No. 05-8794

IN THE

Supreme Court of the United States

CLARENCE E. HILL,
Petitioner,

v.

JAMES R. MCDONOUGH, INTERIM SECRETARY,
FLORIDA DEPARTMENT OF CORRECTIONS, ET AL.,
Respondents.

On Writ of Certiorari
to the United States Court of Appeals
for the Eleventh Circuit

MOTION FOR LEAVE TO FILE AND BRIEF OF *AMICI CURIAE* PHYSICIANS FOR HUMAN RIGHTS, GLOBAL LAWYERS AND PHYSICIANS, LAWRENCE D. EGBERT, M.D., M.P.H., JONATHAN GRONER, M.D., AND ANDREW GUMBS, M.D. SUPPORTING PETITIONER

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WILSON-EPES PRINTING CO., INC. – (202) 789-0096 – WASHINGTON, D.C. 20001

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Physicians for Human Rights, Global Lawyers and Physicians, Lawrence D. Egbert, M.D., M.P.H., Jonathan Groner, M.D. and Andrew Gumbs, M.D. hereby respectfully move for leave to file the attached brief *amici curiae* in this case. The consent of the attorney for petitioner has been obtained, as evidenced by the attached letter. The consent

of the attorney for respondent was requested, but not received prior to the deadline for filing this brief.

Amici, including the members of PHR and GLP, have extensive experience in medicine, particularly anesthesiology, as well as the use of IV tubing, catheters, and the administration and effects of the intravenous drugs used in lethal injection. As physicians and anesthesiologists, *amici* have a strong interest in the proper administration of intravenous drugs, and a unique familiarity with and understanding of the scientific issues involved. *Amici* write in the hope that their expertise may be of assistance to the Court.

Respectfully submitted,

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March 6, 2006

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INTEREST OF *AMICI CURIAE*

Physicians for Human Rights ("PHR") is a non-profit organization representing thousands of health professionals. Founded in 1986, the organization has sought to use medical and scientific methods to investigate, expose and end human rights violations around the world. The organization focuses particularly on the role of the medical community in advancing human rights. It has sought to assure that public

policies, including criminal justice policies, are consistent with knowledge of medicine and public health. In 1997, Physicians for Human Rights shared the Nobel Peace Prize as one of the original steering committee members of the International Campaign to Ban Landmines.

Global Lawyers and Physicians ("GLP"), founded in 1996, is a non-profit nongovernmental organization that focuses on health and human rights issues. GLP was formed to reinvigorate the collaboration of the legal and medical/public health professions to protect the human rights and dignity of all persons. GLP works at the local, national, and international levels on issues with a focus on health and human rights, patient rights, and human experimentation.

Dr. Lawrence Egbert, formerly professor of anesthesiology at University of Texas Southwestern Medical School, is now a professor of anesthesiology at The Johns Hopkins University. Dr. Egbert, the President of Physicians for Social Responsibility of Baltimore, has provided anesthesiology services on four Doctors Without Borders missions, in Sri Lanka, Lebanon, and Kosovo. He is a nationally recognized expert on the administration of lethal injection, and has testified in previous lethal injection cases

Dr. Jonathan Groner is a clinical associate professor of surgery at The Ohio State University College of Medicine and Public Health, the medical director of the Trauma Program at Columbus Children's Hospital, and a pediatric surgeon with a busy clinical practice. He also teaches medical students, residents, and allied health professionals about surgery, trauma and injury prevention. Since 1997, Dr. Groner has written numerous articles about lethal injection.

Dr. Andrew Gumbs attended college and medical school at Yale University. As a medical student, he received 2 research fellowships to perform work on Chagas Disease in

Brazil. He performed his general surgery residency at the Yale-New Haven Hospital where he was awarded the Resident Teaching award in his Chief year and was named the Best Surgical Resident. He performed a 2 year clinical and research fellowship in Pancreatic Surgery at the University of Verona in Italy under the auspices of the Italian Ministry of Health. He is currently a Minimal Access Surgery Fellow and Instructor in Surgery at New York-Presbyterian Hospital and has authored over 25 published manuscripts and one book chapter. He is a member of the Society of American Gastrointestinal Endoscopic Surgeons, the International Hepato Pancreato Biliary Association, and the Society of Laparoendoscopic Surgeons, and has spoken at multiple national and international meetings.

