Physician Participation in Capital Punishment

DAVID WAISEL, MD

If state administration of capital punishment is legal and ongoing, humane methods of execution should be sought and applied. In medieval times, the condemned and their families would bribe the executioner to make death quick and painless. In the 18th century, Dr Joseph-Ignace Guillotin proposed amending the French penal code to require executioners to use what is now known as the guillotine, believing that to be a more humane method of execution. In the United States, hanging was the predominant method of execution until electrocution was introduced as a more humane method in 1890.[1] One of the subtexts of electrocution was Thomas Edison's attempts to promote his direct current electricity by tainting the competing alternating current electricity through its association with the electric chair.[1] Cyanide gas was introduced in 1924.[2] Hanging, electrocution, and chemical asphyxiation were the primary methods of execution until the introduction of lethal injection in 1977.[2] Lethal injection has been the predominant form of execution in the 699 executions in the United States during the past 10 years.[3] Recent concerns about the technical issues surrounding legal execution, most specifically regarding drug delivery, have prompted some persons to suggest that physician participation in capital punishment would minimize these problems.

Opposing the involvement of physicians is the American Medical Association (AMA), which prohibits physician participation in legally authorized executions. According to the AMA's published position statements,[4] "An individual's opinion on capital punishment is the personal moral decision of the individual. 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." The AMA further stated that physician participation in capital punishment "distorts the purpose and role of medicine and its professionals in the preservation of life. The use of physicians and medical technology in execution presents a conceptual contradiction for society and the public. The image of physician as executioner under circumstances mimicking medical care risks the general trust of the public."

The Code of Medical Ethics of the AMA prohibits physicians from "an action which would directly cause the death of the condemned [and] an action which would assist, supervise or contribute to the ability of another individual to directly cause the death of the condemned."[5] Prohibitions include nearly all aspects of lethal injection such as "selecting injection sites; starting intravenous lines as a port for a lethal injection device; prescribing, preparing, administering, or supervising injection drugs or their doses or types; inspecting, testing, or maintaining lethal injection devices; and consulting with or supervising lethal injection personnel."[5]

In this commentary, I argue that poorly done executions needlessly hurt the condemned and that, in the case of lethal injections, the problems center not on the specific drugs chosen but on establishing and maintaining intravenous access and assessing for anesthetic depth. I argue that it is honorable for physicians to minimize the harm to these condemned individuals and that organized medicine has an obligation to *permit* physician participation in legal execution. By participation, I mean to the extent necessary to ensure a good death. This includes designing protocols both in general and for specific condemned persons and participating in the performance of these protocols, up to and including gaining intravenous access and giving drugs.

For editorial comment, see pages 1043 and 1047

I will not address the policy of capital punishment. Although numerous issues surround capital punishment (appropriateness, fairness, and effectiveness as a crime deterrent, etc), they are beyond the scope of this article. The purpose of this commentary is to address physician participation in the ongoing practice of lethal injection.

THE NEED FOR PHYSICIAN PARTICIPATION

Lethal injection is the predominant form of execution in the United States, in part because it is considered more humane than hanging, electrocution, and chemical asphyxiation. In 1977, an anesthesiologist suggested a process that appeared to mimic a typical induction of anesthesia: sodium thiopental to cause unconsciousness, pancuronium bromide to

From the Department of Anesthesiology, Perioperative and Pain Medicine, Children's Hospital Boston, Boston, MA.

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Individual reprints of this article are not available. Address correspondence to David Waisel, MD, Department of Anesthesiology, Children's Hospital Boston, 300 Longwood Ave, Boston MA 02115 (david.waisel@childrens.harvard.edu).

paralyze the muscles, and (in the case of lethal injection) potassium chloride to stop the heart.[6]

In anesthetic practice, after a drug to induce anesthesia (like sodium thiopental) is given, anesthesiologists test for adequate depth of anesthesia, sometimes using a hands-on assessment like an eyelash reflex (touching the eyelashes to see if the eyelids flutter). A normal induction dose of 3 to 5 mg/kg of thiopental would be expected to produce unconsciousness in approximately 30 seconds and peak respiratory depression in 1 to 1.5 minutes.[7] It is not uncommon for respiratory attempts to return shortly thereafter. Pancuronium bromide, a paralytic with no anesthetic properties, is given in a dose of 1 mg/kg and within 4 minutes produces muscle relaxation to facilitate tracheal intubation.[8]

