



LEGAL BRIEFS

Kevin W. Johnson, CRNA, MHS

The Medical-Legal Quandary of Healthcare in Capital Punishment: An Ethical Dilemma for the Anesthesia Provider

The case of Brase v Rees was presented before the US Supreme Court to consider the constitutionality of death by lethal injection as practiced in the state of Kentucky. The 3-drug combination of sodium thiopental, pancuronium bromide, and potassium chloride is a key aspect in question. Capital punishment conflicts with medical and nursing code of ethics preventing providers who are skilled at difficult intravenous (IV) access, assessment of appropriate sedation, and involvement without fear of disciplinary action. Therefore, untrained or undertrained personnel from the prison have been delegated these duties.

Cases in which failure to establish or maintain IV access has led to executions lasting up to 90 minutes

before the execution was complete. Participation by skilled medical personnel has been a debate between the medical and legal communities since the inception of lethal injection. Healthcare should reevaluate the ethical and moral principle of beneficence as the legal system attempts to evaluate the constitutionality of lethal injection. Can a nurse or doctor step out of the role of medical professional, use knowledge and skill to make death by lethal injection more humane, and not violate the ethical principle of "do no harm"?

Keywords: Beneficence, ethics, lethal injection, pancuronium bromide, sodium thiopental.

Capital Punishment has been a controversial issue in American society since the country's inception. Twenty-five years ago, Charlie Brooks Jr of Fort Worth, Texas, was the first man executed by lethal injection in the United States. The 3-drug combination pioneered more than 30 years ago has not changed since the inception of lethal injection. In light of recent developments and pending litigation, a reexamination of the current system of death by lethal injection and the role of the medical professional, or more accurately the lack of involvement, is warranted. Not only has the system of using paralytic drugs come under scrutiny, but also the lack of medical training of the individuals administering these drugs has become an issue.

History of Capital Punishment

To better understand why this has come about, one must look at the history of capital punishment in the United States. Various methods have been used, including hanging, firing squad, electrocution, and lethal gas. However, execution took a new direction in 1971 when the US Supreme Court ruled in *Furman v Georgia*¹ that these methods are "cruel and unusual punishment." This ruling was based on the viewpoint that modern hangings and lethal gas (gas chamber) took too long, and electrocution may spark a fire and burn the prisoner to death. The firing squad was the most humane, as sudden death occurred, but this method always elicited an image of brutality.

After a 4-year nationwide mora-

torium on capital punishment, the Supreme Court reinstated the death penalty in 1976. Because lethal injection seemed more humane and visually acceptable compared with previous methods, the law has used medical technology to revive the death penalty and make execution as humane as possible. After all, in concept it was not unlike receiving an anesthetic for surgery. In 28 of the 38 states in which the death penalty is legal, lethal injection is solely used. Nine states use lethal injection as the primary source of execution but have alternative methods if needed. Nebraska is the only state that uses electrocution as the sole method of execution.²

Lethal Injection

The first known involvement of the medical profession in capital pun-

ishment in the United States came with the development of the lethal injection technique. In 1977, Jay Chapman, MD, a medical examiner in Oklahoma, developed the 3-drug protocol currently used.² The procedure incorporated a single dose of a short-acting barbiturate (sodium thiopental), a neuromuscular blocker (pancuronium) and potassium chloride. The first drug administered, thiopental, is to induce unconsciousness; pancuronium paralyzes the muscles to make it aesthetically acceptable to viewers. Finally, potassium chloride is injected to stop the heart. The thought behind this formula was for the prisoner to fade into a deep sleep from which he or she would not awaken. Although research was not performed (for obvious reasons to determine the necessary doses required to produce a death without awareness), this method has become the standard for the past 30 years. Dr Chapman never thought there were any “ethical constraints” to a doctor administering the drugs. Nor did he conceive that any untrained person would be involved in delivering the injection.²

Conventional thought for the last 30 years perceives lethal injection as a humane means of execution. In light of recent information, this issue needs to be reexamined. Of the approximate 1,000 executions by lethal injection performed in the United States since 1977, at least 40 of them have experienced unnecessary complications.³ The common denominator in these executions is that medically untrained or under-trained personnel attained venous access. These individuals either failed to initially cannulate the vessel and maintain venous access or failed to recognize that there was intravenous (IV) infiltration.⁴ Due to the lack of training and expertise sometimes required, multiple attempts were made—up to 30—to gain venous access. The lethal combination had been injected into the

tissue, causing 6-inch to 12-inch areas of necrotic tissue.

Another factor contributing to these 40 executions was a lack of understanding of pharmacodynamics and drug interactions. While anesthesia providers are well trained in this area, nonmedical personnel are not. Sodium thiopental and pancuronium precipitate when combined in a single syringe or when used in the same venous line without adequate flushing. This precipitate can render the venous line useless.

