No. 07-5439

In the Supreme Court of the United States

Ralph Baze and Thomas C. Bowling,

Petitioners,

v.

John D. Rees, et al.,

Respondents.

On Writ of Certiorari to the
Kentucky Supreme Court

BRIEF OF *AMICUS CURIAE* AMERICAN SOCIETY OF ANESTHESIOLOGISTS SUPPORTING NEITHER PARTY

Of Counsel:

Lisa S. McCalmont
Ronald Szabat

Lawrence J. Fox
DRINKER BIDDLE & REATH LLP
One Logan Square
18th & Cherry Streets
Philadelphia, PA 19103-6996
(215) 988-2700

Counsel of Record
Counsel for *Amicus Curiae American Society of Anesthesiologists*

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INTEREST OF THE *AMICUS CURIAE*[1]

The American Society of Anesthesiologists [hereinafter "the Society"] is an educational, research and scientific association of approximately 42,000 physicians organized to raise and maintain the standards of the medical practice of anesthesiology and improve the care of patients. Since the Society's founding in 1905, its achievements have made it an important voice in American medicine and the foremost advocate for all patients who require anesthesia, critical care or relief from pain.

The 42,000 physician-members of the American Society of Anesthesiologists are unified by their study and practice of the art and science of anesthesiology. In other respects, the Society's members are as heterogeneous as the American public. The opinions of the Society's members on capital punishment reflect the personal moral decision of individual. Therefore, the Society, as an organization, takes no position on capital punishment. Nor does the Society offer any opinion herein about whether lethal injection, as presently

[1] Pursuant to Rule 37.2 of the Rules of this Court, the parties have consented to the filing of this brief. The letters granting consent are filed herewith. This brief was not written in whole or in part by counsel for any party, and no person or entity other than *amicus* and their counsel has made a monetary contribution to the preparation and submission of this brief.

practiced in the United States, comports with the Eighth Amendment.

Instead, the Society offers this brief (on behalf of neither party) to describe the scientific and medical research related to the delivery of anesthetic care and to demonstrate how executions by lethal injection, as currently performed in the United States, can never conform to the science, art and practice of anesthesiology.

As a matter of policy, the Society eschews physician participation in executions as unethical and contrary to the duty of physicians as healers dedicated to using their arts and skills solely to relieve pain and suffering and to preserve life, when there is hope of doing so. The Society has adopted the American Medical Association's ["AMA's"] Code of Ethics and reasserts here that it fully endorses the AMA's ethical guideline E-2.06, which prohibits physician participation in executions:

> 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. Physician participation in execution is defined generally as actions which would fall into one or more of the following categories: (1) an action which would directly cause the death of the condemned; (2) an action which would

> assist, supervise, or contribute to the ability of another individual to directly cause the death of the condemned; (3) an action which could automatically cause an execution to be carried out on a condemned prisoner.
>
> Physician participation in an execution includes, but is not limited to, the following actions: prescribing or administering tranquilizers and other psychotropic agents and medications that are part of the execution procedure; monitoring vital signs on site or remotely (including monitoring electrocardiograms); attending or observing an execution as a physician; and rendering of technical advice regarding execution.
>
> In the case where the method of execution is lethal injection, the following actions by the physician would also constitute physician participation in execution: 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.

American Medical Association Ethical Guideline E-2.06 *Capital Punishment* (2000).

SUMMARY OF STATEMENT

The art and science of anesthesiology can only be practiced by those with the rigorous education and clinical experience required by the profession. In particular the medical use of the three drugs at issue here can only be fully understood and closely monitored by professional anesthesiologists. As a result, the present method of conducting executions by lethal injection can never conform to the science, art and practice of anesthesiology.

STATEMENT OF AMICUS

I. The products used by prisons in executions are not administered in a manner and doses consistent with the art and science of anesthesiology.

It is our understanding that most executions in the United States are conducted by the serial injection of bolus (single and large) doses of three drugs: sodium thiopental, followed by pancuronium bromide, then potassium chloride.[2]

In particular, the first two of these drugs were developed for medical and therapeutic use and not for terminating life. They are drugs which have

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[2] Deborah W. Denno, *When Legislatures Delegate Death: The Troubling Paradox Behind State Uses of Electrocution and Lethal Injection and What It Says About Us*, 63 OHIO ST. L.J. 63, 97-100 (2002).

complex actions in the human body and their risks and benefits must be understood fully before administration.

A. Thiopental.[3]

General anesthesia is divided into three phases: induction, maintenance and emergence. When used in anesthetic practice (e.g. in a fashion and at doses much different from those being considered by the courts), thiopental is an ultra short-acting barbiturate typically used to induce anesthesia and administered intravenously by a clinician at the bedside of the patient. In these clinical doses, the drug has both a rapid onset and short duration, although its duration of action as an anesthetic is dose dependent. There is no medical dispute that a massive or superclinical dose of thiopental (as those being considered by the courts), if effectively delivered into the circulation, will reliably produce prolonged and deep unconsciousness.

Anesthesiologists typically use thiopental to temporarily anesthetize patients, creating a state of unconsciousness that usually necessitates instituting mechanical support of ventilation. Once ventilation has been achieved, additional drugs are administered to maintain a "surgical depth" or "surgical plane" of anesthesia, i.e., a level of

[3] Thiopental is also known as sodium thiopental, sodium pentothal, or thiopentone. It will be referred to throughout this brief as thiopental.

anesthesia deep enough to ensure that a surgical patient does not experience pain or consciousness and has no recall of any aspect of the procedure.