San Quentin Operational Procedure No. 770 describes how a typical lethal execution is to be done[9]; 2 intravenous lines are inserted, and saline flows through 1 of the lines. Individuals other than the condemned person leave the room. The door is sealed. Through injection ports located outside the room, 5 g of sodium thiopental (ie, 10 times the 500-mg induction of anesthesia dose for a man weighing 100 kg) is given in "[A] steady even flow…maintained with only a minimum amount of force applied to the syringe plunger." The intravenous line is then flushed with 20 cm^3 of normal saline. Two syringes of 50 mg of pancuronium bromide in 50 cm^3 of diluent (ie, a total of 100 mg, 10 times the 10-mg dose given for a man weighing 100 kg) are then "injected with slow, even pressure on the syringe plunger," and the intravenous line is flushed with 20 cm^3 of normal saline. Two syringes of 50 mEq of potassium chloride in 50 cm^3 of diluent (a total of 100 mEq of potassium chloride) are then injected.[9]

If this process is performed correctly, the inmate will be unconscious before receiving pancuronium bromide and potassium chloride.[7, 10] These massive doses of sodium thiopental should both stop breathing and cause unconsciousness in 1 minute.[11] In the absence of a hands-on assessment of anesthetic depth, sustained apnea becomes a reasonable surrogate for adequate delivery of the massive doses of sodium thiopental. Sustained apnea guarantees a sufficient depth of anesthesia.

In contrast, spontaneous ventilation after sodium thiopental indicates that the desired dose of sodium thiopental was *not* delivered. Spontaneous ventilation does not indicate awareness, but it also does not confirm anesthesia.

The presence of apnea after administration of pancuronium bromide is not a guarantee that the sodium thiopental was delivered. A dose that is 3 times a normal intubating dose of pancuronium (ie, 30 mg instead of 10 mg in a man weighing 100 kg) will cause muscle relaxation within 1 minute.[8] Thus, only a fraction of the pancuronium bromide needs to be successfully administered to cause apnea. Apnea after pancuronium bromide, instead of after sodium thiopental, does not indicate that the inmate was anesthetized before the pancuronium bromide. If the inmate was not anesthetized before the administration of pancuronium bromide and potassium chloride, the inmate may have the sensation of paralysis without anesthesia (known as awareness) and may feel the burning of the highly concentrated potassium chloride.

One problem with lethal injection is obtaining venous access, leading to extensive and painful attempts, including placement of central venous access.[12] A more concerning problem is inadequate medication delivery during the execution. This can occur from technical errors and procedural errors (Table 1). For example, in 6 executions since 1999 in California, the condemned had reactions such as respirations and tachycardia, which may have been consistent with awareness or pain.[11] The possible patterns of successful and botched lethal injection are listed in Table 2 and Table 3.

Other problems exist with drug delivery. In 1994 in Illinois, with use of a machine to inject the sodium thiopental and pancuronium bromide, the intravenous catheter clogged, leaving the inmate snorting and his belly "heaving up and down with the breathing."[14] After the botched execution, the spokesman for the corrections department stated, "It looks like the two drugs just don't mix…they get tacky and don't flow when they come together."[18] The same problem had happened the only previous time the machine was used 4 years earlier.

In 1995 in Missouri, the arm restraint functioned as a tourniquet, prolonging the process and bringing into question the sensations of the condemned person.[21] The county coroner said that the heartbeat stopped several minutes after the strap was loosened, suggesting that the sodium thiopental, pancuronium bromide, and potassium chloride entered the bloodstream at the same time, not giving the sodium thiopental time to work, and increasing the likelihood that the condemned person was aware while paralyzed or felt the burning from the potassium chloride. The inmate was "gasping, slightly convulsing" 7 minutes after initiation of the lethal injection.[21] The coroner declared that it was "a little error. It's not like the guy suffered."[21]

In 2006 in Ohio, after a difficult insertion of an intravenous line, the execution team chose not to insert a second intravenous line (as apparently called for by prison procedures)[22] and injected the drugs. The inmate appeared to have fallen asleep, with shallow breathing. But shortly thereafter, he "raised his head and, frustrated, shook it back and forth, repeatedly declaring, 'it don't work.'"[22] The execution team obtained additional intravenous access, mistakenly connected the intravenous line to the failed intravenous catheter, administered the drugs, noticed a reaction by the inmate, subsequently reconnected the intrave-

