UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF OHIO
EASTERN DIVISION

RICHARD COOEY, et al.,

Plaintiffs,

v.

Case No. 2:04-cv-1156
JUDGE GREGORY L. FROST
Magistrate Judge Mark R. Abel

TED STRICKLAND, et al.,

Defendants.

OPINION AND ORDER

This matter is before the Court upon remand for consideration of whether the Court should continue a previously granted stay of execution to intervening plaintiff Kenneth Biros in light of *Baze v. Rees*, 128 S. Ct. 1520 (2008). For the reasons that follow, this Court finds that Biros is not entitled to a continued stay and **VACATES** the stay of execution prohibiting the State of Ohio and any person acting on its behalf from implementing an order for the execution of Kenneth Biros.

I. Background

A. Procedural Background

The captioned case is a 42 U.S.C. § 1983 civil rights action that challenges multiple facets of the lethal injection protocol used by the State of Ohio. The State executed Richard Cooey, the original plaintiff in this litigation, subsequent to the December 8, 2004 inception of this case. Additional plaintiffs remain in this litigation, including Kenneth Biros, whom the Court permitted to intervene in a November 9, 2006 decision. (Doc. # 126.) On November 30, 2006, at the State's request, the Supreme Court of Ohio set an execution date for Biros of January 23, 2007. (Doc. # 144-4.) Biros then filed a December 5, 2006 Emergency Motion for

Preliminary Injunction. (Doc. # 144.) This Court granted Biros a preliminary injunction that stayed his execution on December 21, 2006.[1] (Doc. # 151.) Defendants appealed the grant of the preliminary injunction. (Doc. # 152.)

On appeal, Defendants asked the Sixth Circuit to vacate the preliminary injunction in light of the United States Supreme Court's decision in *Baze v. Rees*, 128 S. Ct. 1520 (2008). On July 8, 2008, a three-judge panel of the court of appeals "conclude[d] [that] the question of whether the preliminary injunction should remain in effect following the *Baze* decision is an issue that should be addressed initially by the district court." (Doc. # 278, at 1.) Accordingly, the panel remanded the appeal with instructions to this Court to "schedule whatever briefing and hearing schedules it deems necessary for consideration of this matter." (*Id.* at 2.) This Court therefore proceeded to deny Defendants' motion to dismiss Biros and to schedule discovery and additional briefing leading to a scheduled December 15, 2008 in-court hearing on the preliminary injunction issue. (Doc. # 361.) Following a period marked by numerous discovery disputes, the parties jointly requested and obtained a change in the case schedule so that the hearing would proceed on March 2, 2009. (Doc. # 418.) After even additional discovery issues, the parties again jointly requested a change in the hearing schedule that this Court granted. (Doc. # 449.) The Court scheduled the *Baze* preliminary injunction hearing to commence on March 23, 2009. (*Id.* at 2.)

[1] The findings of fact related to that preliminary injunction were not conclusive, however, given that "findings of fact and conclusions of law made by a district court in granting a preliminary injunction are not binding at a trial on the merits." *United States v. Edward Rose & Sons*, 384 F.3d. 258, 261 (6th Cir. 2004) (citing *University of Texas v. Camenisch*, 451 U.S. 390 395 (1981)).

B. Hearing Testimony

Beginning on March 23, 2009, this Court conducted a five-day hearing on, in the language of the court of appeals, "whether the preliminary injunction issued on December 21, 2006, should be vacated in light of the *Baze* decision." (Doc. # 278, at 1-2.) The following account summarizes all of the witnesses' testimony offered at that hearing through in-court testimony, testimony by video conference, and testimony by deposition. By order of this Court and agreement of the parties, all references to members of Ohio's execution teams are by generic identifiers established by the parties and employed to address anonymity and safety concerns.

1. Team Member # 19

Team Member # 19 was the first witness called by Biros. He oversees the general operations of an Ohio prison and ensures that proper procedures are adhered to by the staff. Team Member # 19 also functions as the Incident Commander on the execution team. He has been a member of the execution team since 1999. In that capacity he oversees the execution process, maintains the time lines set for the execution, processes visitors, and completes the required documentation. Team Member # 19 testified that he has held several positions on the execution team before becoming the Incident Commander. He stated that he is familiar with all of the activities associated with the execution process.

According to Team Member # 19, the overall execution team consists of two separate teams: the security team, which is comprised of approximately fifteen members, and the medical team, which consists of three members. Normally, only seven of the fifteen security team members participate in an execution. All of the members are volunteers.

Team Member # 19 explained the application process for a security member. When a

vacancy occurs, the position is posted and applicants submit an application. The applicants are generally employees of the Ohio Department of Rehabilitation and Correction ("DRC") and have other jobs within the system. The applicants' work history, absentee history, and disciplinary record are reviewed and, if satisfactory, the names are presented to the team for its review. If the team is comfortable with an applicant, then the commander and eventually the warden review the application. If a team member no longer wants to be on the team, that member submits a letter of resignation that is processed through appropriate channels. Team Member # 19 testified that he was not aware of any screening for mental or physical health issues.

Team Member # 19 was then asked to review, in general, the steps leading up to an execution and the responsibilities of the team members. He related the following procedures. Two transportation team members travel to the facility where the condemned inmate is located and transport the inmate to the Southeastern Ohio Correctional Facility ("SOCF") in Lucasville, Ohio. This is approximately twenty-four hours before the execution. The inmate is placed in a special holding cell and a team member begins to log on a computer all of the events involving the inmate. The incident commander reviews with the inmate various matters including the inmate's last meal request, personal property arrangements, and funeral arrangements, as well as the execution procedures. Team Member # 19 indicated that the team members try to treat the inmate with respect. Normally, five or more security team members stay at the holding cell site and observe the inmate at all times. They constantly observe the inmate in the cell, monitor the visitors who are permitted in to see the inmate, and talk with the inmate. Support staff escorts the visitors–normally family members, lawyers, and clergy–to the holding cell area to visit with the inmate.

On the morning of the execution, after the warden reads the death warrant to the inmate, two medical team members insert catheters into veins on both the left and right arms, which are the preferred sites, and attach heparin locks to the catheters in order to administer drugs into the inmate in the execution chamber. The heparin locks are held in place with tape. Security members are in the holding cell as the medical team performs its duties. A decision is made as to which of the two sites is the better site for the injection and that information is relayed to the medical team member in charge of injecting the drugs.

The security team members in charge of escorting the inmate into the execution chamber and securing the inmate to the bed are referred to as the strap down team. The bed has four straps used to secure the body to the bed and one strap on each arm used to secure each arm to extensions to the bed used to support the arms. After the strap down is completed, some of the security team members exit the room and some members remain while the two medical team members attach an intravenous line to each of the heparin locks. The intravenous lines are connected to tubing that traverses through the wall of the chamber into the equipment room. After the lines are inserted, the medical team and security team members exit the death chamber. The drugs are injected from the equipment room, through the tubing, and into the intravenous sites.

Team Member # 19 then explained the former drug injection protocol. It has been modified by procedures that are unwritten but that are nevertheless followed. The medical team member selected to inject the drugs, who has always been Team Member # 18 in all but one execution since 1999, normally stays in the equipment room. Prior to the execution, Team Member # 18 mixed the first drug under the observation of the health care administrator, who is

not a member of the execution team, and then prepared eight syringes, five with the three different drugs and three with saline solution. In the equipment room with Team Member # 18 is a narrator who records everything that takes place via telephone to another office. Along with the narrator, normally the Director of Corrections, the Assistant Director of Corrections, and sometimes the Regional Director are also present. Team Member # 18 has a backup medical team member in the equipment room in the event something should happen to Team Member # 18.

In the meantime, witnesses are seated behind glass windows in the viewing area. There is a room for the inmate's selected witnesses and a room for the victim's witnesses in which the media representatives also view the execution. On the morning of the execution, television monitors in both viewing rooms are turned on so that the witnesses may view the medical team members inserting the catheters in the holding cell before the inmate is led down the hallway to the execution chamber. Once the inmate is inside the execution chamber, the television monitors are turned off.

Team Member # 19 was asked several questions about the Joseph L. Clark execution conducted on May 2, 2006. Team Member # 19 stated that he had performed the narrator function during that execution. Team Member # 19 recounted that the medical team members were having no success in establishing catheters and heparin locks because it was difficult to access the inmate's veins. Finally, a vein was found and the process proceeded with only one catheter in one arm instead of one catheter in each arm. The decision to proceed with the execution with only one insertion point established was made after discussions with the warden and the commander and after they had been advised by the medical team that the one site

appeared to be sufficient. Inmate Clark was then taken to the execution chamber, placed on the bed, and strapped down. Clark made a last statement, and the warden gave the signal to proceed. The warden, the team leader, and inmate Clark were the only people in the execution chamber. Team Member # 18, who was in the equipment room and watching through the window, began to administer the drugs. The red light in the death chamber was switched on, which is the indication to those in the chamber that the process has begun. Team Member # 18 noticed that the drug was not having its intended effect at about the same time as when inmate Clark raised his head and stated, "Your drugs are not working." The curtain was closed and the medical team was summoned.

The medical team concluded that inmate Clark's vein had collapsed and that the first drug had infiltrated the tissue rather then entering the vein and bloodstream. The three medical team members, some security team members, and possibly other administrators entered the execution chamber. The medical team began looking for new insertion points. According to the time line that was generated as a result of the ongoing narration during the Clark execution, Team Member # 19 testified, the curtain was closed at 10:37:46 a.m. when it was determined that something was wrong. At 11:09:49 a.m., the curtain was re-opened and the signal was given by the warden to restart the execution process. The injection process was completed at 11:23:58 a.m., and the time of death was announced to be 11:26 a.m. Team Member # 19 testified that he did not observe any indication that inmate Clark was in severe pain. From his observation point in the equipment room, Team Member # 19 stated, he believed that Clark was asleep by the time they started the injection process the second time.

Team Member # 19 identified Ohio's written execution protocol (Pl.'s Hrg. Ex. 12) and

indicated that there were some changes made to the written protocol since the Clark execution. He also testified that there are several additions to the protocol that are not in writing and that have been adopted by custom and practice.

Team Member # 19 explained that after every execution, the team has a debriefing with selected staff members and a crisis intervention team. An execution team member can request mental health counseling if the member believes that it would be helpful.

Finally, Team Member # 19 recounted the schedule for execution team practices. Four weeks before a scheduled execution all of the members of the team practice. They rehearse all the steps that will be taken on the day of the execution. The team normally rehearses one or two times per week during the four weeks leading up to the execution.