Amici, including the members of PHR and GLP, have extensive experience in medicine, particularly anesthesiology, as well as the use of IV tubing, catheters, and the administration and effects of the intravenous drugs used in lethal injection. As members of the anesthesiology community and the medical community in general, *amici* have a strong interest in the proper administration of intravenous drugs in patients, and a unique familiarity with and understanding of the scientific issues involved. *Amici* write in the hope that their expertise may be of assistance to the Court, particularly in understanding that an assessment of the likelihood of excruciating pain caused by lethal injection requires an intensive, individualized assessment of the protocol, equipment, knowledge, experience, and skills to be applied in each case.

SUMMARY OF ARGUMENT

Amici take no position regarding the procedural question in this case. And *amici* do not address the ultimate legal issue whether the execution of any condemned inmate by lethal injection violates the Cruel and Unusual Punishments Clause of the United States Consti-

tution. However, underlying the procedural issue raised in this matter are medical and technical issues about which *amici* care very deeply, to which *amici* have devoted substantial research, and with respect to which *amici* have significant expertise.

The combination of chemicals administered by the state of Florida to execute condemned inmates—*i.e.*, the sequential intravenous administration of sodium thiopental, pancuronium bromide and potassium chloride—is widely used by the United States jurisdictions that execute condemned inmates by lethal injection. If administered improperly, this combination of chemicals would cause an inmate to suffocate, while consciously experiencing the blinding pain of an injection of potassium chloride and a coronary arrest, while onlookers believe him to be unconscious and insensitive to any pain. Yet all across the country, state lethal injection protocols fail to provide execution personnel the adequate training, appropriate procedures, and proper equipment necessary to administer lethal injection. Instead, current state lethal injection protocols are so deficient in guidance that they create a significant and gratuitous likelihood that some inmates will unnecessarily suffer horrible pain.

STATEMENT

Petitioner Clarence Edward Hill was convicted of murder and sentenced to death by the Florida state courts. See *Hill* v. *State*, 643 So. 2d 1071 (Fla. 1994). He subsequently filed a complaint under 42 U.S.C. § 1983 alleging that in executing him by means of the sequential intravenous administration of sodium thiopental, pancuronium bromide and potassium chloride, the respondents, acting under color of Florida law, will cause, or create a foreseeable risk of causing, the unnecessary and wanton infliction of pain in bringing about his death. This Court granted *certiorari* in order to determine whether such a claim is properly

brought under 42 U.S.C. § 1983, or in a petition for a writ of habeas corpus.

Amici take no position in this action regarding the procedural question in this case. And *amici* do not address the ultimate legal issue whether the execution of any condemned inmate by lethal injection violates the Cruel and Unusual Punishments Clause of the United States Constitution. However, underlying the procedural issue raised in this matter are medical and technical issues about which *amici* care very deeply, to which *amici* have devoted substantial research, and with respect to which *amici* have significant expertise.

Thirty-eight states, along with the federal government and the United States military, authorize capital punishment, and all but one of these jurisdictions authorizes execution by lethal injection.[1] See Capital Punishment Statistics, U.S. Dep't. of Justice, Bureau of Justice Statistics, http://www.ojp.usdoj.gov/bjs/cp.htm (last visited Mar. 2, 2006). Well over 80% of all executions carried out in this country since 1976—including 98% of all executions since January 1, 2000—have been effected by lethal injection.