TABLE 1. **Sources of Error in Lethal Execution**

Steps of execution	Sources of potential error
1. Prepare medications, including mixing sodium thiopental from powder	Improper and improvisational mixing of sodium thiopental[10,13]
2. Obtain intravenous access	Difficulty[14,15] Not placed intravascularly[16] Protocols do not address what should happen if obtaining peripheral venous access is not possible[9,15]
3. Inject sodium thiopental	Burning and blistering if injected into subcutaneous tissues[16,17] Human error[10,13]
4. Assess anesthetic depth	Not assessed. improperly assessed, false proxies of anesthesia[15] Individual not physically present to assess depth of anesthesia[10,13,15] Inadequate human skill[10,15]
5. Inject pancuronium bromide	Muscle relaxation may hide signs of inmate distress[10,13,15] Precipitation with sodium thiopental[15,18,19]
6. Repeat doses of pancuronium bromide and potassium chloride if necessary	Poorly designed protocols, no repeated doses of sodium thiopental[10,15]
7. Other problems	Deviation from protocols[15] Absence of written protocol[13] Inadequate records; no assessment of the quality of executions[10, 15] No meaningful training, supervision, and oversight of the execution team[10,13,15,20] Inadequate lighting, overcrowded conditions and poorly designed facilities in which the execution team must work[10,13,15] Lack of respect for "solemn" task of executions[9]

nous line to the correct catheter, and administered the drugs. The inmate "raised his head about a dozen times and appeared to try to speak"[22] before dying.

In 2006 in Florida, 2 intravenous catheters were placed in the condemned person, and it appears that both catheters infiltrated into the surrounding tissues, so that the drugs were injected into the tissues and not into the veins.[16] "More than 20 minutes after the first injection, [the inmate] appeared to be mouthing words, clenching his jaw, and grimacing."[23] The inmate received a second dose of drugs.[23] Likely as a result of the drugs entering the tissues instead of the vein, the inmate had footlong "chemical blisters on both of his arms." [16] An anesthesiologist familiar with the case testified that the accounts of the inmate breathing "like a fish out of water" were consistent with a "person who is partially paralyzed and struggling for breath."[16] This event led the Governor of Florida to declare a moratorium on state executions pending a report from a concurrently designated commission.

Attempts to tweak operating procedures for lethal injection are insufficient. The Morales Memorandum of Intended Decision reported that in February 2006, officials in California decided that "a continuous infusion of sodium thiopental during the administration of pancuronium bromide and potassium chloride would be added."[10] As in the 1994 case in Illinois, such an approach would lead to a precipitate being formed and subsequent clogging of the intravenous catheter.

If the problem is the delivery of the drugs and the assessment of anesthetic depth before injection of a paralytic and potassium chloride, then a person who is wholly competent at managing intravenous infusions and assessing for anesthetic depth is needed for humane lethal injection. Although nonphysicians *could* perform this procedure (as the AMA has argued), they would need to be trained by physicians to develop these skills. In the absence of extensive training and refresher courses for nonphysicians (which would seemingly fly in the face of the AMA statement), the most skilled individuals would be those who intravenously inject medications routinely to obtain an end result.

Arguments Regarding Roles of Physicians and the Government

Physicians have an obligation to be altruistic. Some interpret this obligation to prohibit physician participation in the execution of an unwilling individual (reports of condemned persons choosing to die rather than prolong their stay on death row notwithstanding[24]), even if the condemned person desires the aid of a physician to make death more humane. The AMA addresses this point directly: "While physician participation may potentially add some degree of humaneness to the execution of an individual, it does not outweigh the greater harm of causing death to the individual."[4]

Death, however, is not the sole issue. Physicians are permitted to let people die, such as in the withdrawal or withholding of care. Physicians are even permitted to be a proximate cause of death, in the sense that sometimes the medications needed to treat pain and discomfort uninten-

TABLE 2. **Proper and Improper Drug Administration Procedures for Lethal Injection***