2. Team Member # 12

The next witness to testify was Team Member # 12, who stated that he had been a member of the execution team for approximately four years. He testified that he is a member of the security team and that he has performed all of the duties associated with that status except for serving as an escort to an inmate. Team Member # 12 stated that he has been with the DRC for thirteen years.

Team Member # 12 testified that he has participated in numerous executions, beginning with the execution of Herman Ashworth. Much of his testimony centered around the execution of Joseph L. Clark. During that execution, Team Member # 12 testified, he was a member of the strap down team. He stated that he was in room J-1 of the death house during the execution when he was asked to reenter the death chamber. Team Member # 12 testified that upon entering the chamber, he observed that Team Member # 11 was holding Clark's arm and rubbing

it. Team Member # 12 stated that he took over the massaging of Clark's arm and that his understanding of the situation was that Clark had blown a vein and the massage was necessary to prevent knotting up. In addition to Clark, Team Member # 12 testified, there were six to seven other individuals in the death chamber at that time, including Team Member # 10, Team Member # 11, Team Member # 18, and the warden. Team Member # 12 explained that the medical team was looking for another site in which to insert a new IV. He testified that he did not see what Team Member # 18 was doing during this time. After a period of time, Team Member # 12 testified, he moved to Clark's other side and gently squeezed the inmate's bicep until a vein popped up that could be used for a new IV. Team Member # 12 stated that there had been no training for such an event and that there was no emergency plan in place; further, he explained that no one had suggested that he squeeze Clark's bicep. After the medical team utilized the new vein to start a second IV, Team Member # 12 testified, he returned to the death house room designated J-1 and prayed. Following the Clark execution, Team Member # 12 testified, there was a debriefing in which the crisis intervention team was made available to the execution team. He testified that he does not know of any member of the security team who has ever taken advantage of the crisis intervention team.

Since the Clark execution, Team Member # 12 explained, there has been a different protocol in place as team members now take as much time as they need to perform their roles, slowing the process down. Team Member # 12 testified that he was also a member of the strap down team for the execution of Christopher Newton. He stated that he could not recall that any member of the execution team resigned during the debriefing on the Newton execution. Team Member # 12 also testified that he did not detect suffering on the part of either Clark or Newton.

3. Team Member # 10

Team Member # 10 is the execution team leader. He testified that he first joined the team in 1999 with the execution of Wilford Berry and that he has served as the team leader since approximately 2002 with the execution of Alton Coleman, supervising a total of twenty-four executions. The team leader, Team Member # 10 testified, makes the assignment for each member of the execution team and is in the death chamber with the warden during an execution.

Team Member # 10 described the execution process as follows: the warden reads the death warrant to the inmate, who is confined in the death house holding cell; team members then enter the cell and proceed to establish the heparin locks; the inmate is then escorted down the hallway to the death chamber and strapped down, where one medical team member establishes the IVs; two security team members then leave the chamber, leaving only the inmate, the warden, and the team leader in the room; and one medical team member is positioned in the equipment room as a backup to the executioner, Team Member # 18, who is also in the equipment room.

When asked about training, Team Member # 10 responded that he had received some training on how the protocol drugs affect the human body several executions ago–he thought perhaps after the Joseph Clark execution–and he stated that he has received no medical training or training on how to determine whether the drugs are actually working. Team Member # 10 described the rehearsals that the team undertakes, which involve practicing on a fake arm, with water being pushed through IV lines at least two times. He stated that there is no practice mixing of the protocol drugs and that Team Member # 18 mixes the actual drugs during the executions.

When then asked about the written execution protocol, Team Member # 10 explained that he does not think that the written protocol addresses what to do when both IV lines fail–something he stated has never happened–nor does he think the protocol addresses switching lines during the execution. According to Team Member # 10, the protocol does not limit where IV sites can be established, so the neck, head, or anywhere on the body could be used. He also stated that there is no written time limit on how long the team can engage in trying to establish IV sites, although there have been discussions that set the time limit at forty-five minutes to one hour. Team Member # 10 stated that the team will not begin the execution process until two IV sites are established, but this policy is not included in the written protocol. Although all team members receive a copy of the written protocol, Team Member # 10 testified, there is no formal testing on the protocol and it is possible but not probable that some team members have never read the protocol.

When asked about qualifications and individual team members, Team Member # 10 testified that all team members reported to him. He explained that one team member is a phlebotomist, but there is no requirement that she perform daily IVs to be on the team. She is required to have a certification, Team Member # 10 explained, but only as part of a verbal understanding and not as a written protocol requirement; nothing in the written protocol requires periodic checking or monitoring of this team member's certification.

Team Member # 10 testified that another team member, Team Member # 18, also has a day-to-day job that does not involve IVs. The team leader stated that so far as he knows, it is not a requirement that the person who mixes and pushes the drugs has a day-to-day medical function. He also testified that no one on the execution team performs an assessment of Team

Member # 18's competence to perform his medical job as part of the team. Team Member # 10 stated that he believed that Team Member # 18 had to have–and has–advanced certification status that permits him to administer the protocol drugs. When told that Team Member # 18 had intermediate emergency medical technician ("EMT") status, Team Member # 10 responded that he had learned that fact for the first time that day. When asked whether an individual with intermediate EMT certification has the authority under Ohio law to administer the drugs, Team Member # 10 responded that this is apparently so. When then asked whether it was acceptable to him as team leader that Team Member # 18 had not informed him that the executioner's classification had dropped from advanced to intermediate, Team Member # 10 answered that he would have preferred to have known.

Team Member # 10 explained that he cannot see Team Member # 18 during the actual execution because the latter man is positioned behind a mirrored window. It is important to Team Member # 10 as team leader to know of any history of mental illness, he testified, but he has not looked into the issue and was not aware of any mental health issue or concern with team Member # 18. When asked about information related to Team Member # 18's mental health issues, including depression, that the executioner had provided on a disability request form, Team Member # 10 answered that he would have wanted to know about the information. If Team Member # 18 were currently in the condition described on the disability form, Team Member # 10 testified, then he would not want Team Member # 18 serving as Ohio's executioner.

Questions also addressed former team members, with counsel for Biros inquiring as to why eleven of thirteen (fourteen when a warden is included) retired team members had left for

disability retirements. Team Member # 10 testified that he did not know the cause of the majority of these disability retirements, that he would be interested in the reasons behind the disabilities, and that he did not think he has the ability to learn this information. He explained that he knew that two retirees had retired for reasons unrelated to the execution process.

Team Member # 10 also testified that other than relying on sodium thiopental to put an inmate to sleep and his observation that the inmate was asleep, nothing else is done to ensure that there is no pain to the inmate in the execution process. He stated that during an execution, he looks at the inmate's breathing pattern, which slows and often results in deep snoring by the inmate. Team Member # 10 testified that he is not trained to make an assessment of whether the first protocol drug is working, but that he has spoken with other team members about the signs to observe. He also noted that in the Joseph Clark execution, there was no physical contact with Clark or shouting of the inmate's name after the administration of the first drug, but that the warden now shakes the inmate and calls out the inmate's name after the sodium thiopental is given. There is still no touching of the inmate's eyelashes or the giving of commands designed to elicit a response from the inmate, Team Member # 10 explained. The team leader also testified that the warden's post-Clark practices of touching and calling to the inmate are not in Ohio's written protocol.

Team Member # 10 testified that it was part of his duties to assess whether there is a problem with the drugs during the execution. He explained that he focuses on the line used and that he looks for infiltration around the IV site. Team Member # 10 stated that he did not know how many inmates' IV sites had been covered up during an execution and that he could not see during the Clark execution whether the IV site was fine because he could not see above the site

due to the inmate's clothing. He also testified that he has never observed an infiltration and that he has not been provided training as to what to look for other than what the medical team members had told him.

In further addressing the Clark execution, Team Member # 10 recounted that Clark was conscious at the beginning of the process in the death chamber, that he watched as Clark's arm was massaged following the problem with the first IV line, and that while they worked on Clark, the inmate had closed his eyes, raised his head and appeared to try to speak, and then put his head back down. Team Member # 10 testified that Clark was making some sounds–described as a "dull moan"–as if the man were trying to speak but could not say words. The team leader also stated that he watched the massaging of Clark's arm and was told that massaging the area might cause Clark to experience an uncomfortable burning sensation. Team Member # 10 testified that he would rely on Team Member # 18's testimony as to whether Clark was then capable of being aroused. He also explained that he did not know which stage of the drug administration process Team Member # 18 was at when the curtain was closed, which was approximately four minutes into the execution. After about forty minutes of working on Clark–he was told that Clark was stuck with needles nineteen times–Team Member # 18 ultimately found a new IV site, Team Member # 10 testified, and the process was restarted using that site. He explained that the new site was on Clark's right forearm, lower and more to the side than the prior site, and that he could not see the site when they restarted the execution, although the warden could. Team Member # 10 stated that to his knowledge, it was not discussed whether proceeding with only one site was prudent. In every execution prior to Clark, he explained, there had been two sites and no infiltration.

Team Member # 10 additionally testified that during an execution, there is always saline running through all the IV lines. He explained that he can hear when sodium thiopental is pushed through the line because it makes a distinctive sound, and he stated that the drug has a milky white appearance. Team Member # 10 also testified that he did not know whether he was present for any execution in which Team Member # 18 had switched lines. He stated that he believed that any switch should be recorded on the timeline record of the execution, but noted that the written protocol does not mandate such reporting.

When asked whether he knows whether any team members take medication, Team Member # 10 stated that he does not and that he thinks that he is not allowed to inquire. He also testified that he does not know the criteria for selecting medical team members other than the requirement that they be certified to administer drugs. The witness additionally stated that he does not have the authority to make changes in the execution process, but that he could make suggestions to the warden who could then discuss the proposed changes with his own bosses and legal counsel. Team Member # 10 testified that he would recommend postponing an execution to the warden if the inmate were in severe discomfort.

In later testimony, the team leader stated that after the Clark execution, he had voiced concerns over the amount of people who were in the death chamber and over the perceived time pressure that existed in that execution. He testified that he had also voiced concerns at times over the comfort of the medical team members, which had resulted in their receiving softer cushions to sit on when they were starting the heparin locks, and going from a high pressure to a low pressure flush of the lines. There had also been discussion of the need to roll up an inmate's sleeves to allow better viewing of the IV site, Team Member # 10 testified, although he stated

that he does not know who raised the issue.

