

# From “Letheon” to Lethal Injection

## An Anesthesia Odyssey

By *Stephen Jackson, M.D., Editor*

*“Medicine defines a moral sphere within which medical activities have special meaning. The execution of a condemned prisoner lies far outside the medical sphere. A physician’s participation in that execution does nothing to promote the moral community of medicine ... [and even] offends the sense of community.”*

*—Robert Truog, M.D., ASA Committee on Ethics  
Professor of Anesthesiology, Children’s Hospital, Boston  
Professor of Medical Ethics, Harvard University*

“**Letheon**” was the name given to diethyl ether in the earliest days of its use for surgical anesthesia, a name derived from classical Greek mythology in which the waters of the silent stream of oblivion, Lethe, caused forgetfulness, creating an oblivion as it erased painful memories. Fast-forward a century and a half, where for over three decades ether no longer remains part of the modern anesthesiologist’s armamentarium. But alas, **lethal** injection is now in the spotlight and by far the most common way that prisoners are legally executed in the United States. Since 1976, when the Supreme Court reinstated the death penalty, the number of executions is fast approaching 800. Because lethal injection has been circuitously connected to the practice of anesthesiology, it has thrust our specialty onto the front pages of newspapers and magazines as well as the lead stories on radio and television broadcasts across the country.

### History

Let us briefly examine the history of lethal injections for purposes of capital punishment. In the late 19<sup>th</sup> century, in light of routinely lurid and often botched executions by hanging, the New York State Legislature appointed a committee to recommend a more humane form of execution. It rejected hanging and guillotining in favor of the injection of a lethal dose of prussic acid (cyanide). However, the medical profession disapproved of lethal injection, leading the committee to propose electrocution.

The subject of lethal injections was again raised with a Royal Commission in the United Kingdom in the early 1950s, but the British Medical Association rejected a physician’s participation “either in carrying out the actual process of killing [lethal injection] or in instructing others in the technique or process.” Over the following two decades, the question of the deployment of lethal injection occasionally resurfaced and, in 1973, then California Governor Ronald Reagan drew an analogy to the killing of wounded animals:

Being a farmer and horse raiser, I know what it’s like to try to eliminate an injured horse by shooting him. Now you call the

veterinarian, and the vet gives it a shot, and the horse goes to sleep—that's it. I myself have wondered if maybe this isn't part of our problem [with capital punishment], if maybe we should review and see if there aren't even more humane methods now—the simple shot or tranquilizer.

Beginning in 1967, there was an unofficial moratorium in the United States on executions because of the large number of death penalty appeals awaiting decision by the U.S. Supreme Court. Then, in 1972, the Supreme Court ruled in the cases under review that “the imposition and carrying out of the death penalty in these cases constituted cruel and unusual punishment, and thereby violated the Eighth and Fourteenth Amendments.” All death penalties were immediately commuted. However, just four years later, the Supreme Court ruled that capital punishment did not violate the Constitution as long as “guided discretion” was exercised in imposing the penalty, and accordingly, executions were resumed. It was in this context of resumption of executions and concern about constitutionality of the method of execution that authorities once again considered lethal injections.

Let us put history aside for a moment and focus on ethics and philosophy.

### **Philosophical Considerations in the Ethics of Participating in Execution**

The renowned physician ethicist, Dr. Edmund Pellegrino, believes that physician participation in execution is a moral wrong. However, he also believes that complicity in such wrongdoing is difficult to avoid, especially when the pursuit of one duty conflicts with the performance of another. Thus, one can unwittingly violate one duty while pursuing another. Assuredly, this kind of moral dilemma has engaged the anesthesiology community in recent times and plunged us into the engaging field of medical ethics.

Consider the two ethical imperatives of *beneficence* and *nonmaleficence*. A physician's ethical obligation of *beneficence* (one of the four prominent ethical principles of Western medicine) is to utilize one's knowledge and skills for the good (benefit) of one's patients. Our medical expertise also can be employed to assist in achieving important societal objectives, such as medical care of military personnel, consultative services to executive, judiciary or legislative bodies, and facilitation of public or institutional policy such as cost containment in healthcare. *Nonmaleficence* (the Hippocratic dictum “*Primum non nocere*—first, do no harm”), another ethical obligation for physicians, is an injunction against harming patients, and forms part of the tacit social contract physicians have with the society within which they live and practice medicine.

