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# Physicians and Execution: Highlights from a Discussion of Lethal Injection

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# The NEW ENGLAND JOURNAL of MEDICINE

## Perspective Roundtable: Physicians and Execution

### 1. Introduction

**DR. ATUL GAWANDE:** Welcome to a Perspective Roundtable from the *New England Journal of Medicine*. I am Atul Gawande, a staff surgeon at the Brigham and Women's Hospital here in Boston and an associate professor at the Harvard Medical School and the Harvard School of Public Health.

In 1977, Oklahoma became the first state to adopt lethal injection as a method of carrying out the death penalty, in the belief that it would be more humane than electrocution. The design of the original protocol for the procedure was written quickly, without any prior study, by A. Jay Chapman, Oklahoma's chief medical examiner at the time. And Chapman's approach became the de facto standard, as other states followed Oklahoma in switching to the new method.

That method and the attempt it represents to medicalize execution, in order to make it more morally acceptable, have led to ongoing tensions between the legal community and the medical community over whether physicians and other health care professionals should be involved in the process of putting convicted criminals to death.

On January 7, 2008, the U.S. Supreme Court heard oral arguments in *Baze v. Rees*, the case of two Kentucky death-row inmates who argued that the current three-drug lethal-injection protocol violates the Constitution's Eighth Amendment guarantees against cruel and unusual punishment.

With me today to discuss this important case and its implications for the health care community, we have Professor Deborah Denno, Arthur A. McGivney Professor of Law at Fordham University School of Law and an expert on death-penalty law, Dr. Bob Truog, professor of medical ethics, anesthesiology, and pediatrics at Harvard Medical School and also a coauthor of a brief to the U.S. Supreme Court arguing that the lethal-injection protocol, as currently constituted, does violate the ban on cruel and unusual punishment. And we also have Dr. David Waisel, associate professor of anesthesiology at Harvard Medical School and also the author of a much-discussed article arguing that physicians should be involved in executions, in order to relieve suffering. Thank you, all three of you, for joining today.

## **2. The Lethal-Injection Protocol**

**DR. GAWANDE:** I want to start with you, Professor Denno. Now, as I understand it, the case of *Baze v. Rees* doesn't ask if the death penalty is unconstitutional; it doesn't ask whether lethal injection is unconstitutional in general; it asks only whether the specific formula used in the state of Kentucky is unconstitutional. So the puzzle of it, to me as a doctor, and to plenty of people who are not lawyers, is what is the big deal about this case?

**PROFESSOR DEBORAH DENNO:** Well, the big deal about this case is immediately when the method was adopted, A. Jay Chapman conceded that there were problems with this formula. There certainly have been problems within the 30 years that the formula has been examined and used. And now the Supreme Court is confronting that. The biggest problem with the formula is the second chemical, pancuronium bromide, that is a paralytic agent. There seems to be no real reason for its use. There's evidence that it paralyzes an inmate, so that inmate is not able to — to express himself if in fact he's suffering from the effects of the other chemicals.

**DR. GAWANDE:** So then, let me ask a little bit about the formula, Dr. Waisel. Can you describe that three-drug protocol and how it's at least supposed to work?

**DR. DAVID WAISEL:** Yes. The three-drug protocol is based, at least a great deal, on what was considered a normal induction of anesthesia when it was developed. First comes thiopental, also known as sodium thiopental or pentothal, which is a barbiturate, which is designed to put you to sleep, create amnesia and anesthesia. Second comes pancuronium bromide, which is designed to paralyze the muscles. And the third drug, which is not a drug used in anesthesia, is potassium chloride, which is designed to rapidly stop the heart. The doses used are massive compared to the doses that would be used in a normal anesthetic induction.

**DR. GAWANDE:** You raised, Dr. Truog, whether these are the right drugs in the first place, in your brief.

**DR. ROBERT TRUOG:** We've taken a pretty strong stand that paralytic agents have no role in end-of-life care. The concern, at the end of life, is that they can mask the behavioral signs that we look to, as to whether or not a patient is comfortable. And we are deeply committed to making sure that patients are comfortable and as free of pain and suffering as possible during the dying process. And since we have medications that do relieve pain, that do sedate perfectly adequately, there's no need to be introducing paralytic agents into end-of-life care.

**DR. GAWANDE:** One thing that came up in the course of the oral arguments before the Supreme Court was: Why do they administer pancuronium as part of the protocol? Can you explain a little bit about the thought that emerged from their discussion about this, Professor Denno?