Team Member # 10 testified that he thinks it is important that the inmate is unconscious during the execution and that there are steps he takes to ascertain unconsciousness that are not in the written protocol. He stated that it does not make a difference to him whether the steps or procedures in this regard are in the written protocol. Team Member # 10 also testified that he would not wait until a procedure was in the written protocol to incorporate it into the execution process if the procedure had been approved by the warden. He stated that he takes it seriously that it is his responsibility to ensure that an inmate is executed humanely and that he would not participate in the process otherwise.

4. Stephen Huffman

Former Warden Stephen Huffman was next called by Biros to testify. He was the warden at SOCF from 1997 through 1999 and was warden during the Wilford Berry execution in February 1999 when Ohio resumed its executions. Huffman indicated that the execution team was already in place when he became the warden. He reviewed the file on each member when he became warden. No one was replaced.

The former warden recounted the steps taken to reinstitute the execution procedure in Ohio. Huffman had many discussions with the Ohio Attorney General's office and the Governor's office concerning the protocol. He traveled to Indiana and shadowed a warden in Indiana during an execution. Huffman met with DRC directors, assistant directors, and deputy directors to review the policies and procedures. Huffman indicated that he had no formal training on the three-drug protocol but that he did practice with the execution team. Huffman's function on the team as warden was to give the signal to begin the injection of drugs and to

observe the inmate throughout that process. He testified that he would look for regurgitation and snoring. In the Berry execution, because he was a "volunteer," a stopcock was inserted in the intravenous lines to stop the injection of drugs if Berry changed his mind at the last second.

Huffman left as the warden and became the DRC deputy director. In that capacity, Huffman was involved in twenty-three executions. He was present at the Joseph Clark execution in May 2006. Huffman believed that the process had progressed into the second syringe of the first drug when inmate Clark indicated that the drugs were not working. Huffman testified that the inmate appeared to be in and out of consciousness when the team began to look for a new injection site. Clark said something about just giving him something by mouth to complete the execution. Then, Huffman indicated, the inmate became unconscious and thereafter a vein was found that was thought to be sufficient to complete the process. A catheter was inserted, the process started over, and the inmate was executed.

Huffman testified that he believed that Team Member # 18 was originally selected to be on the team by the Central Office. The former warden observed Team Member # 18 during rehearsals as well as during executions. Huffman testified that he had no special concerns regarding Team Member # 18. Huffman confirmed that any team member could obtain professional assistance if needed or requested.

Finally, the former warden described the death chamber. Huffman estimated the tubing length to be eight to ten feet from Team Member # 18 to the inmate. He believed that that much tubing was needed because the bed in the chamber was arranged in such a fashion so that the witnesses could see.

5. James Haviland

James Haviland testified that he had been the former warden of SOCF for approximately thirty-nine months. During this period of time, he explained, he had overseen fourteen executions, with the last being the execution of William Smith.

When questioned about the training he had received to prepare for these executions, Haviland testified that he had spent one day with the former warden and the execution team. He explained that he had received no training on the drugs utilized in the three-drug protocol and no training on the detection of consciousness. In later testimony, Haviland stated that the team leader had no better training than the warden.

Haviland explained that during executions, he would stand behind and at the right shoulder of the inmate while the team leader would stand at the inmate's head. He stated that he viewed his role as making sure that the execution process was carried out. Haviland testified that he neither employed a tactile stimulus test on the inmate during the execution nor did he call out the inmate's name. He stated that his observations as a layperson were enough to determine whether the inmate was experiencing pain.

In response to questioning concerning Team Member # 18, Haviland testified that because Team Member # 18 is the "expert," the former SOCF warden left the medical aspect of the execution to him. Haviland stated that he believed Team Member # 18 had sufficient training to carry out his role in the execution process and that the team member has full and complete discretion over the speed at which the protocol drugs are administered, which IV line to use, and if and when to switch lines. He also testified that once during an execution–Haviland could not remember which execution–the former warden had observed a bump on an inmate's arm at the IV insertion point. Haviland stated that he had assumed that Team Member # 18 had

switched the line used because the bump did not get bigger. The former warden testified that after the execution, Team Member # 18 had told him that there had indeed been a switch during the administration of drugs because Team Member # 18 had felt pressure when pushing a drug through the first line.

During another execution, Haviland testified, he had observed approximately three-and-one-half minutes of twitching by an inmate. Haviland stated that he thought the twitching was odd, but that he did not to do anything to address it such as consulting Team Member # 18. Haviland testified that he was later told that the twitching was probably involuntary muscle twitching, although he could not recall who had told him that information.

Haviland also testified that he cannot say that any of the fourteen inmates executed under his watch were sufficiently unconscious so as not to experience pain. He noted that in the case of the inmate referenced above, he had not observed the inmate grimace or wince. The inmate had snored and had turned blue around his lips, Haviland testified. Haviland testified that from conversations and from what he had read in the paper, he knew that the second and third protocol drugs could cause pain. If he had felt that the drugs were not working, Haviland testified, he would have walked to the death chamber door to signal Team Member # 18 of the problem.

When the questioning turned to mental health issues, Haviland testified that from his practical experience in the "people business," he has experience in reading how people deal with stress. He stated that he had never observed signs from team Member # 18 that led him to inquire into the team member's mental health or treatment. Haviland explained that there were no specific mental health diagnoses performed on the team members, but that there was a mental health psychology supervisor on the team. When asked whether it was that individual's duty to

assess the team members, Haviland answered that it was not. Haviland stated that he did not know Team Member # 18 well outside his being a member of the team and that he did not know about any mental health diagnosis involving Team Member # 18. Haviland testified that he thought that issue was relevant and that it would be good information to know. Although he had thought about the stress on Team Member # 18, Haviland explained, he did not do anything other than ask the team member how he was. In response to a hypothetical, Haviland stated that if he had known about Team Member # 18's depression or thoughts of suicide, he would have talked to the member's supervisor and looked into the issues. Finally, Haviland stated that the certification of the team member was what mattered and that no active medical service was required to serve on the execution team.

6. Edwin Voorhies

Edwin C. Voorhies, who was the warden at SOCF from 2005 until 2008, testified next. Voorhies testified that he holds associates, bachelors, and masters degrees; that he began working for the DRC in 1994 and is presently the warden at Noble Correctional Institute; and that he has never had any medical education or training. Voorhies further testified that he accessed a copy of the execution protocol upon accepting appointment as warden of SOCF because he knew that one of his responsibilities in that position would be overseeing executions. The execution of Herman Dale Ashworth in September 2005 was the first over which Voorhies had presided as warden at SOCF. Prior to that, Voorhies had attended the execution of William Smith, over which former warden James Haviland presided. Voorhies had observed the Smith execution from the equipment room and had no duties whatsoever. Leading up to the Smith execution, Voorhies also met with Haviland and attended all four rehearsal sessions by the

execution team. In all, Voorhies presided over ten executions during his tenure. After he left as warden of SOCF, he oversaw two more executions in an "incident command" role from the command center. He did so, he testified, to provide some experience and continuity because the team for those executions included a new warden and several other new members.

Voorhies confirmed that although he undertook no additional formal education or training prior to the Ashworth execution, beyond what he had done leading up to the Smith execution, he did take such actions as engaging in administrative oversight, examining Ashworth's case to determine any dynamics unique to Ashworth that might arise, and attending Ashworth's clemency hearing. Voorhies explained that Ashworth's status as a "volunteer," or someone who had elected to forgo legal remedies that were otherwise available to him and to allow his execution to go forward without challenge, required additional steps or safeguards in the execution process. Specifically, as Voorhies testified, the two IV lines running from the equipment room to the heparin locks inserted in the volunteer's arms required an additional "stopcock" within reach of Voorhies in the event that the volunteer decided at the last minute to stop the execution and avail himself of the legal remedies still available to him. Voorhies further explained that each of the two IV lines are not only marked clearly with "L" and "R," but also identified prior to the execution as to which will be the "primary" line into which the drugs would initially be injected and which will be the "secondary" line to which the executioner would switch in the event that a problem arose with the primary line. Voorhies testified that at least one rehearsal leading up to the Ashworth execution included a practice of Voorhies stopping the execution at the last second.

Voorhies also confirmed that the execution team had in place a contingency plan in the

event that Ashworth exercised his right to stop the execution at the last second. That continency plan involved Team Member # 18 calculating how much of the drugs had been administered to Ashworth and the dispatching of emergency services to engage in any life-saving measures required, assisted by the "medical" members of the execution team if necessary. Regarding the dispatching of emergency medical services, Voorhies explained that every DRC prison, including SOCF, has an emergency response system in which emergency medical personnel can reach any site within the prison in no more than four minutes and that every DRC prison, including SOCF, practices that emergency response on a regular basis. Voorhies conceded that no particular "life-saving" equipment was on hand for the Ashworth execution, that the medical team member who was a phlebotomist had no "life-saving" training of which Voorhies was aware, and that the contingency plan that he had described was not written in Ohio's execution protocol. That said, Voorhies testified that the same contingency plan was in place for all executions, minus the additional stopcock.

Voorhies testified that it was the warden's responsibility to fill any medical team and security team vacancies on the execution team. On that point, Voorhies testified that he, his deputy warden, and the team leader would screen any applicants and then, assuming the applicant was to fill a vacancy on the security team, the name of that applicant would be provided to the remaining members of the execution team to secure their approval. According to Voorhies, any applicant receiving a majority of votes would still have to be approved by the entire execution team. Voorhies explained that the process for screening applicants for the execution team included a review of job performance evaluations, attendance records, training records, and any disciplinary actions against the applicant. Voorhies also explained that he

would look for in any applicant good communication skills, experience in a maximum security facility, and a sense of empathy for the inmate. Voorhies confirmed that he had never removed anyone from the execution team.

Voorhies then explained that he was the first SOCF warden to develop a written application process for applying for a position on the execution team and that he did so after educating himself about the *Morales* method-of–execution litigation in California. In this regard, Voorhies testified that he undertook a great deal of self-education concerning the execution process because he did not take lightly the responsibility of overseeing executions. He explained that he studied the various method-of-execution cases being litigated around the country, as well as the three drugs that Ohio uses in its protocol. He testified that he learned everything he could and then shared it with everyone he could. Voorhies stated that he used the information he learned as a benchmark for possible improvements in Ohio's protocol. He agreed that none of the efforts he undertook were mandated by the DRC. The changes that occurred to Ohio's execution process during his tenure as SOCF warden, according to Voorhies, included placing a checklist in the holding cell of items and duties related to the insertion of heparin locks in the inmate's arm, modifying the signaling system employed between the warden and executioner during the administration of the drugs, and preparing and having ready a second dose of sodium thiopental. Voorhies also testified about certain changes in the current version of the written protocol that include the labeling of the syringes, using a continuous low pressure saline drip rather than an injected saline flush between the three drugs, and specifying that the warden and the team leader will observe the injection sites for signs of infiltration.