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Physician participation in executions is morally problematic because the dual demands of *beneficence* and *nonmaleficence* are in conflict. In this instance of competing duties, an anesthesiologist's knowledge and skills (which when used for their medical ends are not in themselves immoral) are employed in a manner in which convention requires him or her to serve purposes other than the welfare of the person to whom they are to administer anesthetic drugs—they bring harm to that individual.

The practice of medicine has an undeniable moral dimension such that all medical activities, from the banal to the spectacularly complex, have special meaning. As the ultimate judges of the application of our knowledge and skills, anesthesiologists simply cannot escape moral responsibility for participation in administering lethal injections. Moreover, this moral responsibility rests on the collective moral obligations of our entire profession. Anesthesiologists, and physicians in general, ought not be complicit in the violation of *nonmaleficence*. Clearly, physicians dissenting in concert are less vulnerable than a dissenting individual when they reject adherence to an order or policy or law that harms people. Together, this is what anesthesiologists ought to do.

### Codes of Medical Ethics

The medical profession creates codes of medical ethics that contain ethical principles intended to protect the integrity of its practice and its relationship to the society it serves. The most distinctive of these ethical principles addresses issues that are inherently intertwined with the specialized professional craft for which neither law nor everyday morality provides sufficient guidelines.

Physicians do not hold uniform views when it comes to capital punishment, and the AMA's *Code of Medical Ethics* concedes "*an individual's opinion on capital punishment is the personal moral decision of the individual.*"

The AMA's ethical code then proceeds to prohibit participation by physicians in criminal execution: "*A physician, as a member of a profession dedicated to preserving life when there is hope of doing so, should not be a participant in a legally authorized execution.*" This proscription includes actions that directly contribute to the death of the condemned prisoner, or that otherwise assist, supervise, or enable another person to cause the death directly, or that "automatically cause" the execution to occur. Moreover, this ethical code prohibits prescribing or administering drugs that are part of the execution procedure, monitoring vital signs (either on-site or remotely), rendering technical advice with respect to the execution, or attending or witnessing the execution *as a physician*. With respect to lethal injection, according to the AMA, the following actions would equate to participation in execution: select-

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ing injection sites; initiating intravenous access; prescribing, preparing, administering or supervising injected drugs; inspecting, testing or maintaining lethal injection devices; and consulting with or supervising personnel involved with the lethal injection.

Yet, this same AMA ethical code does permit indirect involvement in execution, such as medical testimony regarding competency to stand trial or to be executed, medical issues relevant to sentencing and forensic matters. Physicians also may certify death *but only* pursuant to a prior declaration of death. Moreover, physicians may prescribe or administer drugs to relieve suffering of the condemned while awaiting execution, but only with the caveat of the prisoner's specific request (and *not* at the request of authorities to make a prisoner more compliant). Witnessing the execution in a *nonprofessional capacity* at the specific request of the condemned also is deemed nonparticipatory.

The AMA has been joined by other professional societies in these pronouncements, including the American College of Physicians, the World Medical Association, the American Psychiatric Association, and numerous state medical associations.

The ASA, like the AMA, declines to take a position on capital punishment because "this is not the practice of medicine."

In the Preamble to the ASA's *Guidelines for the Ethical Practice of Anesthesiology*, the ASA **recognizes** the AMA's Principles of Medical Ethics, which are "a basic guide to the ethical conduct of its members ... standards of conduct which define the essentials of honorable behavior for the physician." However, these Principles—and therefore, the ASA *Guidelines* themselves—fail to address **specifically** participation in execution! The AMA's *Code of Medical Ethics* is comprised of three parts: 1) the Current Opinions of the Council on Ethical and Judicial Affairs (Section 2.06), which contains the proscription against participation in execution described in the above paragraphs, 2) the Reports of CEJA, and 3) the Principles of Medical Ethics. Only the latter is incorporated in the ASA's *Guidelines*.