**PROFESSOR DENNO:** Well, according to the state, pancuronium bromide is used in order to enhance the dignity of the inmate who's dying, because evidence came out that without pancuronium there might be some jerking or involuntary movements that would disturb some of the witnesses. So this would enhance the dignity. That I find problematic, and Justice Stevens certainly did.

**DR. GAWANDE:** Dr. Truog, is there a medical reason behind it? And has it lasted only just because of this until-now-unstated role of making things look dignified?

**DR. TRUOG:** Well, from the point of view of the inmate, the argument seems bizarre, at best. You know, imagine saying to the inmate, “You have a choice. You can either be assured of a pain-free death and you may have some twitching and grimacing, or we can expose you to the risk of an excruciating death, but we’ll make sure that you don’t twitch or grimace.” I can’t imagine that an inmate would actually consider that to be a real choice.

So if we’re talking about the dignity of the inmate, it’s only in the eyes of those who are watching that — and, in fact, you know, if that’s all you cared about, don’t even bother with any of the other drugs, just paralyze the inmate. They will look just as peaceful. So I think it’s completely specious and has no weight at all.

The number one alternative that’s been proposed has been a very large dose of a barbiturate. And, you know, I know that there’s a number of experts who have said that 2 or 3 or 5g of pentothal is absolutely going to be lethal. The fact is that, at least in this country, if there’s anyone who’s ever had experience with giving a huge dose of pentothal and watching an otherwise healthy person die — now, I’d be very interested in knowing the circumstances — I mean the fact is none of us have any experience with this. And my concern is that if you look at a country where they really do have some experience with it, their findings are pretty concerning.

So, if we go to Holland, where euthanasia is legal, and we look at a study from 2000 of 535 cases of euthanasia, I was stunned to see that in 69% of those cases, they used a paralytic agent. Now, what do they know that we haven’t figured out yet? I think what they know is that it’s actually very difficult to kill someone with just a big dose of a barbiturate. And in fact they report that in 6% of those cases, there was problems with completion — you know, getting the person dead. And in — what was it? — I think five

of those, the person actually woke up, came back out of coma, you know, despite an intention to give a lethal dose.

### **3. Cruel and Unusual Punishment**

**DR. GAWANDE:** Professor Denno, in turning to this three-drug protocol back in 1977, one of the things you've written is you said, "The law turned to medicine to rescue the death penalty." What did you mean by that?

**PROFESSOR DENNO:** By virtue of coming up with a method of execution that makes an inmate look serene, comfortable, and sleeping during the death process, by virtue of using a paralytic agent, the death penalty in this country was rescued. The humane application of a method of execution was a key goal. And the presence of doctors, their involvement, and the association with medicalizing the procedure enhanced its Constitutional acceptability.

**DR. GAWANDE:** What does it mean to be not cruel and not unusual punishment?

**PROFESSOR DENNO:** This is what the petitioner was asking the court to do: "Please provide us some Eighth Amendment guidance, so states can know how to judge whether lethal injection is cruel and unusual punishment." So the court is in the position, or at least we hope, of answering this question.

The Eighth Amendment has never said, nor have the petitioners ever argued, that executions are to be pain-free. The question is whether or not that pain is unnecessary, whether there are alternatives.

**DR. GAWANDE:** Chief Justice Roberts asked, "Do you agree that if the protocol is properly followed, that there is no risk of pain?" And the attorney for the prisoners waffled. And I think he waffled because it's a medical question. And so I want to turn to

both of you, Dr. Waisel and Dr. Truog. What's your take on the answer? Is there no risk of pain with the three-drug protocol, if properly followed?

**DR. WAISEL:** Define "properly followed." In other words, the protocols list that this should happen and that should happen. But does that mean if everything happens correctly, there are no problems with insertion of intravenous catheters, if there's no problems with mixing up the medications, there's no problem with delivery of the medications, then yes, it would be pain-free.

**DR. TRUOG:** I think I agree with Dave. You know, thousands of times, every day, people are getting anesthetics around this country. Many of them involve the use of paralytic agents. The risk of awareness under anesthesia is very, very small. It does occur, and that's, you know, that's the risk of the anesthesia being too light under the cover of a paralytic agent. And that's what, you know, anesthesiologists live in fear of that happening. And fortunately, it occurs very, very rarely.

#### **4. Risk of Errors**

**DR. TRUOG:** I think the issue, here, is that people go to school for a long time and do years of training in order to be able to do this well. And certainly, everything that I've read is that the adequacy of the training for the people that are doing it in lethal injection is nowhere near adequate.