Voorhies testified about the change in Ohio's protocol that took place prior to his tenure

at SOCF, calling for the insertion of the heparin locks to take place in the holding cell rather than in the execution chamber. Voorhies explained that a "legal intervention" had made it necessary for witnesses to be able to view the process of inserting the heparin locks. He explained that the holding cell is equipped with a camera that transmits images to monitors not only in the equipment room but also in the witness rooms that are adjacent to the execution chamber and separated by a wall with windows. It was decided, Voorhies testified, that the medical team members tasked with inserting the heparin locks would feel less pressure if they could perform their duties in the holding cell instead of in front of the witnesses. Voorhies conceded that any concerns about the heparin locks being dislodged while the inmate is walked from the holding cell to the execution chamber had been discussed and accounted for during rehearsals. To that point, Voorhies testified that no inmates during his tenure were taken from the holding cell to the execution chamber by force and that the only execution involving an inmate (Lewis Williams) who put up "passive resistance" by not supporting his own weight did not compromise the integrity of the heparin locks.

Voorhies testified about the process of implementing changes to the written version of the protocol. He explained that any proposed changes would be discussed and then proposed to the director. If the director was in agreement, the changes would be written into the protocol and then ultimately signed by the director. At that point, Voorhies testified, the written protocol becomes administrative law pursuant to Ohio statute. Voorhies agreed that anything that is not specifically written in the protocol does not have to be followed.

Voorhies also testified in detail about the executions of Joseph Clark and Christopher Newton; Voorhies presided over both. Regarding Clark, Voorhies recounted that he went to the

holding cell and read the death warrant to Clark, then went to the equipment room to ensure that the monitor was operating, and then returned to the holding cell to see how the medical team members were progressing with the insertion of the heparin locks. Voorhies recalled that the team had found a site in Clark's left arm for the first heparin lock in a reasonable amount of time, but were not able to find a site in the other arm for another heparin lock. Voorhies testified that the medical team member who had successfully inserted the lock in the left arm assured Voorhies that the site was strong and had a good flow. Voorhies then briefed the director, who agreed with Voorhies and the medical team that it would be fine to proceed with the execution with only one site (even though the preference was to obtain two). That decision made, Voorhies testified that the team then escorted Clark from the holding cell to the execution chamber and secured him to the execution bed. After giving Clark the opportunity to make a final statement, Voorhies then signaled to the equipment room by buttoning or adjusting his jacket to begin the administration of the drugs. Voorhies recounted that Team Member # 18 activated a red light from the equipment room to signal back to Voorhies that Team Member # 18 had started the drugs. Voorhies testified that, absent that signal, he typically would know from observing the inmate that the drugs had begun, but that he would not be able to determine from observing the tubing whether the drugs had begun.

Voorhies testified that he knew what to expect in the way of an inmate's reaction to the administration of the sodium thiopental and that he was not seeing signs from Clark that the administration of the first drug was rendering Clark unconscious. Voorhies testified that the team leader had made the same observation. Voorhies stated that as he proceeded to look for any indications that the drug had leaked, such as wet spots or drops on the ground, Clark lifted

his head and said that the drugs were not working. At that point, according to Voorhies, the team leader closed the curtain on the window between the execution chamber and the witness rooms. Voorhies testified that the only indication that he had that Clark had received any of the first drug was that Clark's speech was slurred. Voorhies stated that as the team leader closed the curtain, Voorhies noticed that the injection site in Clark's arm was raised, indicating an infiltration. Voorhies remarked that the injection site had been partially concealed by the sleeve of Clark's smock and that the problem has since been corrected, insofar as the strap down team now rolls up the inmate's sleeves to the upper biceps. Voorhies did not believe, however, that that change was part of the written protocol.

Voorhies reiterated that the execution team had practiced in rehearsals a scenario involving infiltration during the administration of the drugs before and after the incident with Clark. Voorhies explained that other possible areas for injection sites included the lower forearm, the top of the hands, the feet, and the ankles. Returning to the Clark execution, Voorhies testified that once the team leader had closed the curtain, Voorhies summoned medical team members back into the execution chamber to search for new injection sites. Voorhies recalled observing Team Member # 18 on Clark's left side, massaging the injection site in an effort to alleviate the infiltration blockage. Voorhies thought that it would be possible for the first drug to be absorbed by Clark through the tissue, but Voorhies thought that any such absorbtion would be slow. Still, Voorhies stated, he assumed that must have happened with Clark, due to the fact that Clark kept drifting in and out of consciousness during the time period that the medical team members were searching for new injection sites. Voorhies clarified that it was primarily Team Member # 17 and Team Member # 18 who were looking for new injection

sites on Clark. Voorhies was unable to recall how much time elapsed from the time that the team leader had closed the curtain until the time that the curtain was reopened and the execution resumed. Voorhies described the scene as intense, but testified that he was struck even now by the professionalism and compassion that he observed on the part of everyone involved. In that regard, Voorhies recalled that there were "several" people in the room during the incident, but that most of them stayed back and out of the way. Voorhies testified that he, too, tried to stay out of the way and that it was primarily Team Member # 18 leading the process of trying to locate new injection sites.

Voorhies testified that he did not know how many times Clark was "poked" during the process. He testified that he focused during the incident on observing Clark and that Clark was unconscious during most of the incident. Voorhies could not recall observing anyone attempt to locate a site in Clark's neck, but he thought he recalled seeing an attempt to access a site around Clark's collarbone. Voorhies also recalled observing a security team member squeeze Clark's right bicep, but Voorhies did not know who instructed the security team member to do that. Voorhies testified that he recalled seeing the same security team member holding Clark's head and chin at one point at the direction of Team Member # 18. Voorhies confirmed his belief that the team had exhausted and disposed of its supply of the rubber tourniquets usually used in the process of administering IV sites; he was not able to say how many total they had had. Voorhies testified that he had no idea how much of the first drug Clark had received, but that Clark was unconscious and respirating slowly during most of the incident. Voorhies testified that it was his understanding from his studies that an inmate who received 25 % of the amount of sodium thiopental that Ohio's protocol prescribed would reach a surgical plane of anesthesia. Voorhies

testified that Clark was never unstrapped during the process, except along his lower arms so that the team could look for injection sites.

Voorhies testified that he did not know whether Team Member # 18 had ever switched from the primary to the secondary lines once an execution had begun and that Voorhies would not be able to see that. Voorhies stated that he did not remember Team Member # 18 ever discussing having done so.

Voorhies testified that, following the Clark execution and in conjunction with various court cases that Voorhies had reviewed, Voorhies implemented the use of a second signal by the warden to the executioner to ensure that the second drug, pancuronium bromide, would never be administered until the warden signals to the executioner to do so. Voorhies explained that, following the Clark execution, the "signal" process consisted of the warden buttoning or adjusting his jacket as a signal to the executioner to begin the administration of the first drug, the executioner turning a red light on to indicate to the warden that the administration of the first drug had in fact begun, and the executioner turning the red light back off to indicate that the first drug had been administered in its entirety, which should, according to Voorhies, coincide with when the warden and the team leader should see clear signs of unconsciousness in the inmate. Voorhies continued testifying that (presumably upon ensuring that the inmate was unconscious) the warden would then signal to the executioner, again by adjusting his jacket, to trigger the saline flush, after which the executioner would turn the red light back on to indicate to the warden that the administration of the second drug had begun. Voorhies testified that no additional signals were employed or necessary after that because the execution process would have reached "the point of no return."

Voorhies confirmed that he was aware that Team Member # 18's day-to-day activities did not involve medical responsibilities. Voorhies also testified that it was probably Team Member # 17 who had advised Voorhies that the one site that the team had originally accessed on Clark in the holding cell was strong and that it would be okay to proceed with the execution with just that one site. Voorhies testified that although Team Member # 17 was trained and certified to administer drugs, Voorhies was not aware whether Team Member # 17 ever had.

With respect to the execution of Christopher Newton, Voorhies testified that the team knew at the outset that they would have difficulties locating injection sites on Newton. Voorhies explained that they were aware of the problems they might face due to changes they had made in the process for assessing sites and potential problems. Explaining that changes in the process also included planning for breaks for the medical team members and the inmate if the process for locating and accessing injection sites became prolonged, Voorhies testified with respect to Newton that the team found and accessed one injection site very quickly, but took a great deal of time to find a second site. Voorhies testified that during the time that the team sought a second injection site, the team used saline drips on the first site to verify the continued viability of that site. Voorhies further testified that, during the process, Newton remained light-hearted and even joked with the team members. Voorhies confirmed that he observed the process the entire time.

Voorhies testified that he had never received any additional formal training in the execution process beyond what he had learned from former warden James Haviland and from attending the execution team's rehearsals. Voorhies confirmed his understanding that Ohio, in implementing a lethal injection protocol, had "imitated" Oklahoma and Texas, and that it was probably the DRC director who had made that decision.

Voorhies testified that Team Member # 18 served in the role of executioner because he always had. Voorhies further testified that Team Member # 17 was trained and available as a back-up in the event that Team Member # 18 was unavailable. Voorhies testified that in the event that a last minute problem rendered Team Member # 18 unable to make it to an execution, Voorhies' plan would have been to have Team Member # 17 fill the role as executioner with supervision from a member of the SOCF medical staff, mostly likely the registered nurse who served as the health care administrator and who was responsible for obtaining and delivering the drugs, as well as overseeing the drug mixing. Voorhies also testified that this particular scenario had never been rehearsed. Voorhies testified that it was his understanding that Team Member # 17 required that supervision because he was licensed as only an intermediate EMT. Voorhies also testified that he was not aware that Team Member # 18 had at some point let his EMT certification drop to that same level. Voorhies testified that he had the team leader annually check the certification of the medical team members and that he himself had done so once in response to a specific request from officials related to or otherwise monitoring method-of-execution litigation in California. Voorhies testified that, in addition to those steps, he relied on execution team members to "self-report" any relevant changes in their qualifications.

On cross examination, Voorhies testified that the last time he had checked the Ohio statute to determine what level of certification a medical team member was required to have to administer drugs without any supervision was when he had been warden at SOCF. He further testified that although it was his understanding that an intermediate EMT would require some sort of supervision to administer some or all of the drugs used in the execution process, he could be mistaken. Voorhies further testified that it was routine for him (and presumably for other

similarly situated supervisors) to rely on those they supervised to self-report relevant changes in their qualifications or employment status.