Because anesthesiologists are in the center of the national maelstrom on execution, the ASA is in the process of *considering* an addition to its ethical guidelines that would specifically proscribe against involvement in execution. Meanwhile, the ASA has issued a statement that it:

**recognizes** the AMA's ethical principles about physician participation in lethal injections, in particular that physicians should not participate in executions, either by direct action or by performing ancillary functions. This includes making recommendations about

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drugs to be used. Physicians are healers, not executioners. The doctor-patient relationship depends upon the inviolate principle that a doctor uses his or her medical expertise only for the benefit of the patient.

Our own CSA publicly has joined with the ASA and AMA in being “unequivocally opposed” to participation by its members in execution, with President Edgar Canada stating, *“The CSA does not condone anesthesiologist involvement in the administration of intentionally lethal injections. CSA members are expected to observe the ethical principles of the ASA and AMA.”*

### A Little More for History Buffs

The above notwithstanding, physicians do have a long history of participating in executions. In fact, in 1789, a physician and social reformer, Joseph Guillotine, designed his namesake, the guillotine. Not to be outdone by his compatriot, another French physician, Antoine Louis, redesigned the guillotine blade for enhanced efficiency.

In the United States, in 1890, physicians were the overseers of the first electrocutions. Some states have enacted statutes that address any perceived violation of medical ethics by protecting physicians participating in execution against legal or licensing repercussions, as by declaring that lethal injections are not within the realm of the practice of medicine. Other states have protected the identity of participating physicians, while yet others have precluded physicians from participating in executions. While in 1998, California’s statutory requirement for physicians to participate in executions survived legal challenge, in 2001 legislation then was passed that prohibited the state from forcing a physician to participate in execution.

The U.S. Supreme Court has upheld the legitimacy of capital punishment, and at least a majority of Americans—and physicians—are in favor of it. Perhaps not surprisingly, a recent study indicated that less than 3 percent of AMA members even knew of the AMA mature ethical principles on this matter. This study confirmed that a substantial number of physicians believe that it would be appropriate to be involved in some of the procedures that constitute the process of lethal injections. It may be, however, that if physicians were better educated in the medical ethics and professional values involved with such actions, then they would be more uniformly opposed.

### Why Lethal Injection?

The primary reason that the majority of states have legislatively and judicially converted from electrocution methodology to lethal injection has been to

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ensure greater “humaneness” for the condemned. Why? Perhaps foremost on the list of concerns was the burgeoning perception that electrocution, as it was practiced, violated the U.S. Constitution Eighth Amendment’s admonition against “cruel and unusual punishment.” Assuredly, medicalization and physician involvement have been thought to increase the public acceptability of capital punishment. It remains noteworthy that the U.S. Supreme Court consistently has stopped short of labeling lethal injection as a medical procedure.

The debate that ensues is whether a physician’s participation in the process of lethal injection would constitute *either* a humane *or* an enabling or facilitating behavior. Certainly, medical expertise is not required to identify or use a method of killing that minimizes suffering. Perhaps the national trend to lethal injection had served as a diagnostic of the status of the death penalty process. Indeed, the French philosopher and social activist, Michel Foucault, postulated that methods of punishment and death are vibrant social and political symbols and, for that matter, less serving as instruments of penal policy. Retributive sentiments, palatability, humaneness, barbarism, deterrence: these are just some of the multiple facets of the national divisiveness of the death penalty. All this notwithstanding, it must be emphasized that the judicial dismissals of challenges to lethal injection have been steadfast.

### The Professor’s Lethal Cocktail

As capital punishment experience with electrocution exposed this method’s fallibility on several fronts in terms of costs, humaneness and public palatability, in 1977, Senator Bill Dawson of Oklahoma asked Dr. Stanley Deutsch, the Chair of the Department of Anesthesiology at the University of Oklahoma Health Sciences Center, for his recommendation for a method of lethal injection. At that time, the frugal senator was concerned with the more than \$60,000 costs for repairing Oklahoma’s electric chair, and the even heftier estimation of \$300,000 to build a gas chamber!