Procedure	Consequence
Proper: STP→Apnea→P→KCL	Time is given for inmate to be anesthetized by sodium thiopental, as confirmed by apnea, then paralyzed, then given potassium chloride
Improper: STP→P→Apnea→KCL	Inmate is administered paralytic medication before becoming apneic, raising the possibility that insufficient sodium thiopental was delivered to the venous circulation. Inmate may be aware of being paralyzed and may feel the burning of potassium chloride. With 100 mg of pancuronium bromide being administered, even one-third of the intended dose would cause paralysis within 1 min
Improper: STP, P, KCL (at the same time)	No time is given for the sodium thiopental to work and no time is taken to assess whether the sodium thiopental has caused apnea
Improper: STP→P→KCL→→→P, KCL	In some protocols, the pancuronium bromide and potassium chloride are repeated at 10 min if the inmate is not dead. This indicates that the drugs were not delivered adequately (ie, insufficient doses) to the venous system (because if they had been, the inmate would be dead). Repeating pancuronium bromide and potassium chloride without the sodium thiopental increases the likelihood of awareness

*KCL = potassium chloride; P = pancuronium bromide; STP = sodium thiopental.

tionally hasten death. Public policy has shifted in some countries and states to allow physicians to assist in the death of a patient. For example, from 1998 to 2002 in Oregon, 129 people self-administered legally prescribed lethal medications.[25] It is even becoming accepted that physicians may directly cause death. In the Netherlands, termination of life on request and assistance with suicide are not treated as criminal offenses if certain requirements are met.[26] The primary distinction is that in the aforementioned examples, death is considered in the best interest of the patient by the patient or concerned surrogate decision-makers. In capital punishment, death is involuntary and is not in the best interest of the individual.

If one accepts the premise that physician participation will lead to more humane executions, does the fact that death is not in the inmate's best interest obviate a request for relief from suffering? Does physician participation mean that physicians are acting as tools of the government, helping the state carry out judicial punishment? More to the point, does acting in a manner concordant with the goals of the government make a physician a tool of the government?

Some argue that physician participation constitutes inappropriate use of physicians as a tool of the government.[27] Historically, when the government has used physicians to implement policies that did not benefit the individuals affected, the health of the society benefited. For example, physician participation in quarantine of individuals with infectious diseases, while limiting the freedom of movement of some individuals, resulted in an overall health benefit of minimizing the spread of disease. This societal health benefit legitimizes physician participation in quarantine, but physician participation in capital punishment provides no societal health benefit. According to Truog (Robert D. Truog, MD, Professor of Medical Ethics, Anesthesia, & Pediatrics, Harvard Medical School),[27] "A physician's participation in capital punishment does nothing to promote the moral community of medicine. Indeed, such participation offends the sense of community by prostituting medical knowledge and skills to serve the purposes of the state and its criminal justice system."[27] If the physician's primary role is to ensure a successful execution, such that a physician would be willing to do it in an inhumane way, then the physician is being used as a tool of the government to further state goals. But a legitimate question is whether the physician is acting as a tool of the individual to minimize suffering and further the individual's goals or whether the physician is acting as a tool of the government to ensure a successful execution.

TABLE 3. **Five Specific Cases of Lethal Injection in California*[11]**

	Minutes										
Inmate, year	0	1	2	3	4	5	6	7	8	9	10
Siripongs, 1999	STP				P	Apnea					
Babbitt, 1999	STP			P		Apnea					
Rich, 2000	STP		P/apnea								
Anderson, 2002	STP		P			Apnea					
Allen, 2006	STP									P	Apnea

*All cases follow the example of STP→P→Apnea→KCL. One case, Williams, 2005, is not included because inadequate recordkeeping makes it unclear whether apnea occurred concurrent with the pancuronium bromide (6 min after sodium thiopental) or concurrent with the potassium chloride (12 min after sodium thiopental and 6 min after pancuronium bromide). KCL = potassium chloride; P = pancuronium bromide; STP = sodium thiopental.

Although the outcome may be death, the act of the physician may be solely to provide comfort. In this case, a physician is not acting as a tool of the government; he is acting as a physician whose goals temporarily align with the goals of the government. Clearly, there are potential harms in permitting physicians to act in this way. But these harms need to be weighed against the benefits to the condemned. Physicians are responding to the immediate goals of the condemned. To prohibit this aid because the use of the physician as a tool for the individual (good reason) happens to occur in conjunction with the use of the physician as a tool for the government (bad reason) requires a compelling reason to forego our responsibilities to the individual. Indeed, a principled stance of prohibition regressively harms society's most vulnerable individuals. Consider this: a prison warden "testified that he believes a 'successful execution' is simply one where 'the inmate ends up dead at the end of the process.' When asked whether he considered a successful execution to mean anything else, he responded, 'I'm thinking not.'"[10] If you were to be executed, would you prefer to have a competent and caring individual obtain venous access quickly and minimize any chance of pain or awareness?