Voorhies also testified during cross examination regarding his understanding that his expertise and knowledge about executions were widely known around DRC. On that point, Voorhies testified that he has always been willing to assist or offer input in any way that DRC might request and that DRC has in fact requested his assistance and advice concerning executions. Voorhies explained that any order given by the warden overseeing an execution would be binding, even if it were not written in the protocol, unless it was a direct and obvious violation of something in the written protocol. Voorhies also explained that if he ever had any ideas or changes to suggest for the written execution protocol, his procedure would be to first discuss those with the chief legal counsel and then ultimately propose them to the DRC director. That said, Voorhies explained, if there were any changes that he felt were necessary, he would not wait for those to be written into the protocol before implementing them in the actual execution process. He testified that Ohio law, to his understanding, afforded him that latitude. In response to questioning, Voorhies stated that he was unaware whether making formal changes to the written protocol, as opposed to implementing changes in custom and practice, would have legal consequences such as "re-starting" the statute of limitations on any legal challenges to a given written protocol.

Voorhies agreed on cross examination that during the execution of William Smith, which Voorhies had attended in an observational role only, Voorhies witnessed from the equipment room and had the opportunity to observe Team Member # 18 carry out his duties as the executioner. Voorhies also agreed that prior to the Smith execution, Voorhies had had the

opportunity to observe Team Member # 18 during four rehearsals leading up to the execution. Voorhies explained that the execution team conducted two to four "run throughs" per rehearsal. Thus, Voorhies confirmed, he had observed Team Member # 18 on many occasions and had had many conversations with Team Member # 18. Voorhies testified that typically, because Team Member # 18 did not live near SOCF, Team Member # 18 would stay in a local hotel the night before an execution. Voorhies also testified that he always spoke to Team Member # 18 the night before and immediately following every execution (presumably those over which Voorhies presided). Voorhies testified that he had been in an "excellent position" to observe Team Member # 18 and all of the execution team members in terms of their ability to handle stressful situations. Voorhies testified that he had had no concerns "whatsoever" regarding Team Member # 18's ability to carry out his duties during and in relation to an execution.

Voorhies testified that a medical team vacancy on the execution team would be filled not only by posting an internal notice but also by consulting with the chief medical commander in an effort to broaden the search pool beyond SOCF. Voorhies stressed that anyone he selected to fill a medical team vacancy would be required to have proper certification but would also have to possess the qualities that Voorhies previously testified that he preferred in execution team members, such as good communications skills and empathy for the inmate and execution process. Voorhies testified that he would also look at how frequently that person actually engaged in medical responsibilities. Voorhies testified that he had discussed with Team Member # 18 his experiences as a paramedic and that he knew that Team Member # 18 was not an "active" paramedic. Voorhies also testified that at one point, based on his studying of other method-of-execution cases, he had arranged for one of the medical team members on the

execution team, who was already a phlebotomist, to undertake additional training concerning the administering of IVs. Voorhies also arranged for security team members to be trained on the administering of IVs.

Voorhies confirmed on cross examination that he knew what "infiltration" was and what outward signs would indicate an infiltration. Voorhies also testified as to his understanding that the person administering the drugs would know that an infiltration was happening by feeling pressure while trying to administer the drugs. Voorhies confirmed that he knew it was necessary for the first drug to work in order for the execution process to be painless for the inmate. Voorhies testified that he knew that the administration of the second and third drugs would cause pain to the inmate without proper administration of the first drug. Voorhies also testified that he was confident that all of the members of the execution team had the same foundational understanding.

Voorhies testified that following the Clark execution, medical team members had conveyed to him that they had felt undue pressure to find injection sites within a certain time frame. As a result, according to Voorhies, the protocol was changed to reflect explicitly that the members tasked with finding and accessing IV sites were to take as much time as they needed. Voorhies confirmed his understanding that, technically, the execution team would have fourteen hours (from the 10:00 a.m. start time) within which to complete the execution. When asked whether he would consider stopping and postponing an execution due to difficulties causing delay, Voorhies answered that his inclination would have been to have taken a break and then resume, as was rehearsed for and then done in connection with the Newton execution. Voorhies further testified that if, after a longer delay, the medical team members reported to Voorhies that

they could not find any injection sites, the decision of whether to continue with or postpone the execution would not be made by Voorhies alone; rather, it would be made after much consultation with others, although Voorhies did not specify whom. Voorhies confirmed, however, that postponement is and would have been an option.

Voorhies continued to testify to various questions on cross examination. With respect to the Clark execution (and specifically the delay while the medical team members looked for new injection sites in the execution chamber), Voorhies testified that he never saw signs that Clark was experiencing severe pain. Voorhies also testified that a "cut-down" procedure, to his understanding, involved physically exposing a vein in order to gain access to that vein. He testified that Ohio's protocol did not provide for use of a cut-down procedure in the event of difficulty accessing veins through the traditional IV process. Voorhies indicated that he was aware that other States were explicitly moving away from or forbidding cut-down procedures, and that he himself refused to endorse the process after reviewing Virginia's protocol.

Voorhies also testified that there were a variety of safeguards in place during an execution to ensure that all legal challenges were complete (and concomitantly, to allow for any last minute legal reprieves to stop an execution). Voorhies explained that Ohio's protocol provides for a 10:00 a.m. start time (as opposed to the midnight start time it once had) in order to make it easier for legal challenges to be pursued, completed, and communicated to those responsible for carrying out the execution. Voorhies also testified that a variety of communications lines are employed immediately prior to and during an execution. Voorhies explained that the DRC director would be on a telephone line with the Governor's office, that the DRC assistant director would be on a telephone line with the Ohio Attorney General's office,

and that the DRC regional director would be on a land telephone line with "others" and would also have a cell phone.

Voorhies testified that he had never requested medical or psychiatric records of the execution team members that he supervised, that he believes such records were confidential, and that he would never request those records absent obvious signs from a team member of possible problems. To that point, Voorhies confirmed that he has also supervised other special units, teams, crisis situations, and the like, and that it was never routine for him to inquire about subordinates' medical or psychiatric conditions absent signs of problems. Voorhies testified along these lines that the security protocol in place for those prison staff members who require medications during their shifts ensures that all medications can be accounted for, but uses a "coding process" for identification of medications to ensure confidentiality of medications that prison staff members are taking. Finally, Voorhies testified that he believed "absolutely" and "unequivocally" that executions in Ohio are carried out in a humane, quick, and painless fashion and that he would not participate in them if they were not.

Voorhies denied that it would be "important" for him to know that the execution team member responsible for administering the drugs had a medical condition requiring narcotic medications if that person were not exhibiting any problems. To that point, Voorhies denied that he would wait for an "incompetent act" first on the part of such a subordinate before inquiring into the possibility that a medical or psychiatric condition, or the medications required to treat such a condition, might be interfering with the person's ability to perform his duties. Voorhies testified that in addition to routine observation of team members (and other subordinates), he would rely on team members to "self-report" any such problems. Voorhies testified that he

believed that he would be within his rights to ask about team members' medical or psychiatric conditions, but that he would not. He agreed that team members could agree to answer any such questions, even if perhaps they were not obligated to do so. Voorhies then testified yet again that he chose not to ask such questions, that he based that decision on his experience as an administrator, and that he had not consulted with anyone in making that choice.

Voorhies also testified on redirect examination that it was his understanding that the SOCF warden tasked with supervising executions was required to follow Ohio's written protocol. Voorhies agreed that the warden would not be required to "follow" anything that was not expressly written in the protocol. Voorhies testified that it was his understanding that Ohio law provided "wide latitude" to the SOCF warden (with respect to the matter of taking whatever steps might be necessary but not spelled out in the written protocol). Voorhies stated that he believed that the decision as to what was or was not included in the written protocol stemmed from "measured consideration" as opposed to a concern about whether inserting new written provisions had the effect of re-starting a statute of limitations on legal challenges to the execution protocol.

Voorhies also testified on redirect examination that he believed that the SOCF warden could order a cut-down procedure in the event that the medical team members could not access the condemned inmate's vein through the traditional IV process because Ohio's written protocol did not expressly prohibit cut-down procedures. Voorhies confirmed his understanding that phlebotomists do not start IVs but only draw blood. Voorhies also testified, with respect to the Clark execution, that he had had no specific time frame or time limit in mind for accessing injection sites or completing the execution. Rather, he testified that the determination of whether

or for how long to continue trying was informed by an "ongoing assessment of the circumstances." Voorhies agreed that he had had concerns about the fact that Team Member # 18 always served as the executioner, that he spoke to Team Member # 18 regularly as a result of those concerns, and that Voorhies was of the understanding that Team Member # 18 had always declined the crisis intervention team assistance that was made available to him and all execution team members. Finally, Voorhies testified that following the Clark execution, he had spent twenty to twenty-five minutes "debriefing" with all three medical team members.

7. Dr. Daniel Badenhop

Dr. Daniel Badenhop testified that he has treated Team Member # 18 since 2001 for various conditions, including his psychiatric care since 2002 after Team Member # 18 told him that Dr. Baumgartner had retired. In reviewing his medical reports since then, Dr. Badenhop recounted both what he has observed of Team Member # 18 and what he has prescribed for him. He noted that in addition to suffering from depression throughout his treatment, Team Member # 18 has also showed signs of agitation, stress, anxiety, and bipolar disorder, a disease which Dr. Badenhop defined as mood swings between mania and depression. He stated that Team Member # 18 told him that he was the state's executioner. Dr. Badenhop mentioned that although he did not know whether the job was stressful, he kept it in mind.

With respect to his treatment, Dr. Badenhop testified that although he has primarily treated Team Member # 18's depression and anxiety with Effexor XR, he has also prescribed Elavil, Cymbalta, Xanax, and Valium for Team Member # 18 for similar conditions over brief periods. In addition, Dr. Badenhop recalled that he has prescribed to Team Member # 18 Oxycontin for back pain, Seroquel for anger issues, and Geodon for insomnia, among other

medications. Dr. Badenhop mentioned that although Team Member # 18 stopped taking Effexor XR for one week in March 2005 and for the two weeks leading up to his May 6, 2005 visit, Dr. Badenhop stated that he was not concerned that Team Member # 18 would go without depression or anxiety medication for such short periods. Dr. Badenhop finally testified that his current treatment for Team Member # 18's depression and anxiety involves only Effexor ER.

8. Dr. Richard Baumgartner

Dr. Richard Baumgartner, a psychiatrist, testified that he had intermittently treated Team Member # 18 between 1997 and December 2001 after Team Member # 18 complained of dysthymia, a low-grade and long-standing depression. However, Dr. Baumgartner stated that he believed that Team Member # 18 was actually suffering from work stress associated with problems he had with the prison administration and inmates, as well as his desire to work another shift. Dr. Baumgartner asserted that he had no knowledge that Team Member # 18 was either a paramedic or a member of the execution team.