**DR. GAWANDE:** So there is a practical empirical question, which is: How likely is it that errors will occur with the current process of lethal injection? By one measure, there have been 40 clear botched executions out of a little over 900, which suggests a 4 to 5% rate of failure. But then, Dr. Waisel, you started to talk about other problems that occur along the way, starting with drug preparation, where we've seen problems appear, perhaps, at an even higher rate. What's your sense of how often problems occur, and what the problems are?

**DR. WAISEL:** We have no idea what the error rate is, because there is no oversight, there is no public reporting. So there's no way of knowing what's happening where. And the information you hear worries me, that the process is of less concern. So, for example, I believe the case was from Missouri, in which they pushed the three drugs, and the inmate didn't go to sleep. He was sitting there looking at them.

And he realized the strap holding the arm was functioning as a tourniquet, not permitting the drugs through. So they loosened it up, all the drugs came in at once. Now in that case, I'm highly confident that the inmate experienced a great deal of pain from the potassium chloride. And yet I believe it was the sheriff who was quoted as saying, "Eh, no big deal. It's not like we hurt the guy," or something like that. And so I think that your 4 to 5% number is dramatically underestimated.

Second, I would argue that, you know, when we talk about medical error, we also talk about the consequences of if that medical error occurs. We should approach this with the gravest manner possible. And this should be done perfectly.

**DR. GAWANDE:** Dr. Truog, we're talking about you put an IV in, you give some medications, that's a routine kind of procedure that occurs thousands of times a day in any typical hospital across the country.

**DR. TRUOG:** First of all, putting an IV in is not as easy as it may sound. And being certain that it continues to remain in the same place also requires, actually, quite a bit of experience, because these catheters can become dislodged, they can go into the tissue, and then they won't work anymore. Furthermore, we know that many of these inmates, by virtue of their past history of drug abuse or obesity or being muscular, can be very difficult to start IVs in.

Now, in a hospital setting, we have a lot of different ways of approaching the situation when we can't get an IV in or it's going to be difficult. Most commonly, we'll just put in a central venous line. But there again, that requires a great deal of training, far beyond



anything that would be readily available outside of the medical profession. The mixing, the administration of the medications, routine in any operating room in this country, but far from routine if you haven't done it before.

And indeed one of the mistakes that I know has occurred happened to me, as an anesthesiologist early in my training, when I injected the paralytic agent too quickly after the pentothal, and they precipitated in the tubing. The tubing turned into a piece of concrete. Suddenly, I had no IV. And, you know, thank goodness I was surrounded by very experienced anesthesiologists who stepped in, within moments had another IV, fixed the problem, and it's never happened to me since. I learned my lesson. But I know that that has happened in executions, and it could be a disaster.

## **5. Physician Involvement**

**DR. GAWANDE:** When Justice Ginsberg asked of the petitioners — she asked, “Is there a way to ensure proper use of the three-drug regimen?” the petitioners said, “Yes, with the direct involvement and control by medical professionals.” And so now, then, of course we come to this fundamental question that all three of you have weighed in on in various ways. And that's whether physicians should, therefore, take charge to make death less painful in these instances.

**DR. GAWANDE:** Dr. Truog, what's your take on that, I think, fundamental question: If you were to have to be executed, wouldn't you rather have a capable, specialized physician doing this job?

**DR. TRUOG:** Sort of as a philosopher, if I think of the kind of a hypothetical where you have an inmate who is about to be executed and knows that this execution may involve excruciating suffering, that inmate requests the involvement of a physician because he knows that the physician can prevent that suffering from occurring, and if there is a physician who is willing to do that, and we know from surveys that many are, I honestly

can't think of any principle of medical ethics that would say that that is an unethical thing for the physician to do.

**DR. GAWANDE:** Let me ask a follow-up on that, because I'd be curious to hear from a nonmedical person's perspective, but also an expert in the law on this, how you take the role that physicians should play in this. You've written a recent law review where you would like physicians to actually play more of this role, at least in constituting the protocol to minimize suffering. Is that still your take on what our role should be?

**PROFESSOR DENNO:** If we're going to be executing people, I would prefer to have a method of execution where a doctor did not have to be involved, where medical expertise would not have to be necessary. If in fact we're going to, however, have a method that would be cruel and constitute suffering if we didn't have doctor involvement, then it suggests to me that if there are physicians in the country who are willing to be involved, or medical personnel, then I would like to think that they would not be chastised or lose their license or punished by the medical profession for volunteering to take part in an execution, to relieve suffering.

**DR. GAWANDE:** Well, there is an argument that I think we have to grapple with. Steven Miles has made it, a physician and medical ethicist. When he was looking into the records of what happened at Abu Ghraib, the very exact same question happened. It was: if you're a prisoner who's about to be tortured, wouldn't you rather have a doctor available, to help you survive the torture, so that it could be titrated in ways that avoid killing you inadvertently and also provide some guidance on how it might be made more effective in various ways?