The combination of chemicals administered by the state of Florida to execute condemned inmates—*i.e.*, the sequential intravenous administration of sodium thiopental, pancuronium bromide and potassium chloride—is widely used by the United States jurisdictions that execute condemned inmates by lethal injection. See *Abdur'Rahman* v. *Bredesen*, 181 S.W.3d 292, 307 (Tenn. 2005) ("the undisputed evidence before the Chancellor was that only two states do not use some combination" of these chemicals in lethal injection). If improperly administered, this combination of chemicals will cause inhuman suffering on the part of the inmate prior

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[1] Nebraska requires execution by electrocution. See Neb. Rev. Stat. § 29-2543 (2005).

to his death. And the procedures by which lethal injection is administered in jurisdictions across the country create a significant and unnecessarily high likelihood that the three-drug procedure will be administered in a manner that causes such suffering on the part of at least some inmates prior to their death.

Both sodium thiopental and pancuronium bromide can cause respiratory arrest and be lethal, but the injection of potassium chloride shortly after the injection of sodium thiopental and pancuronium bromide normally ensures that death occurs by cardiac arrest before respiratory arrest occurs. Thus, in all lethal injection jurisdictions, potassium chloride is the agent intended to bring about the inmate's death. Sodium thiopental is administered as an anesthetic, and pancuronium bromide is administered for "cosmetic" or "aesthetic" reasons; *i.e.*, to make the prisoner appear serene.

In the doses and concentrations in which it is administered in the lethal injection process, potassium chloride is—absent adequate anesthesia—indescribably painful. It "scours the nerve fibers lining [the inmate's] veins," *Evans* v. *Saar*, No. L-06-149, 2006 WL 274476, at *1 (D. Md. Feb. 1, 2006) and interrupts the heart's signaling function, interfering with its rhythmic contractions and causing a massive coronary arrest. Administering this quantity of potassium chloride to a conscious individual would, in addition to precipitating a painful coronary arrest, result in an excruciating burning pain, extending from the site of the injection (normally an arm, hand, leg or foot) to the heart, and would constitute the most severe form of torture.

The administration of pancuronium bromide during the lethal injection process greatly increases the likelihood that the inmate will suffer agonizing pain. Although it makes the inmate incapable of any voluntary movement, and even of breathing, pancuronium bromide has no effect whatso-

ever on awareness, cognition or sensation.[2] As a result, an individual to whom pancuronium bromide has been administered, but who is not properly anesthetized, will endure the terror of conscious paralysis, with no ability to struggle or communicate to anyone else that he is conscious and feels pain. An inmate undergoing lethal injection to whom pancuronium bromide has been administered, and who is not properly anesthetized, would suffocate while experiencing (consciously) the blinding pain of an injection of potassium chloride and a massive heart attack, while onlookers believed him to be unconscious and insensitive to any pain.

Although an inmate who is properly anesthetized will not consciously experience the pain and terror associated with injections of pancuronium bromide and potassium chloride, their injection into the veins of an individual who is not sufficiently anesthetized would cause horrible suffering. Therefore, unless the inmate is brought to an appropriate anesthetic depth by the injection of sodium thiopental, and unless that depth is maintained throughout the lethal injection process, the inmate will endure savage torment.

However, achieving and maintaining an appropriate anesthetic depth is an extraordinarily complex endeavor, which requires specialized training, procedures and equipment. If adequately trained personnel, appropriate procedures and proper equipment are not employed throughout the lethal injection process, there is a significant likelihood that tremendous agony will be inflicted upon some inmates in the course of any significant number of executions. Although different lethal injection jurisdictions use different procedures, and many are loathe to disclose those procedures, see Deborah Denno, *When Legislatures Delegate Death: The Troubling Paradox Behind State Uses*

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[2] Pancuronium bromide is used to prevent involuntary movement by certain surgical patients, who are anesthetized and whose breathing and ventilation are accomplished artificially.

Of Electrocution And Lethal Injection And What It Says About Us, 63 Ohio St. L.J. 63, 116-17 (2002), the lethal injection procedures in use in at least some jurisdictions, by failing to provide for appropriate training, procedures and equipment, make it inevitable that some inmates will suffer inhuman, and entirely unnecessary, pain.