In recapping the Attending Physician Statement associated with a request for disability leave that he had signed, Dr. Baumgartner testified that Team Member # 18 had exhibited symptoms of depressed mood, withdrawn behavior, and suicidal ideation and lacked concentration, motivation, and interests. Dr. Baumgartner also noted that Team Member # 18's diagnosis was converted from dysthymia to major depression, recurrent and moderate, as defined by the Diagnostic and Statistical Manual of Mental Disorders ("DSM"). He further testified as to whether Team Member # 18 suffered from Bipolar II. The doctor noted that under the DSM, a person with Bipolar II must have a history of at least one major depressive episode and one hypomanic episode. Indicating that Team Member # 18 had never shown these symptoms, Dr.

Baumgartner testified that he did not believe Team Member # 18 suffered from Bipolar II.

Additionally, Dr. Baumgartner identified Team Member # 18's medication during this period, including Prozac, Buspar, and Effexor XR. The doctor also testified that Team Member # 18 had stopped taking his medication in October 2001, claiming that his symptoms had returned and that he had overdosed on his medication. However, Dr. Baumgartner disputed the alleged overdose and stated that he re-prescribed the medication. Finally, the doctor testified that in June 2002, Team Member # 18 stated that he intended to obtain his medication from his family doctor and would no longer require Dr. Baumgartner's services. Contrary to Team Member # 18's testimony, Dr. Baumgartner asserted that he had not retired from his practice and that he had never told Team Member # 18 that he planned on doing so.

9. Phillip Kerns

Phillip Kerns, who assumed the position of SOCF warden in March 2008 and still holds that position, testified next. Kerns testified that he holds associates and bachelors degrees and that prior to becoming warden at SOCF, he was warden of Oakwood Correctional Facility and before that, deputy warden of the Toledo Correctional Institute.

Kerns confirmed that he had had no experience with executions prior to becoming warden at SOCF. Kerns testified that in September of 2007, he met with his predecessor, Edwin Voorhies, for an entire day, not just to train for executions, but also to learn about his other duties as SOCF warden. Kerns estimated that he and Voorhies spent an hour and a half discussing the execution process. Kerns testified that he had not met or trained with anyone else concerning the execution process and that he had Voorhies "walk through" the execution practices for Kerns' benefit. Kerns testified that he has supervised two executions during his

tenure as SOCF warden, those of Richard Cooey and Gregory Bryant-Bey. Kerns testified that the next execution (of Brett Hartmann) was scheduled for April 7, 2009.[2] Kerns also testified that the execution team had already completed its four rehearsal sessions for the Hartmann execution, having conducted those rehearsals on each of the last four Mondays. Kerns clarified that the last rehearsal had been just two days prior to his testimony, on Monday, March 23, 2009, and took approximately one hour.

Kerns confirmed that he had never had any medical training, training on the administration of IVs, training on the administration of the three drugs used in the execution process, or training on assessing the effects of those drugs. Kerns then testified about his general understanding that the first drug was the anesthetic, the second drug was pancuronium bromide, and the third drug was potassium chloride. Kerns stated that the first drug was intended to induce sleep in the inmate and that what Kerns had observed was deep snoring and slowed breathing from the inmate. Kerns testified that he would also shake the inmate's shoulder and call out the inmate's name to confirm that the first drug had had its intended effect. Kerns stated that he had observed those two signs and taken those two measures in the two executions that he had supervised. Kerns testified that he had learned about these observations and techniques from his training with Voorhies. Kerns confirmed that no monitoring equipment or tools were used in the executions that he supervised to assess whether the first drug had had its intended effect.

Kerns explained his understanding that the second drug stops respiration by paralyzing the lungs and muscles. Kerns testified that he had heard that the second drug would be painful if

[2] On March 31, 2009, the United States Court of Appeals for the Sixth Circuit issued an order staying Hartmann's execution in connection with Hartmann's application for leave to file a second or successive habeas corpus petition.

administered without anesthesia. Kerns also testified, however, that he would not know what to look for from the inmate to determine whether the inmate was suffering from the administration of the second drug. Kerns opined that there would not be any way to ascertain whether the second drug was causing the inmate pain because Kerns relied on such "movements" as the inmate's snoring and respirations to assess the effect of the first drug, movements that presumably would cease following administration of the second drug.

Kerns also testified that the third drug stops the inmate's heart. When asked whether he thought that the third drug would cause pain if administered without anesthesia, Kerns answered that he did not know. Kerns explained that he did not know how he would be able to ascertain whether the inmate was suffering from administration of the third drug.

Kerns testified that it was the team leader who was in charge of the execution rehearsal sessions. Kerns explained that the current team leader has been the team leader for a number of years. He stated that the team leader organizes and runs the rehearsals and that a rehearsal session lasts approximately two hours. Kerns confirmed that during an execution, only the warden and the team leader are in the execution chamber with the inmate.

Kerns testified that a new execution team member, Team Member # 17, had practiced as the executioner for the upcoming April 7, 2009 execution. Kerns clarified that Team Member # 17 had practiced in that role in the last two rehearsals and that Team Member # 18 had practiced in that role in the first two rehearsals. Kerns testified that the reason for the change was that Team Member # 18 would be retiring within a few months and Kerns thought that Team Member # 17 should start practicing to assume the duties of administering the drugs. Kerns explained that Team Member # 18 had informed Kerns four weeks ago, before the first rehearsal

for the April 7, 2009 execution, of his intention to retire. Kerns did not think that anyone had asked Team Member # 18 to retire or that Team Member # 18 had chosen a firm date for his retirement. Kerns confirmed, therefore, that Team Member # 17 would administer the drugs for the Hartmann execution and that Team Member # 18 would be present in the equipment room observing. Kerns testified that Team Member # 17 has already served as the executioner for one execution.

Kerns testified that he was aware that Team Member # 17 and Team Member # 18 were intermediate EMTs and that he had seen their certification papers. Kerns explained that his understanding was that as intermediate EMTs, Team Member # 17 and Team Member # 18 were authorized to insert IVs and to administer the execution drugs with supervision. Kerns testified that he was aware that Team Member # 17 is a qualified, experienced, and practicing EMT. Kerns testified that for the most recent execution of Gregory Bryant-Bey, Team Member # 18 had served as the executioner and also had inserted one of the heparin locks. Referring to Joint Exhibit 3, the timelines generated during the Cooey and Bryant-Bey executions, Kerns testified that the timelines are generated in "real time," with a narrator in the equipment room reporting constant updates on a telephone line to the SOCF command center, where another staff member types the information directly into the computer that generates the timeline. Kerns also testified that the staff member typing the information would have someone over his or her shoulder proofreading as the staff member typed.

Kerns testified that following the United States Supreme Court's *Baze* decision, he actually recommended adding to the protocol measures he as warden should take to ensure that the inmate was unconscious from the administration of the first drug before allowing the

executioner to begin administering the second drug. Referring to an exhibit (Pl.'s Hrg. Ex. 12), the current version of Ohio's execution protocol, Kerns agreed that the measures he had proposed for affirmatively assessing the inmate's unconsciousness were not included in the written protocol. Kerns specified that the measures he recommended consist of shaking the inmate's shoulder from the inmate's right side, where the warden would be standing, and calling out the inmate's name. Kerns testified that the measures did not include brushing the inmate's eyelashes or checking his pupils. Kerns further testified, in response to a question about whether he would examine whether the inmate was sweating, that he did not know what sweating would mean.

Kerns stated that he was aware that two established injection sites are required and that both would have a constant flow of saline once the IV lines were inserted. Kerns also testified that none of the rehearsal sessions he had attended included the executioner switching from the primary line to the secondary line. Kerns agreed that the executioner would have the discretion to make any such switch, but testified that the warden or the team leader also could make that decision. Kerns testified that in the event it became necessary to switch from the primary line to the secondary line once the execution process had begun, his preference would be to start the process over rather than just resume from the point where the process had paused. Kerns agreed, however, that the written protocol did not require or address that matter. Further, Kerns admitted that during deposition testimony he had given, he testified that he would not necessarily start the process over in the event that it became necessary during the course of an execution to switch from the primary line to the secondary line. Kerns testified that he had never actually witnessed an infiltration but that Voorhies had trained Kerns on what to look for to detect an infiltration.

Kerns agreed that paragraph 8, sub-part d of the current written protocol provides that both the warden and the team leader will monitor the injection sites for signs of an infiltration.

Kerns testified that, in the event that both the primary and secondary lines failed, he would employ "good common sense" for determining how long the process of searching for new viable injection sites should go. He agreed that neither the written protocol nor custom and practice specify a particular timeframe or time limit for establishing new injection sites in the event that both initial lines fail. Kerns further testified that the DRC director and governor ultimately would make the decision whether to postpone an execution due to difficulties in establishing viable IV sites. Kerns testified that he was not aware whether the director or governor would have a firm timeframe or time limit in mind and that he assumed that the medical team members would advise the director and governor on that matter. Kerns stated that he believed that fourteen hours would be too long. Kerns also testified that he believed that the director would have the authority above and beyond that of the warden to make the decision.

Kerns testified that the SOCF health care administrator, who is a registered nurse, delivers the packages of execution drugs to the equipment room and then witnesses the mixing of the execution drugs there. Kerns also testified that the health care administrator would remain in the equipment room during the execution. Kerns was admittedly unsure, however, of that assertion and could not remember whether the health care administrator remained in the equipment room for either the Cooey or Bryant-Bey executions. He did testify that the health care administrator never attended any of the execution rehearsal sessions in which Kerns had participated. In later testimony, Kerns stated in response to a question whether Team Member # 17 had ever practiced mixing the drugs that Team Member # 17 had on one occasion mixed the

drugs for an execution, but that mixing the drugs was not something that the execution team practiced during the rehearsal sessions.

Kerns testified, in response to questions about a "central line," that he was not familiar with the term. Kerns also testified that he did not know whether the protocol placed limits on where injection sites could be established on an inmate's body. Kerns testified that during execution rehearsal sessions, they had practiced only using "preferred" IV sites. Kerns stated that one of the medical team members, Team Member # 9, was a trained phlebotomist. He agreed, however, that aside from executions, Team Member # 9 did not perform the process of establishing IV sites on a regular basis or as part of her routine duties. Kerns testified that for the April 7, 2009 Hartmann execution, Team Member # 9 and Team Member # 18 would be establishing the IV sites. Kerns also testified that he did not believe that Team Member # 18 administered IV lines on a regular basis or that Team Member # 18 performs medical duties in his day-to-day job function. Kerns testified that Team Member # 18 had told Kerns that he had administered one IV over the past two years during an EMT run. In response to questions whether it would be important to Kerns to have known whether Team Member # 18 or the medical team members performed medical duties on a routine basis, Kerns answered that such information was not important for him to know because determinations concerning the suitability of the medical team members to serve on the execution team had been made prior to Kerns assuming the position of SOCF warden. On that subject, Kerns admitted that he had never checked the status or type of the certifications of any of the medical team members and that he did not know whether anyone reviews or confirms medical team members' certifications.