**DR. TRUOG:** I've thought a lot about Steve Miles' work on torture, and actually I welcome the analogy to torture, because there's been a lot written, there've been symposia about whether physicians should participate in torture. And I think it all sort of misses the point. Of course, physicians shouldn't participate in torture. But, fundamentally, it's because torture is wrong. And this is sort of returning, now, to kind of

my views about physician involvement in capital punishment. While I think at one level, we can justify it, as Dave does very, very well, but I think it's to miss the bigger picture. I really believe that capital punishment is ethically wrong.

And, you know, I think that living in the bubble of the United States, as we do, it's easy to lose sight of just how much of an outlier our country is. You know, the United Nations has recently voted to ban capital punishment worldwide. Over 100 countries have. We stand among a small group of countries that still do capital punishment that I really don't think we want to be, you know, in their company.

## **6. Remedies**

**DR. GAWANDE:** So then, when we come to this question of where can the remedy be found, the directions that seem to be posed are we involve physicians more and let them treat the prisoner as a patient, or we come up with alternative protocols that don't involve physicians at all. The judges in the oral arguments seemed very uncomfortable with trying to reinvent the protocol, for the reasons Dr. Truog has just mentioned. That is, it's not clear that any alternative protocol has enough experience to show that it works 100% of the time and it's pain-free. And so the natural place the discussion tends to go is towards trying to make sure there's enough professional involvement. Is that right, Professor Denno? Was there a disinclination among the justices to be reinventing the protocol on the spot?

**PROFESSOR DENNO:** I think there was a disinclination. I think what became clear during some of the arguments is there's probably not enough information for the justices to determine what the next direction should be. You know, my recommendation has been that there be a panel of experts who would propose what would be a viable method of execution and offer information that seemed to be sorely needed during the oral arguments.

**DR. GAWANDE:** I have to say, it makes me deeply concerned, though, imagining us sitting around a table at a conference, trying to figure out various ways of executing people, and then the prospect of what that becomes, that we either figure out that physicians have to be continually actively involved, and we create a specialty of the execution physician.

It may not be possible for the court to say that doctors would be allowed to really treat inmates as patients. And so then my question to you, Professor Denno is: Is it a realistic thing that a physician could treat an inmate as a patient and that the court would let them control the protocol, make judgments about how to make the suffering less or more, and leave them free to have that professional role?

**PROFESSOR DENNO:** I guess my best answer to you is that they've been doing that for 30 years. There have been physicians, as you know, involved in lethal injection since the very first execution in 1982 in this country, in the involvement of Dr. Ralph Gray. We don't, because of secrecy and the lack of information, we'll never know, at least up to this point, the full involvement of doctors. But we have many examples of doctors having been involved — the doctor in Missouri, Dr. Carlo Musso in Georgia, etc., who have made these kinds of discretionary judgments about drugs or chemicals and what should be done.

**DR. GAWANDE:** So Dr. Truog, if the court says, "We need this to go to an expert panel, with physicians, lawyers, public citizens, to determine a new protocol for execution," would you participate on that panel? And should other physicians participate on that panel?

**DR. TRUOG:** I would not participate on that panel, because I don't think that capital punishment is ethical. I think other physicians should be free to participate on that panel. And while I wouldn't want to prejudge how they might come out, certainly, from everything I've read, I can't imagine that they are going to be able to develop an evidence

base for any other approach that is likely to be successful without the immediate presence of a physician. And then, I think we have to grapple with the ethics of that.

**DR. GAWANDE:** Dr. Waisel, can I ask you the same question? If they say there has to be some expert panel weighing this question, would you participate on the panel to come up with a better execution method?

**DR. WAISEL:** I agree that it should be wholly permissible for other physicians to participate, if they wish. I would have to think about it very carefully. A large part would be depending on the intellectual freedom involved in the panel, the ability to write a dissenting opinion from what the panel comes up with, and moving away from certain constraints that are put around this that seem not to permit what I would consider to be successful ways of nonphysician involvement.

**DR. GAWANDE:** Well, a decision from the Supreme Court in *Baze v. Rees* is expected this spring. And whatever the decision is, it is bound to have important implications for physicians and the entire health care community about our role in punishment. I want to thank all three of you for taking the time to sort through these issues, their complexities — Professor Deborah Denno, from Fordham University School of Law, Drs. Robert Truog and David Waisel from Harvard Medical School. For the *New England Journal of Medicine*, I am Atul Gawande.