ARGUMENT

Lethal Injection Procedures In Use In The United States Create A Significant Likelihood That Condemned Inmates Will Not Be Properly Anesthetized During The Lethal Injection Process.

Sodium thiopental is a barbiturate used by anesthesiologists to anesthetize patients temporarily, in order to permit sufficient time to intubate the trachea and institute mechanical support of ventilation and respiration. Once this has been achieved, additional drugs are administered to maintain a level of anesthesia deep enough to ensure that the patient feels no pain and is unconscious for the duration of a surgical procedure. The medical utility of sodium thiopental derives from its short-acting properties when administered in smaller doses: if unanticipated obstacles hinder or prevent successful intubation, patients will quickly regain consciousness and will resume ventilation and respiration on their own.

If the dose of sodium thiopental normally administered in lethal injection is, in fact, successfully delivered to the inmate's circulatory system, it is unlikely that the inmate will retain or regain consciousness. However, if that dose is not successfully delivered, the inmate may retain or regain consciousness prior to death, and experience the horrific pain of injections of pancuronium bromide and potassium chloride.

The intravenous administration of any anesthetic, including sodium thiopental, is a complex task, involving many steps and many opportunities for problems to thwart the

delivery of the intended dose. It requires substantial training and proficiency, but lethal injection jurisdictions in the United States often fail to specify the training and proficiency required of the personnel assigned to administer sodium thiopental, or assign the task to personnel with no training or expertise. In addition, the lethal injection procedures used in those jurisdictions create a further likelihood that a condemned inmate will not receive the necessary dose of sodium thiopental, and as a result, will not be properly anesthetized prior to receiving injections of pancuronium bromide and potassium chloride.

Execution logs and eyewitness accounts of executions suggest that the likelihood of failure inherent in lethal injection protocols is neither theoretical nor remote. For example, execution records in California reveal that, although sodium thiopental doses in that jurisdiction are calculated to render the inmate unconscious and to cease respiration, six inmates executed from 1999-2006 did not stop breathing until after or at the time of the pancuronium bromide injection. See *Morales v. Hickman*, No. 06-219 JF, 2006 WL 335427, at *5-6 (N.D. Cal. Feb. 14, 2006).

Although even ideal procedures cannot eliminate entirely the mis-administration of anesthesia, standard procedures have been developed over time in order to minimize those risks. By deviating from those standard procedures, often significantly and without justification, lethal injection protocols currently in use make it inevitable that, over any large number of executions, some inmates will suffer excruciating pain. Thus, the instances in which that occurs are not "unforeseeable accidents," but the predictable result of poorly-designed procedures implemented by unqualified personnel.

A. Preparation and Dosage

Sodium thiopental has a short shelf life in liquid form. It is distributed in powdered form to increase its shelf life, and must be mixed into a liquid solution before use. As a result, execution personnel must first prepare the sodium thiopental for intravenous delivery. This preparation requires the application of pharmaceutical knowledge and familiarity with applicable terminology and abbreviations. Without detailed and specific instructions stating exactly how to formulate the sodium thiopental, there is a needless increase in the likelihood that an inadequately trained executioner will mistakenly prepare the wrong dose.

Moreover, the effect of an intravenous injection of sodium thiopental depends upon the interplay of a complex set of factors, including, for example, the rate of administration of the drugs, the rate of delivery of any intervening flush solutions and the relative timing of the delivery of the drugs. Where sodium thiopental is not prepared and administered by qualified individuals, who are able to observe the inmate and determine the effectiveness of sodium thiopental, in order to ensure that it brings about a deep, lengthy anesthetized state, and that the inmate remains in that state throughout the execution, the inmate may lose consciousness for only a brief period, leaving him sensible to the horrific pain resulting from the administration of potassium chloride, but unable to communicate that pain to those administering the lethal injection because of the paralyzing effect of pancuronium bromide.