Dr. Deutsch’s written response was: “*execution by administration of drugs intravenously [would be] without question ... extremely humane in comparison*” to electrocution or execution by the inhalation of poisonous gases. The state of Oklahoma did then adopt lethal injection, based, at least in part, on Dr. Deutsch’s postulation that administration of the recommended cocktail or its like would “*assure ... a rapid pleasant way of producing unconsciousness,*”—and of course, the death of that individual. He suggested that “*the administration of an ultra short-acting barbiturate such as thiopental (Pentothal) or methohexital (Brevital) in quantities of 2000 mg with 1000 mg of succinylcholine intravenously would produce unconsciousness within 40 seconds and death of asphyxia.*” He added that “*other neuromuscular blocking drugs that could be employed include pancuronium or decamethonium [another depolarizing muscle relaxant with a substan-*

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tially longer duration of action than succinylcholine] in doses of 20 mg to produce long duration of paralysis and an effect similar to succinylcholine.” Moreover, “the effect of combination of ultra short-acting barbiturate and neuromuscular blocking drugs would produce death in a predictable way and with certainty. These drugs have understandability of terminology in all medical and other biological circles, and therefore, there would be no probability of confusion with regard to which drugs would be used and the intent at the doses employed.”

Oklahoma’s lethal injection statute proceeded to be adopted, in varying form, by other states, and Dr. Deutsch’s recommendations of specific drugs are incorporated in all of the latest lethal injection protocols in those states that identify the chemicals to be used by the executioners. It would appear that the muscle relaxant was intended to cause death with Dr. Deutsch’s “lethal cocktail,” and indeed, in an interview as recent as 2003, Dr. Deutsch stood by his 1977 letter that his methodology does not cause suffering. Ironically, Oklahoma was not the first state to deploy lethal injection in an execution, as Texas quickly adopted an enabling statute and utilized the process before Oklahoma could.

To add further complexity to this matter, a third drug, potassium, was added to the cocktail by advisors who were prominent in the development of lethal injection protocols in some other state execution protocols. In fact, if appropriate doses of potassium were used, then the muscle relaxant would become unnecessary—except, perhaps, to eliminate patient movement when the painful potassium infusion is injected to cause asystole. Among other concerns that have been raised is the fact that intravenous access can be difficult to achieve, or, once established, fail for various reasons, therein disturbing the successful timing—or even completion—of the sequenced lethal chemicals.

### The *Lancet* Article

The inability to guarantee a “humane” process of lethal injection stems from the acknowledged possibility, however small, of partial awakening from the short-acting barbiturate while the pancuronium effects apneic hypoxia and/or the potassium causes intolerable venous pain before reaching the heart. Controversial and possibly flawed evidence establishing this likelihood has been brought to the attention of the public and, more important, the judiciary by a 2005 *Lancet* article, which, oddly enough, was officially labeled a “Research Letter.” Of the four “investigators,” one was an anesthesiologist and one an attorney who represented inmates sentenced to death. They questioned the assumption that 2000 mg of thiopental would ensure that the actual execution with pancuronium and potassium would be accomplished on an unconscious inmate. The calculated total dose of thiopental given to a 100 kg prisoner for induction and followed by a maintenance dose for 10 minutes is

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in the range of 1300-2000 mg, implying that the routine cocktail dose of 2000 mg could be inadequate if the execution exceeded 10 minutes. They also suggested that a condemned prisoner's hyperdynamic circulatory system—and/or an inmate with a high tolerance to sedative-hypnotic drugs—might demand a higher total dose than that calculated for a surgical patient. They found that concentrations of thiopental in the blood obtained on the same or next day(s) had a wide range of values, from trace amounts to 370 mg/L (high), many of them possibly consistent with a degree of consciousness. Although not presenting any proper data, they also claimed that blood thiopental levels did not fall with increased time between execution and blood sample collection. Their conclusion was that 43 percent of prisoners had blood concentrations consistent with consciousness, that is, some were not “*unconscious and insensate ... [and that] to prevent unnecessary cruelty and suffering, cessation and public review of lethal injections is warranted.*” You can rightly imagine how this immediately fueled the legal arguments of violation of the Eighth Amendment's admonition against cruel and unusual punishment.