This argument, of course, is susceptible to comparison with the Nazi concentration camp physicians' argument that they were "morally neutral bystanders" who followed the law and who compassionately spared concentration camp "subhumans" from a slower and more painful death.[28] But I argue that this is too free an analogy. The process by which the laws are developed and the underlying intent of the laws (as well as can be surmised) are relevant in determining whether government authorization makes physician participation in capital punishment legitimate and permissible. We live in a society open to free speech and public protest, one in which citizens have a remarkable ability to participate in the development of laws and policies. Furthermore, capital punishment is public and avidly discussed, not hidden. Of importance, Nazi physicians thought "they were acting for the good of the whole nation and society."[28] Such notions of prioritizing the state (or even certain communities) over individuals often lead to harm. In Nazi Germany, the purpose of the government intervention (concentration camps, genocide, etc) was the actualization of political goals. In contrast, capital punishment does not advance a comprehensive political goal.

Slippery Slope Arguments Regarding Other Harms of Participation

Some worry that permitting physician participation in capital punishment will erode a physician's ability to be compassionate and independent, will make it easier to permit physicians to participate in government-sanctioned killing, and will harm public trust.[5,12,27,29] These arguments are rooted in the psychological slippery slope by claiming that one event will lead to another. The usefulness of the slippery slope argument is suspect.

We should always be concerned about permitting actions that would lead us down the psychological slippery slope to causing harm. However, the problem with many slippery slope arguments is that they do not precisely clarify how permitting the debated action will lead to another, often unspecified, action. In a different context, Burgess (John Burgess, BA, MA, DPhil, Faculty of Arts, University of Wollongong, New South Wales, Australia)[30] labeled this the One Great Slippery Slope Argument: "[I]f we adopt…a particular change in our practices it just might start a slide into a moral deterioration that ends with our committing Nazi-style atrocities." The argument that a slope exists is often used as a poor substitute for an argument about how the debated action will cause the slide down the slope. Furthermore, while uncritically accepting as legitimate the sketchy possibility that society could slide down the slope, slippery slope supporters often demand a detailed argument about how it could not occur.[30]

A good psychological slippery slope argument is detailed and modest.[30] The arguments connecting disaster with physician participation in capital punishment do not provide a clear and detailed account of how participation leads to calamity. Consider the most extreme and visceral argument, that permitting physician participation would be the first step down the slope to Nazi-like atrocities.[29,31] Such a descent would require a series of extraordinary events that culminate in a self-serving totalitarian regime and a dominant social group, whose primary concern is the health of the social organism and the exploitation of an identified other.[30] Perhaps most importantly, the Nazi premise of society as a biological organism led to the concept of medicalized killing as "killing as therapeutic imperative."[32] This medicalized view of society legitimized removing the disease (ie, killing) of those "unfit to live," just like antibiotics kill bacteria or a surgeon removes an appendix. This thinking provided a rationale for society (and thus physicians) to kill. There is no reason to believe that physician participation in capital punishment would lead to such a radical restructuring of society and society's views.

With that preamble, we will examine the claims. We do not know the effects of self-chosen participation in executions on a physician's ability to act with compassion and independence. We do have information on the effects on members of execution teams who carry out executions (eg, secure inmate, obtain intravenous access, inject medications) in 3 Southern states.[33] Individuals on execution teams use selective moral disengagement, moral justification, eco-

nomic and security justification, dehumanization, and nonresponsibility to be able to perform executions. Executioners compartmentalize work and home life, construe participation in executions as a positive activity with "high moral and societal purposes," and become more desensitized as they participate in more executions. Lifton (Robert Jay Lifton, MD, is a psychiatrist who has studied and written extensively on mental adaptations to war, atrocities, and war crimes)[32] described compartmentalization in the context of Nazi physicians as the experience of the "doubling" of the self, in which the 2 selves are partitioned from each other. This mechanism of "doubling" enabled Nazi physicians to be evil at one moment and caring in the next moment and is what Lifton thought permitted specific individuals with what appeared to be relatively appropriate moral values to slide, incrementally, into performing atrocities. The concern is that compartmentalization by physicians participating in capital punishment could similarly harm physicians.