B. Administration

Sodium thiopental's principal use is in the induction of anesthesia. Once this has been achieved, additional drugs are administered to maintain a "surgical depth" or "surgical plane" of anesthesia (*i.e.*, a level of anesthesia deep enough to ensure that a surgical patient feels no pain and is

unconscious for the duration of the surgical procedure). The medical utility of sodium thiopental derives from its short-acting properties when administered in small doses: if unanticipated obstacles hinder or prevent successful intubation (securing the airway with a breathing tube), patients will quickly regain consciousness and will resume ventilation and respiration on their own.

However, these benefits of sodium thiopental in the operating room are not only unnecessary, but engender serious risks, in the execution chamber. Other anesthetics are available, the effects of which are far more prolonged than sodium thiopental, and their use would minimize or eliminate the risk that an anesthetized inmate would regain consciousness during the lethal injection process.

But if sodium thiopental is to be used in lethal injection, and if it is not administered in a large enough dose to ensure continued and sustained unconsciousness during the administration of pancuronium bromide and potassium chloride, it should be administered *continuously* to the inmate. See David Kravets, "California altering lethal injection protocol," Associated Press, Mar. 3, 2006 (reporting that California prison officials are changing lethal injection protocol to provide for continuous administration of anesthetic). However, the lethal injection protocols in use in at least some lethal injection jurisdictions fail to provide for the continuous intravenous administration of sodium thiopental. For example, while an Oklahoma statute requires that "[t]he punishment of death must be inflicted by continuous, intravenous administration of a lethal quantity of an ultrashort-acting barbiturate," Okla. Stat. tit. 22, §1014 (2003), the Florida protocol states that only "[t]he first two syringes" will contain sodium thiopental. *Sims* v. *State*, 754 So. 2d 657, 665 n.17 (Fla. 2000). The failure to administer a continuous infusion of sodium thiopental may create a significant, but completely avoidable and therefore unnecessary, risk that the

condemned inmate will regain consciousness after receiving sodium thiopental, and consciously experience muscular paralysis, without loss of consciousness or sensation, during the excruciating pain of both suffocation and the intravenous injection of potassium chloride.

C. IV Equipment

Prior to execution, the condemned inmate is secured to a gurney or table with restraints to the ankles, wrists, and chest. If—as is often the case in lethal injection—the personnel administering the drugs are not at the recipient's "bedside," but are instead in a different room, see *Morales* v. *Hickman*, No. 06-219-JF, (N.D. Cal. Feb. 21, 2006) (order granting defendant's motion to proceed with execution under alternative procedures as condition to order denying preliminary injunction) (noting that "having a person in the execution chamber is contrary to departmental policy"); *Abdur'Rahman*, 181 S.W.3d at 301 ("[t]he executioner remains in a room adjacent to the death chamber"); Supplemental Report: Methods of Execution Used by States, Florida Corrections Commission,[3] (June 20, 1997), at 8-9, available at http://www.fcc.state.fl.us/fcc/reports/methods/emstates.html ("Florida Report") (finding that in Louisiana and Missouri, the executioner is in a room separate from the inmate), intravenous tubes lead from the inmate in the execution chamber, through a wall or under a curtain, and into an adjacent room, where personnel administer the execution. Multiple IV extension sets, and additional components and connections, may be required to reach from the prisoner to the adjacent room.

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[3] The Florida Corrections Commission was established by the Florida Legislature to provide oversight to Florida's correctional system and provide policy and budget recommendations to the Florida Governor and Legislature. See Florida Corrections Commission Welcome Page, http://www.fcc.state.fl.us/fcc (last visited Mar. 2, 2006).