Kerns stated that he understood the function of the second drug was to paralyze the

inmate's lungs. Kerns admitted that he did not know whether the inmate's death could or would be achieved without the use of pancuronium bromide. Referring to an exhibit (Pl.'s Hrg. Ex. 2), Kerns testified that he was familiar with the *Rivera* decision out of Lorain County in Ohio that, among other things, criticized the inclusion of pancuronium bromide on the grounds that it served no necessary function in the execution process. Kerns testified, however, that no changes had been made to Ohio's protocol to meet the various requirements set forth in the *Rivera* decision because it would be up to the DRC director, rather than Kerns, to make any necessary changes. Kerns explained that he had not been involved in any discussions about switching Ohio to a single-drug protocol, as required by *Rivera*, and that he had no idea whether using a single-drug protocol was feasible.

When asked about anything else that the execution team does in connection with the execution process that it not specified in the written protocol, Kerns responded that the team employs a "vein light" in the holding cell to assist with locating and establishing the catheters. When asked why changes, such as shaking the inmate's shoulder to assess his level of unconsciousness, have not been formalized in the written protocol, Kerns answered that the execution protocol is not updated regularly. Kerns went on to testify, however, that the execution protocol was coming up for review soon and that he intended to recommend inclusion in the written protocol of the changes that the execution team already made or planned to make, such as the medical team members using a "vein light" in the holding cell and the warden shaking the inmate's shoulder to assess the inmate's level of unconsciousness. Kerns reiterated that the DRC director has the final say on what goes into the written protocol. Kerns was not aware of what changes may have been made to the protocol after the Clark execution. When

asked why the written execution protocol had not been updated since October 2006, Kerns opined that it was because executions were just resuming again and not because of any concern on the part of the State about re-starting any statute of limitations on legal challenges to Ohio's execution protocol. When asked whether changes will be made to the protocol to address issues in connection with switching from the primary line to the secondary line once the execution process has begun, such as whether the executioner should completely start the process over or simply resume the process from the point where it paused, Kerns testified that he did not know, but that he thought any changes concerning those issues had been made already following the Clark execution.

Kerns began his testimony on cross examination by answering questions concerning the sequence of steps taken by him and by other members of the execution team once the administration of the drugs has begun. When testifying about the steps he would take to confirm that the inmate was unconscious following the delivery of the first drug, Kerns stated for the first time that in addition to shaking the inmate's right shoulder and calling out the inmate's name, Kerns would pinch the inmate's wrist. Kerns also testified for the first time that he would nod his head as his signal to the executioner in the equipment room to begin the delivery of the second drug. Kerns further mentioned for the first time that he would stop the execution from proceeding if it appeared to him the first drug might not be having its intended effect on the inmate. At that point, according to Kerns' testimony, he would call in the medical team rather than immediately direct a switch from the primary line to the secondary line. Kerns testified that he did not think, under that scenario, that the executioner would exercise discretion to switch from the primary line to the secondary line and continue the delivery of the drugs (or begin to

deliver the second drug absent an affirmative signal from the warden to do so). Kerns went on to testify that execution team members are required to follow the warden's directives during an execution regardless of whether the directives are or are not included in the written protocol.

When asked how he would go about filling vacancies on the medical team, Kerns answered that he would review all employment records of any candidate and that he would expand his search beyond SOCF. Kerns somewhat qualified his answer to that hypothetical question when he mentioned that Team Member # 17 already has suggested to Kerns two DRC employees certified as EMTs who are interested in joining the execution team.

Kerns testified that based on the two executions he has supervised, he believes that Ohio carries out executions in a humane fashion. Kerns agreed that he would not participate if that were not the case. Kerns stated that he knows how to spot an IV infiltration, including recognizing that the first drug is not having its intended effect of rendering the inmate unconscious. Kerns reiterated his understanding that the first drug is intended to render the inmate unconscious and that it is necessary for the first drug to be administered properly in order to avoid executing the inmate in an inhumane fashion.

Kerns agreed on redirect examination that it is "vitally important" to assess whether the inmate has been rendered unconscious by the delivery of the first drug. Kerns acknowledged that the people tasked with making that determination are laypeople, but Kerns testified that he saw no need to recruit an expert to take over that responsibility because it had been obvious to him during the two executions he had supervised that the inmates were unconscious. Kerns agreed, however, that it might be prudent to utilize an expert to make that determination and that doing so would be yet another safeguard. Kerns later testified on re-cross examination, however,

that it was his understanding that medical professionals are prohibited from participating in executions, including assessing the level of the inmate's unconsciousness. Kerns also later testified on further redirect examination that he did not know whether other states used medical professionals during executions. Kerns answered that he did not think he would recommend including in the new written protocol the change that has been incorporated in custom and practice requiring the warden to give an affirmative signal to the executioner in the equipment room before the executioner may begin administering the second drug.

Although Kerns answered that he had no intention of conducting a mental health screening for potential execution team members beyond simply talking to them, Kerns then admitted that it would be important to him to know whether the executioner had a diagnosed mental illness. Kerns then suggested, in light of that acknowledgment, that he might consider some sort of mental health screening for potential execution team members, such as putting to use the mental health training that he received in connection with his employment at Oakwood Correctional Facility or having a mental health professional attend interviews of execution team candidates. When pressed whether he would want someone diagnosed with bipolar disorder serving as the executioner, Kerns answered that he would want to know that information and that, if it were the case, he would watch the executioner "closely." Kerns even answered that he might consider requiring execution team members to disclose any diagnosed mental illnesses and making such a requirement part of the written protocol. Kerns went on to caution, however, that a diagnosed mental illness, if treated properly, does not automatically limit what a person can or should be permitted to do. Using a diagnosed mental illness to disqualify someone from serving on the execution team or as the executioner, Kerns opined, would be discriminatory. Kerns

concluded his testimony on redirect examination by agreeing that there were no requirements either in the written protocol or in custom and practice for monitoring the mental health of execution team members.

On re-cross examination, Kerns testified that he would always make every effort to determine whether members of the execution team were "fit" to perform those duties. Kerns answered that he did not think there were any legal restrictions on his ability to inquire into a candidate's mental health conditions. Although Kerns confirmed that he was familiar with confidentiality of medical information afforded to people by HIPPA, Kerns still did not believe that he would be limited from legally asking general questions to assess the mental health condition of any candidate for the execution team.

Following up on the issue of whether conducting any sort of mental health screening might violate a candidate's right to confidentiality or privacy, Kerns agreed that participation on the execution team was voluntary. That being so, Kerns agreed, it might be possible to require as a condition for serving on or even interviewing for the execution team that the candidate agree to release records or answer questions concerning his or her mental health.

10. Former Team Member # 19

Former Team Member # 19 is an Ohio corrections officer. He testified that he joined the execution team in 1998, that the Wilford Berry execution in 1999 was the first execution in which Former Team Member # 19 had participated, and that Former Team Member # 19 had left the execution team following the Christopher Newton execution.

Former Team Member # 19 testified that he has been certified as a phlebotomist since 1995 and explained that phlebotomists essentially obtain blood samples. Former Team Member

19 testified that, as a prison phlebotomist, his daily duties include the collection of blood, urine, feces, and other bodily samples from inmates to send out for various tests. Former Team Member # 19 explained that the requirements to become certified as a phlebotomist include completing a certain number of "sticks," attending certain training sessions, obtaining a certain level of knowledge about anatomy, and passing a test. Former Team Member # 19 testified that maintaining the certification does not require any sort of annual continuing education, but does require paying an annual fee to the Association of Clinical Pathologists. Former Team Member # 19 did not know whether DRC requires him to maintain that certification.

Former Team Member # 19 testified that prior to the Wilford Berry execution, his daily duties did not involve the regular administration of IVs. Thus, according to Former Team Member # 19, the SOCF health care administrator gave Former Team Member # 19 "hands on" training one month prior to the Berry execution. Former Team Member # 19 estimated that he started four to six IV lines prior to the Berry execution and confirmed that he had never started an IV prior to that. Former Team Member # 19 further explained that two or three of those were IV lines that he had started to help nurses in the prison infirmary.

Former Team Member # 19 testified that he took part in twenty-six consecutive executions and that he did so every time as a member of the medical team. He testified that his duties involved starting IV sites and ensuring that the team had all of the materials they might need, such as needles, syringes, gauze, tourniquets, and saline. Former Team Member # 19 answered in response to a direct question that he never started an IV without using a tourniquet. Former Team Member # 19 went on to testify that for an execution, there are always two medical team members to start the IV sites, one person for each of the inmate's arms. Former

Team Member # 19 testified that the preferred site for starting an IV is the "antecubital area" of the arm (the crease inside of the arm) and that the team never initially started an IV site anywhere else on the inmate's body. When asked whether the team had ever started an IV site in an inmate's hand, Former Team Member # 19 testified that he did not believe so. Former Team Member # 19 went on to testify that the execution team participated in rehearsal sessions once a week for four weeks leading up to an execution and that each rehearsal session consisted of two or three practice "runs." Former Team Member # 19 testified that medical team members always practiced starting IV sites on a medical "practice arm," never on a live person. Former Team Member # 19 estimated that he has administered fewer than thirty IVs in his entire career.

Former Team Member # 19 testified that once or twice over eight years or so, the team member responsible for starting the other IV site opposite Former Team Member # 19 on the condemned inmate had changed. Former Team Member # 19 testified that he did not know whether any of the other medical team members tasked with starting IV sites were phlebotomists. He testified, however, that he did know that several of the other medical team members, including Team Member # 18, were EMTs. Former Team Member # 19 testified that Team Member # 18 had perhaps once started an IV site on a condemned inmate opposite Former Team Member # 19, but that Team Member # 18 did not perform that function routinely for executions. Former Team Member # 19 confirmed that he understood that Team Member # 18 was the team member who administered the drugs for executions.