In a highly unusual correspondence to *Lancet*, one of the article's reviewers refuted the very article he had approved for publication. He wrote about the authors “zeal to prove their point” and “lack of equipoise” in their study. He emphasized that most blood samples were obtained 12 or more hours (some even two days) after death, making such data unreliable because the high level of the drug in the blood would lead to its diffusion across a concentration gradient into the surrounding post-mortem tissue. Moreover, highly respected pharmacologists within the academic anesthesia community agreed, stating that “published and unpublished data, and clinical experience, contradict [the *Lancet* authors'] conclusions,” also invoking that highly lipophilic drugs should redistribute in the post-mortem period, causing a significant decline in thiopental blood levels. They declared that “the absence of samples drawn in the first hours after death, the use of samples drawn from different anatomical sites, and the failure to characterize accurately the time between death and blood-drawing probably contributed to ... flawed conclusions.” They even cited their own unpublished data as showing a rapid and time-dependent decline in post-mortem thiopental levels. The *Lancet* authors, in turn, rejected in absolute terms the statements of their critics.

### The Morales Case

Since 1978, California has executed 13 inmates. The average time served on California's death row is almost 18 years. The first lethal injection execution occurred in 1996 on William Bonin, who was convicted of sexually assaulting and killing 14 boys. The recent sensationalistic legal challenges to the planned execution of Michael Morales (convicted 23 years ago for the rape and murder



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of a teenage girl), which most likely introduced the *Lancet* information, led U.S. District Judge Jeremy Fogel to order California prison authorities to adhere to one of two alternatives for the lethal injection execution. *Either* have expert licensed medical personnel (read that as physicians, likely anesthesiologists) present to ensure that there would be no “reasonable possibility,” no “undue risks” that Morales would be conscious before completion of the administration of the pancuronium and potassium, *or* replace the cocktail with a large lethal dose of thiopental.

It appears that California requires the presence of two physicians, whose identities are kept strictly confidential, to serve in the role of advising Department of Corrections officials when an executed prisoner has expired. The two anesthesiologists who originally were scheduled to be present at the Morales execution allegedly had misunderstood or were misinformed of the role that the state was demanding of them, and they then claimed that any intervention on their part “would be medically unethical,” leading them to withdraw. No other physician or non-physician health care personnel could be found to replace the anesthesiologists, and so the prison officials could not comply with either of the judge’s options for guaranteeing that Morales would not suffer during the execution. The result: Morales and the other 650 California inmates on death row are beneficiaries of what effectively is a moratorium on executions. The effective ban could last months, until the next Fogel ruling and any appeals thereof are settled.

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*"The physician's intent of beneficence in reducing the prisoner's pain and anguish is not sufficient to outweigh the [adverse] consequences of ... acting against the healing mission and reducing society's trust in the medical profession."*

—Carl Hug, M.D., Emeritus Professor of Anesthesiology  
Emory University, ASA Committee on Ethics

*"It is time to eliminate moral confusion by reestablishing the deliberate dissent of the medical profession regarding physician involvement in executions."*

—Linda Emanuel, M.D., Ph.D.  
Northwestern University Medical School

*I want to extend my appreciation to Gabrielle Jackson for her guidance in presenting both the factual and philosophical issues raised by physician involvement in execution by lethal injection.*

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### 🌿 2006 ASA Art Exhibit 🌿

The theme category for the 2006 ASA Art Exhibit will be "My Hometown." The Art Exhibit will take place at the ASA Annual Meeting in Chicago, Illinois, October 14-18, 2006.

For more information, go to the ASA Web Site at

**<http://www2.asahq.org/web/miscfiles/06exhibitgl.asp>**

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