the practice of anesthesiology. Physicians as good citizens do have an obligation to enter the debate on the issue from a public policy perspective. Let's keep it on that level.

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