In a study reported in *Lancet*,⁵ toxicology reports from Arizona, Georgia, North Carolina, and South Carolina revealed that postmortem concentrations of thiopental in the blood were below typical surgical levels. Lethal injection protocols of states are similar and specify 2 g of thiopental to be used. Concentrations of the drug in the blood on postmortem demonstrate wide variations from only trace amounts to 370 mg/L (median, 15.5 mg/L).⁵ The investigators admit that extrapolation of antemortem depth of anesthesia from postmortem blood level concentrations can be problematic, but studies in which actual serum concentrations were measured demonstrate that a serum concentration of 78.8 mg/L was needed to produce a 50% probability of no muscle response after intubation.⁵ Interestingly, 43 of 49 inmates had blood thiopental concentrations below this level, and in 21 inmates (43%) the concentrations were consistent with awareness (< 13 mg/L). The investigators found that in several states, guidelines for delivering the essential anesthesia drug thiopental were flawed, therefore increasing the chance of awareness. In 2 states, those administering the drugs had no training and the drugs were administered remotely with no monitoring for depth of anesthesia. When a paralytic agent is used in these protocols, any suffering of the inmate would be undetectable.⁵

Adverse Events That Have Occurred During Lethal Injection by Technicians

These problems are well illustrated in the executions of Joseph Clark and Angel Diaz. Mr Clark was scheduled for lethal injection in Ohio on May 2, 2006. It took 22 attempts by the “lethal injection technicians” to find a vein suitable for insertion of the catheter. Three or 4 minutes after the lethal combination was administered, his arm began to swell. Mr Clark repeatedly raised his head off the gurney and said “It’s not working.” The curtains surrounding the gurney were closed and the technicians worked for another 30 minutes to gain venous access. Ninety minutes after the execution began, Mr Clark was pronounced dead.³

Seven months later, Angel Diaz was sentenced to die in Florida on December 13, 2006. The “lethal injection technicians” started the IV. After the first 3 injections were administered, Mr Diaz continued to squint and grimace as he tried to mouth words. A second dose of injections were then administered. Thirty-four minutes elapsed before Mr Diaz was declared dead. On autopsy it was noted that there were multiple attempts at finding the vein. The final attempt had perforated the vein causing the deadly chemicals to be injected into the soft tissue, rather than the vein. The autopsy noted 11-inch to 12-inch chemical burns to both arms. As a result of the autopsy findings, Governor Jeb Bush suspended all executions in the state and appointed a commission “to consider the humanity and constitutionality of lethal injection.”³

The Role of the Healthcare Professional: An Ethical Dilemma

As a result of the numerous cases of lethal injection errors, law turned to medicine for solutions to make capital punishment truly humane. Physicians, anesthesiologists, and

Certified Registered Nurse Anesthetists have the skills and knowledge to ensure lethal injection is humane; however, nursing and medicine maintain that participation is unethical because it is ending a life. Their stance is that execution is not within the scope of nursing or medical practice.

Historically, the American Medical Association and the American Nurses Association, among other medical professional organizations, have maintained the stance that it is against professional ethics to participate in the taking of another life.⁶ Medical and nursing personnel are prohibited by these organizations from active involvement (such as starting the IVs and central lines and administering the drugs) and passive involvement (such as determining doses and advising). Physicians and nurses involved in the execution process have been threatened with the revocation of their licenses.⁶

On January 7, 2008, the Supreme Court heard arguments in *Brase v Rees*. This case will set the standard for determining whether the 3-drug protocol currently used during lethal injection causes pain and suffering. If so, the drug protocol violates the Eighth Amendment that prohibits cruel and unusual punishment. If not, then the issue of how the drugs are administered and by whom must be evaluated, not the drugs themselves. This again will have state and federal governments at odds with the standards set by

the nursing and medical associations.

The medical profession argues that lethal injection is not a medical procedure. The legal profession argues that merely starting IV access is not against medical ethics. The legal profession also argues that lethal injection can be made humane if the nursing and medical profession could assist with the development of protocols to accomplish lethal injection more effectively. Can this be considered an end-of-life issue like any other terminal disease? Is it an end-of-life issue that just happens to involve a legal process instead of a medical process? From the standpoint of beneficence, can the skills used by anesthesia providers be used to provide the condemned a more humane path to death? Can medical professionals step out of their role in healthcare and use the knowledge and skill to make this end-of-life situation more humane?

Conclusion

Nursing and medical personnel should not be obligated to participate in executions, but organized medicine may have an obligation to permit nursing and medical participation in legal executions on the moral grounds of duty and mercy. Does nursing or medical participation in lethal injection constitute a violation of medical oaths?

Although controversy around the subject of lethal injection and the medical profession's involvement

may not be easily resolved, open dialogue to reevaluate the ethical principle of beneficence is warranted. This reevaluation is not without precedent. The medical examiner from Oklahoma developed the lethal injection technique and even earlier, during the French Revolution, a physician looked for a more humane method to decapitate a prisoner than with an ax. His name was given to the method: Guillotine.

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AUTHOR

Kevin Johnson, CRNA, MHS, is a nurse anesthetist at Parkland Health and Hospital System, Dallas, Texas, and a doctoral candidate at Columbia University, New York, New York. Email: kwj2103@columbia.edu.