However, the application of this study of prison workers to physicians is unclear. Physicians participating in capital punishment have the ability to view their actions as helping the condemned. Indeed, to me, participation in a horrible detail to benefit another person is true altruism. Additionally, that article did not consider what sort of interventions may help those who participate in capital punishment (eg, caps on number of cases in which an individual participates, mandatory counseling). Even if a few willing physicians were harmed, it is hard to construct a detailed slippery slope argument that connects a few physicians undergoing compartmentalization with widespread societal harms. Furthermore, of importance, physicians will not be required to participate because most states have conscience clauses that permit caregivers to opt out of care they deem morally objectionable.[34]

Beyond the effect on specific physicians, there is concern that permitting physicians to appear to be tools of the government by participating in capital punishment will make it psychologically easier for physicians to be used in inappropriate ways.[27,29] Although this may be true, the possibility of an event is not the step-by-step connection between an event and a specified harm that constitutes evidence in a slippery slope argument. In addition, I argue that our society is more than capable of withstanding the psychological slippery slope.

One argument that supports the slippery slope claim is that physicians were prime leaders in Nazi Germany and if the physicians of that time had held the line and had not acquiesced in devaluing human life (as physicians in the United States would by aiding the process of capital punishment), it is unlikely that Nazi Germany would have happened.

The idea that protesting physicians could have been a bulwark against harm in Nazi Germany is speculative counterfactual history. Proponents of this argument highlight that physician participation in the Nazi party eclipsed other professions; 45% of doctors joined the party, a full 20% more than lawyers and teachers and greater than 35% more than the general population.[35] However, the many physicians who joined the party around 1937 tended to be unemployed. Their desire for participation most likely had to do with navigating the central bureaucracy of medicine and a craving for "enduring professional and socioeconomic security and desired recognition."[35] Thus, rather than lead change, most party physicians were "petty opportunists" who joined in response to the societal changes.[31]

Finally, it has been argued that physician involvement, even if or especially because of government imprimatur, will lead to a loss of public trust, perhaps leading patients to wonder about what these physicians and what medicine will do to them. Patients may wonder, for example, that if physicians are "used to killing" people, then what would hold physicians back from making recommendations not in the patient's best interests.

The concerns about how physician participation in capital punishment would lead to a loss of public trust would have to be explicated. To me, this can be no more harmful to the public trust than the 40-year Tuskegee Syphilis Study, in which the US Public Health Service withheld treatment from African American men to determine the effects of syphilis; the government radiation experiments, in which many were experimented on without their knowledge or consent; the Sunbeam fiasco, in which the AMA agreed to and then renounced a deal to endorse Sunbeam medical products that the AMA had no plans to test; and the inability of journal editors to police themselves for conflicts of interests and the withholding or fabrication of information such as with cloning.[36-40] These examples are not presented to say that one wrong should permit another. They are presented to say that, to me, these are likely more harmful to the public trust. The effects of these were more widespread. Yet organized medicine has weathered these events. If permitting physician participation in capital punishment is a matter of weighing the risks and benefits of participation, then using the argument of loss of public trust to prohibit participation would require that harm from the loss of public trust be substantial. No evidence suggests that physician participation in capital punishment would be more damaging to the public trust than these events. Indeed, organized medicine has already weathered physician participation in capital punishment "at every stage, whether preparing for, participating in, or monitoring executions."[41]

The Misapplied Argument of Palatability

A misplaced argument is that physician involvement will make executions smoother and thus more palatable, de-

creasing the likelihood of abolishing the death penalty.[41] Therefore, physicians, dedicated to improving the quality of life as the patient defines it, should not participate in any action that increases acceptance of capital punishment.[42] The implicit assumption is that physicians, by definition, should oppose capital punishment.[42] This connection, however, has no place in this discussion. It is organized medicine's obligation to lead, and organized medicine is free to make statements regarding the appropriateness of capital punishment. But to use participation as a stalking horse for abolition of capital punishment is disingenuous. This discussion is not about the appropriateness of capital punishment; this discussion is about physician participation in capital punishment.