B. Pancuronium Bromide.

Pancuronium bromide is a member of a class of drugs called neuromuscular blocking agents. Neuromuscular blocking agents interfere with the transmission of signals between nerve endings and muscles. The effect of pancuronium bromide is to render the muscles (including the diaphragm which moves to cause ventilation) unable to contract. Pancuronium bromide does not affect the brain or sensory nerves and therefore does not affect sensation, consciousness or cognition.

Clinically, neuromuscular blocking agents are used to ensure that a patient is securely paralyzed so that surgical procedures can be performed without muscle contraction. They are essential tools for anesthesiologists when it is critical that the patient's muscles remain relaxed or immobilized. Neuromuscular blockers are administered by anesthesiologists only for therapeutic purposes to prevent potentially harmful reflex movement during surgery or to facilitate surgical access. Neuromuscular blocking agents are never intentionally administered to patients who are not adequately anesthetized. Otherwise it is possible that the patient would consciously experience the process of becoming paralyzed and losing the ability to breathe.

Because pancuronium bromide and other neuromuscular blocking agents, prevent the patient from moving or signaling distress, anesthesiologists take stringent measures to monitor patients receiving such drugs to prevent any awareness of their paralysis or of the surgical procedures.

C. Potassium Chloride.

Potassium chloride is a naturally occurring salt. When dissolved in water, it releases potassium ions, which are an essential constituent of the aqueous milieu of the human body. The blood concentration of potassium is naturally maintained in a narrow range, and a rapid increase in the blood concentration of potassium will cause cardiac arrest.

The vessel walls of veins are richly supplied with sensory nerve fibers that are highly sensitive to potassium ions. Intravenous injection of concentrated potassium, particularly through veins in peripheral limbs, will activate the sensory nerve fibers of the lining of those veins which may cause significant pain. The doses and concentrations of potassium chloride in the manner used in lethal injections would never be used in the practice of medicine.

II. Understanding the art and science of anesthesiology

To appreciate that execution by lethal injection as currently practiced is ***not*** the delivery of anesthetic

care, one must first understand the art and science of anesthesiology.

An anesthesiologist is a highly trained specialist in the care of a patient prior to, during and after surgery. The anesthesiologist evaluates his or her patient prior to surgery, designs an anesthetic plan, and then cares for the patient during the surgical procedure. During surgery, an anesthesiologist monitors the patient's blood pressure, heart rate, breathing and level of consciousness and analgesia (relief from pain). The anesthesiologist adjusts the anesthetic plan, medications, fluids and other parameters continuously throughout surgery to provide a safe, pain- and recall-free surgical experience. After the surgery, the anesthesiologist affects a smooth emergence from the anesthetic by withdrawing and reversing the medications used to produce maintenance. In the immediate post-operative period, the anesthesiologist is responsible for the overall well-being of the patient, managing many issues such as pain, bleeding, nausea, fluid balance and cardiovascular and respiratory functions.

Typically, an anesthesiologist must complete four years of college to earn an undergraduate degree, four years of medical school to earn a medical degree, one year of internship, and at least three years of training in an accredited anesthesiology residency program. The physician then often completes another one or two years in a subspecialty of anesthesiology (e.g., Obstetrical Anesthesiology,

Cardiac Anesthesiology, Pediatric Anesthesiology or Pain Medicine).

To become "Board Certified" by the American Board of Anesthesiology, an anesthesiologist must complete a minimum of 12 years of study in accredited programs as described above. Then he or she must pass comprehensive testing that involves both written and oral examinations.

The practice of anesthesiology is often described as both an art and a science. As scientists, anesthesiologists study physiology, biochemistry and the anatomy of the human body. Anesthesiologists are experts in the application of pharmacological principles to reliably produce the anesthetic state and to manage the physiology and health of our patients. Because the practice of anesthesiology is deeply reliant on sophisticated monitoring technology, anesthesiologists must be highly proficient in the use of complex equipment and devices. As physicians, anesthesiologists must know about the diagnosis and treatment of a broad spectrum of human diseases and pathophysiologic conditions because patients with any condition can present for surgery at any time.

This scientific knowledge is applied for the benefit of a patient in a dynamic surgical environment in which the patient's condition is rapidly changing. As such, anesthesiology requires careful attention, judgment and skill. It is more than the simple application of scientific principles to a living person – it is a medical art.

The practice of this art and science requires anesthesiologists to engage in continual intra-operative monitoring which "rel[ies] on multiple modalities, including clinical techniques (e.g., checking for clinical signs such as purposeful or reflex movement) and conventional monitoring systems (e.g., electrocardiogram, blood pressure, HR [heart rate], [pulse oximetry] end-tidal anesthetic analyzer, capnography).

CONCLUSION

The Society cannot express a legal opinion about whether the Eighth Amendment demands that condemned inmates be sufficiently unconscious to offset the certain pain or suffering they would experience if pancuronium bromide or potassium chloride is administered when the condemned is conscious.

In light of the prohibition against physician participation in executions, any requirement that there be an adequate assessment of inmate consciousness presents an irreconcilable conundrum that is not of the Society's making and which the Society cannot solve for the Court.

Requiring the participation of qualified medical personnel to assess consciousness during an execution is a step the Society cannot condone. It is a fundamental and unwavering principle that

anesthesiologists, consistent with their ethical mandates, cannot use their art and skill to participate in an execution.

Respectfully submitted,

/s/

Lawrence J. Fox
Counsel of Record
DRINKER BIDDLE & REATH LLP
One Logan Square
18th & Cherry Streets
Philadelphia, PA 19103-6996

OF COUNSEL:
Lisa S. McCalmont
Ronald Szabat