An "IV setup" consists of multiple components—including not only the lines, but also stopcocks, injection ports, etc.—that are assembled by hand prior to use. Any of the connections between the IV components may loosen and leak. See Brian Witte, "Triple murderer in Maryland executed after Supreme Court rejects last-ditch appeals," Associated Press, June 18, 2004 (Maryland officials acknowledged that IV line used to deliver lethal injection to Tyrone Gilliam in 1998 leaked). And the use of additional IV tubing and components increases the likelihood of leaks and kinks. Therefore, in clinical practice, it is important to maintain visual surveillance of the entirety of the IV setup so that any leaks or kinks can be detected. The relative positions of the inmate and the personnel administering the lethal injection not only increase the likelihood of leaks, by requiring additional IV tubing and components, but may also preclude such surveillance, making it difficult or impossible to detect leaks. This problem may be exacerbated where a sheet or other covering is placed over any portion of the IV setup, including any portion physically attached to the inmate. See Sara Rimer, "In the Busiest Death Chamber, Duty Carries Its Own Burdens," N.Y. Times, Dec. 17, 2000 (describing Texas inmate about to be executed as strapped to gurney under a sheet).

In addition, an IV setup may include a "stopcock," which is a device used to provide access for the administration of solutions, and to regulate their directional flow to a patient's vascular system. A valve on the stopcock can be opened and closed to permit or restrict flow. Many stopcocks are designed in such a manner that it is not readily apparent whether a valve is open or closed, and the error of retrograde injection (in which a closed valve causes an injected solution to "back up" in the IV system, diluting the drug being injected and causing it to take a very long time to reach the vascular system) is well known in practice. A retrograde injection can also occur where an injection port

is used without a stopcock, because many individuals (and particularly those who lack appropriate training) are unaware that in that case, the IV tubing must be pinched or kinked upstream from the injection site.

Where a leak or retrograde injection occurs, the inmate may receive a dose of sodium thiopental insufficient to render him unconscious, or to prevent him from regaining consciousness, before the injection of pancuronium bromide and potassium chloride. However, the inmate may nevertheless still receive a dose of pancuronium bromide sufficient to paralyze him, and a dose of potassium chloride sufficient to cause unendurable pain.

D. Injection

Consistent with clinical practice, the chemicals administered during lethal injection are typically administered through catheters, small needles with hollow tubes inserted into the inmate's vein. If the catheter is not properly inserted in the inmate's vein, or if it moves after being inserted, sodium thiopental will not enter the vein, but will enter the tissue surrounding it, and will not be delivered to the inmate's central nervous system, and will not render him unconscious. This condition, known as infiltration, can also occur if the wall of the vein is perforated or weakened during insertion of the catheter, or if the chemicals are injected with excessive pressure.

Infiltration occurs with regularity in the clinical setting, and requires continuous surveillance of the IV site, preferably by the individual performing the injection, so as to permit correlation between visual observation and tactile feedback from the syringe plunger. Where, as may be the case in the lethal injection setting, the individual administering the injection is not located in close proximity to the inmate, or where the injection site is covered, infiltration will go undetected and uncorrected, in which case the inmate might not be sufficiently anesthetized by

the injection of sodium thiopental to ensure that he is not conscious when pancuronium bromide and potassium chloride are injected.

Moreover, absorption of the chemicals being administered can be hindered if catheters are inserted in the wrong direction—*i.e.*, directing flow *away* from the inmate's heart. See Denno, *supra*, 63 Ohio St. L.J. at 110. For example, the 1990 execution of Charles Walker in Illinois was prolonged when execution personnel inserted the intravenous needle pointing towards Walker's fingers, instead of his heart. "Niles Group Questions Execution Procedure," United Press International, Nov. 8, 1992.

E. Other Problems

Lethal injection procedures in use in various jurisdictions create a variety of other opportunities for the failure to achieve and maintain the necessary anesthetic depth. For example, lethal injection protocols may fail to specify the timing of the injections to be given the inmate, and since sodium thiopental is a short-acting barbiturate when administered in small doses, it may cease to be effective if there is too long a delay between its administration and that of pancuronium bromide or potassium chloride.