The Value and Strength of Society

I have used the idea that our free and open society is a powerful bulwark against the potential harms of physician participation in capital punishment. I am fully aware that many enlightened and open societies have sunk into totalitarianism. It would be arrogant to suggest that our society is incapable of such a fall. But that does not mean it is likely that physician participation in capital punishment would be the tipping point or would even be contributory. I contend that, like the Nazi society, such a fall would be a function of widespread socioeconomic factors and that egregious medical abuse would follow, not precede, societal changes. I may be naive, but I believe our society has successfully weathered challenges, and I have faith in the strengths of our society and the sturdiness of its processes. In support of this argument, consider the experiences with physician aid-in-dying in Oregon and with euthanasia in the Netherlands, both of which some considered potential pathways to disaster.[43] In Oregon, the 5-year experience indicated no improprieties in physician aid-in-dying. In the Netherlands, the rate of uncommon improprieties, such as nonvoluntary euthanasia, has remained stable, with no indication of impending disaster.[44] In contrast, in an interview study, leaders in the Netherlands appeared disturbingly complacent about reports of euthanasia without explicit patient request.[45] Whether such unsettling attitudes will lead to future harms is unknown. Nonetheless, these 2 examples indicate that the presence of a slippery slope does not necessarily lead to descent down the slope. I argue that this stability is in large part due to society. In regard to analogies with Nazi Germany, we must be capable of and willing to make distinctions. To argue that the wanton torturing and killing of at least 11 million individuals is equivalent to the extensive processes of capital punishment is fallacious both by numbers and by process. Indeed, to me, comparisons to Nazi Germany are absurd, and if I had my way, this discussion would proceed without those analyses.

Is This Discussion Necessary?

Capital punishment could easily be performed without the use of venous access. The use of medications associated with treatment of humans for capital punishment is an accident, the result of a decision to ask a physician rather than a veterinarian for help. One can imagine, for example, that a veterinarian could provide an acceptable alternative, such as subcutaneous administration of etorphine hydrochloride (a synthetic opioid) and acepromazine maleate (a phenothiazine) to effectively cause cardiopulmonary arrest. Indeed, with subcutaneous injection, concerns about intravenous lethal injection would be nonexistent, and most of the problems discussed in this article would be moot. Although the literature is sparse, I imagine a number of combinations could be delivered subcutaneously or intramuscularly that would anesthetize an inmate before causing death.

Recommendations

The current AMA policy increases the chances of a botched execution. It seems cruel to permit capital punishment but not to permit participation of those who are capable of performing it humanely. If capital punishment is a reality in the United States, then for the sake of the condemned organized medicine should address how it should be performed. The AMA statement should be revised to address complex issues, some of which I briefly discuss.

Astute readers will note that I have avoided the use of the term *patients* when referring to inmates. I now advocate for the use of the word *patient* in this context. I conceptualize physician participation in capital punishment as an altruistic practice of medicine. The future *patient* should request physician participation, and the physician should be licensed to practice medicine in that state. To emphasize the altruistic nature of the service, physicians should refuse payment for this service. Although the fact that physicians are performing capital punishment should be public knowledge, specific physicians who perform capital punishment should be permitted to remain anonymous. I do realize that this connotes shame, but anonymity is necessary to protect a physician and his or her family from retaliation. Physicians who serve this *patient* community should receive counseling, and studies should be implemented to determine whether there should be limitations, such as the number of executions that a physician may perform. Physicians should be permitted to be involved in other ways to improve the humaneness of capital punishment, such as publicly suggesting and debating protocols or initiating and managing databases. Indeed, permitting physician partici-

pation in developing protocols is likely the best way to achieve humane executions while enabling physicians not to directly participate in the act of lethal injection.[10]

One issue that has come to the forefront is whether the government should be able to mandate physician participation.[13] It would be hard to argue that the government's interest is altruistic, that is, focused on removing harm from the patient. The government's interest is better understood as being able to achieve capital punishment as easily as possible. Permitting the government to mandate physician participation is wrongheaded because it verges on making the physician a tool of the government, not of the patient.

Some have suggested that the appropriate physician to perform capital punishment is the anesthesiologist.[10,13] To be sure, there are superficial similarities in appearance between capital punishment and induction of anesthesia. But such similarities are an accident of history. Many physicians, including intensivists and emergency department physicians, have the ability to manage intravenous infusions and assess for anesthetic depth or suggest alternative drugs. Indeed, although this article is focused on physician participation, many of these arguments are equally valid for others who develop caregiver-patient relationships and have the requisite skills. Space does not allow a detailed analysis for different professions.

Physician participation in capital punishment does have associated harms. But the question is whether the harms outweigh the benefits. Because the potential benefits are sufficiently clear and the potential harms are poorly explicated, we should permit physician participation in capital punishment.

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