As currently devised, lethal injection protocols fail to address the essential step of assessing anesthetic depth following the administration of sodium thiopental. A physical or tactile examination is particularly important because, in order to ensure that the inmate will not experience the pain of the injection of pancuronium bromide and potassium chloride, he must be in a surgical plane of anesthesia characterized not merely by loss of consciousness, but by "loss of reflex muscle response and loss of response to noxious stimuli." See *2000 Report of the Panel on Euthanasia of the American Veterinary Medical Association*, 218 Journal of the American Veterinary Medical Association 669, at 681 (Mar. 1, 2001), available at

http://www.aphis.usda.gov/ac/euthanasia.pdf (discussing standards for euthanasia of animals). The danger that obvious signs that an appropriate level of anesthetic depth has not been achieved may be missed is particularly great where, as in most, if not all, lethal injection jurisdictions, the person administering the lethal chemicals is physically separate from the inmate.

F. Training and Qualification

The opportunities for failure to deliver an appropriate dose of anesthetic described above make manifest the need for particularized determinations of whether execution personnel possess adequate training and proficiency to administer lethal injections in order to prevent what otherwise would be unbearable suffering. The need for such assessments is especially acute in view of the fact that lethal injection protocols in use in the United States typically fail to specify the training and proficiency required of such personnel, see *Abdur'Rahman*, 181 S.W.3d at 301 (finding that the warden prepares the syringes, but with no finding as to the warden's ability or training to do so); Denno, *supra*, 63 Ohio St. L.J. at 121 (noting that protocols of only fourteen states mention "training," "competency," "preparation" or "practice," and that those that do fail to indicate what type of training is required); see also Administrative Directive, Procedure for Execution, Arkansas Department of Correction, May 23, 1996 ("Arkansas Protocol") (stating only that "orientation, if needed...will be...provided by the Director [of the Department of Correction]," but providing no standard for or description of training); Administrative Regulation 300-14, Colorado Department of Correction, June 15, 2004 ("Colorado Protocol") (requiring only that the executive director of the Department of Correction will "ensure" the staff is properly trained, but providing no standard for or description of training required); Florida Report, at 8, 10 (finding that "there are no written procedures" in

Louisiana, and that in Oklahoma, execution personnel "are not required to be medically trained") and lethal injection jurisdictions generally refuse to identify the personnel involved in performing the executions. See Arkansas Protocol; Colorado Protocol; see also Florida Report (finding executioner's identity is kept secret in Georgia, Oklahoma and Virginia).

As noted above, *amici* do not suggest that the participation of an anesthesiologist or other physician is necessary in lethal injections.[4] However, the individuals who administer lethal injections must have more adequate and appropriate training related to the drugs they will administer and to the assessment of anesthetic depth than called for under the protocols currently in use. The predictable result of the lack of such training will be that some inmates will be inadequately sedated, and will suffer horrible pain during the execution process.

Conclusion

As noted, *amici* take no position with respect to the question whether Petitioner Hill's claim is properly brought under 42 U.S.C. § 1983, or in a petition for a writ of habeas corpus. Nor do *amici* take any position herein on the questions whether any particular jurisdiction's lethal injection procedure is unreliable, or inflicts unnecessary pain, or whether lethal injection is inhumane and/or violative of the Eighth Amendment *per se*. As the above discussion demonstrates, however, the compounds used in the

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[4] In fact, *amici* note that physicians are prohibited from participating in legally authorized executions, including lethal injection. See American Medical Association policy E-2.06: Capital Punishment, http://www.ama-assn.org/apps/pf_new/pf_online?f_n=browse&doc=policyfiles/HnE/E-2.06.HTM&&s_t=&st_p=&nth=1&prev_pol=policyfiles/HnE/E-1.02.HTM&nxt_pol=policyfiles/ HnE/E-2.01.HTM (last visited Mar. 2, 2006).

lethal injection process create a significant and gratuitous likelihood that some inmates will unnecessarily suffer horrible pain. *Amici* respectfully suggest that the question whether the particular lethal injection procedure used in any jurisdiction causes that risk to rise to the level of a constitutional violation requires the development of an adequate factual record, and cannot properly be addressed without a thorough study of the procedure in question.

Respectfully submitted,

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March 6, 2006