Regarding the execution procedure, Former Team Member # 19 testified that once he had successfully started the injection sites in the holding cell, he would retreat to J-1, the waiting area where execution team members waited when they did not have duties to perform. Former

Team Member # 19 clarified that he had observed two or three executions from the hallway, rather than retreating to J-1, but that he did not have any specific duties to perform that required him to be in the hallway rather than J-1. He testified that he did not observe either the Clark or Newton executions and that he did not notice anything unusual in the two or three executions that he watched from the hallway.

Former Team Member # 19 testified that once the execution had been completed, his duties included re-entering the execution chamber, removing the IV lines and needles, and cleaning up the body and room as necessary before the body was removed. He explained that in performing those duties, he might routinely take note of the injections sites themselves and clean up a little bit of blood, but that he never observed any signs of trauma to an inmate.

Responding to a series of questions about the Clark execution, Former Team Member # 19 testified that he had waited in J-1 and had noticed nothing unusual during the clean-up following the execution. Former Team Member # 19 went on to recount what he could recall about what occurred in the execution chamber after the only IV site on Clark failed. Former Team Member # 19 testified that he had entered the execution chamber, having been requested to do so by the warden at a security team member's direction. Former Team Member # 19 estimated that there were "a dozen" or so people in the execution chamber trying to figure out what had happened and what to do next. Former Team Member # 19 did not recall hearing Clark speak. Former Team Member # 19 estimated that he was in the execution chamber for fifteen or twenty minutes and that perhaps five to ten minutes had passed before Former Team Member # 19 and the other medical team members reached Clark to work on finding a new IV site. Former Team Member # 19 explained that the IV site he had started in Clark's left arm earlier in the

holding cell had "blown," even though, according to Former Team Member # 19's testimony, Former Team Member # 19 had had no difficulty finding, starting, or testing that site in the holding cell. Former Team Member # 19 testified that two other individuals–Team Member # 18 and the health care administrator–had checked the site after Former Team Member # 19 had started it and that, regarding the decision to proceed with the execution with only one IV line, they all had advised Voorhies that the site had been flushed three times and was strong.

Former Team Member # 19 testified that he was not aware whether any other IV sites he had started on any other inmates for executions had subsequently failed. Former Team Member # 19 testified with respect to executions in general that he believed that Team Member # 18 was the person responsible for deciding which IV line to designate as "primary" and which IV line to designate as "secondary." Former Team Member # 19 testified that he had always started the IV line for the inmate's left arm.

Continuing with the Clark execution, Former Team Member # 19 testified that he had noticed that the area of Clark's left arm was "purplish" and that Former Team Member # 19 knew that they would not be able to use that area to find another injection site. Former Team Member # 19 testified that he just moved around Clark, equipped with needles and tourniquets, looking for possible injection sites. Recounting that he made two "sticks" in Clark's right foot and leg, Former Team Member # 19 testified that he had never tried or started IV sites in those locations prior to trying on Clark. Former Team Member # 19 remembered seeing other team members trying to find injection sites on Clark. Former Team Member # 19 testified that he recalled seeing Team Member # 18 around Clark's head checking Clark's neck area for possible sites, but Former Team Member # 19 did not think that Team Member # 18 had ever actually

"stuck" Clark's neck. Former Team Member # 19 also testified that he did not recall seeing anyone holding Clark's head or chin to assist Team Member # 18. Former Team Member # 19 testified that he had heard Clark making "painful noises" off and on during the entire process and that Former Team Member # 19 found it disturbing.

Former Team Member # 19 further testified that he felt that too many people had been in the room and that the medical team members–Former Team Member # 19, Team Member # 18, and Team Member # 17–should have been left to do their jobs. Former Team Member # 19 recalled a little bit of everyone, but particularly then-Director Wilkinson, shouting orders, as well as Wilkinson emphasizing that there was a "timeframe" for finding injection sites and/or completing the execution. Former Team Member # 19 testified that he did not have any particular recollections about what Voorhies was doing during the process. Former Team Member # 19 did recall current Director Collins being in the room and Huffman asking whether the team could find any sites in Clark's foot. Former Team Member # 19 testified that he thought that Team Member # 18 eventually found a site in Clark's right arm. Former Team Member # 19 agreed that, if hypothetically the inmate had been "stuck" twenty-six times, that would be "a lot." Former Team Member # 19 testified that after Team Member # 18 found the site in Clark's right arm, Former Team Member # 19 left the execution chamber and returned to J-1.

Former Team Member # 19 went on to testify that the team had discussed the foregoing during their debriefing session following the execution. Specifically, Former Team Member # 19 recounted that they discussed that there had been too many people in the execution chamber and that there had been too much emphasis on a "timeframe" because the medical team members

felt rushed in the holding cell to find the initial injection sites and also in the execution chamber to find new sites. Former Team Member # 19 testified that all of the medical team members had expressed frustration. Former Team Member # 19 went on to testify that as a result, DRC made changes to the protocol emphasizing that medical team members were to take as much time as necessary to find injection sites.

Responding to a series of questions about the Christopher Newton execution, Former Team Member # 19 testified that the execution process had begun as usual with the medical team members entering the holding cell to start two IV sites. Former Team Member # 19 also testified that earlier in the morning, he and the team leader had met with Newton in the holding cell to explain everything that would be happening; Former Team Member # 19 explained that doing so was routine. Continuing with the Newton execution, Former Team Member # 19 explained that although the team fairly easily found and started a site in Newton's right arm, the team had trouble finding a second site. Regarding the difficulty that they were having starting a second site, Former Team Member # 19 testified about some of the changes that the team had implemented to the execution process following the Clark execution. Former Team Member # 19 testified that the medical team members trying to find and start the IV sites used stools instead of kneeling and were reassured that they should take their time and not feel rushed. Former Team Member # 19 testified that Collins reminded the team that they had until midnight to complete the execution. Former Team Member # 19 also testified that during the process of trying to find a second site, Newton was talkative and in good spirits. Former Team Member # 19 testified that the team even took a break at one point to allow Newton to use the restroom. Shortly after taking that break, according to Former Team Member # 19, the team finally found a

second IV site.

Former Team Member # 19 testified that after the medical team had established the IV sites and started the IV lines, Former Team Member # 19 went to the J-1 waiting area. Following the execution, Former Team Member # 19 entered the execution chamber, cleaned up Newton's arms as necessary, and removed the lines and catheters. Then, according to Former Team Member # 19, the execution team conducted its routine debriefing immediately following the execution. It was there that Former Team Member # 19 told the other members that he was retiring from the execution team. Former Team Member # 19 clarified that he had told Voorhies immediately following the Clark execution that he would participate in one more execution and then planned to retire from the team. Former Team Member # 19 denied that he left the execution team because of what had happened during the Clark execution. Rather, according to Former Team Member # 19, he was tired of what he perceived as unwarranted scrutiny not only from officials from the DRC central office, but also from other members of the SOCF prison staff. Former Team Member # 19 testified that he also was tired of what he perceived as a lack of respect from SOCF and/or DRC personnel for execution team members' anonymity and the effect that carrying out executions had on the team members. Former Team Member # 19 concluded his testimony on direct examination by reiterating his belief concerning the Clark execution that it reflected "poor judgment" to have so many people in the execution chamber while the medical team members were trying to find new injection sites.

On cross examination, Former Team Member # 19 confirmed that his "primary" job duties involved accessing veins, even if it was only to draw blood as opposed to administering IVs. Former Team Member # 19 explained that accessing a vein, whether it was for drawing

blood or starting an IV, required him to "seat" a needle properly so as not to "blow" or otherwise damage the vein. When asked why officials from the DRC central office or SOCF staff might visit execution practice sessions and/or ask questions about specific executions or the execution process, Former Team Member # 19 speculated that it was a "chain reaction" of people just being curious or even "nosy." Testifying that he was aware of the ongoing litigation challenging Ohio's execution process, Former Team Member # 19 agreed that it was possible that some officials might have visited and asked questions as part of their job. Still, Former Team Member # 19 insisted, many SOCF staff members "just wanted to see."

Regarding the Clark execution, Former Team Member # 19 testified that it had bothered him to keep "sticking" Clark during the process of trying to find new injection sites. He agreed that he was concerned that the process be humane and insisted that all of the team members involved felt the same way. Along those lines, Former Team Member # 19 testified the execution team cared about ensuring that it carried out all executions in a humane manner. Former Team Member # 19 then reiterated that the only concern he had had about how the Clark execution was handled was the number of people who were present in the execution chamber. Former Team Member # 19 testified that he was aware of various changes that the execution team had implemented in the execution process following and because of the Clark execution.

11. Team Member # 17

Biros thereafter called Team Member # 17 to testify. He has been the backup executioner to Team Member # 18 for every execution since 2004, except one in which Team Member # 17 himself acted as the executioner. Team Member # 17 has been a corrections officer at a county sheriff's office and an employee at a community-based corrections facility,

and is presently a corrections officer at a state correctional facility. He received his basic EMT certification and in 1999 or 2000 he received his intermediate EMT certification. He has been a volunteer fireman since 1991 and a paid volunteer EMT since 1987. In his role as an intermediate EMT, Team Member # 17 is permitted to start intravenous lines and administer drugs intravenously. He regularly starts intravenous lines without supervision while performing his emergency squad duties.

Team Member # 17 testified that he was asked by a warden if he would be interested in being part of the execution team. After some discussion and thought, he agreed to be interviewed for the position. He stated that he was interviewed by Haviland and a deputy warden. They discussed with Team Member # 17 what he was permitted to do with his EMT license, what he did regularly in that capacity, and his disciplinary record; he was then invited to a training session. Team Member # 17 thereafter became a part of the medical team and has functioned in that capacity by inserting intravenous lines and acting as a backup for the executioner in all but the one execution in which he injected the drugs. Team Member # 17 stated that he had received his training on the drug protocol and on how to inject the drugs from Team Member # 18. Team Member # 17 has observed the process on several occasions and practiced during the rehearsals. He testified that he was also shown how to mix the drugs by Team Member # 18 and that he has mixed them under Team Member # 18's supervision.

Team Member # 17 explained what an infiltration is and indicated that he had encountered one infiltration while acting in his role as a paramedic. He testified that he can recognize an infiltration by resistance to the injection and that he is trained to look for bulges under the skin.

Team Member # 17 was asked to explain the injection process. He indicated that the warden gives a signal, Team Member # 17 then turns the light on inside the chamber and begins the first syringe of the first drug. After the second syringe of the first drug has been injected, he begins a one-minute saline flush and turns the light off. The warden assesses the inmate by calling the inmate's name, pushing the inmate's shoulder, and lightly pinching the inmate. If the warden determines that the inmate is unconscious and if Team Member # 17 agrees, then, after the one-minute flush is complete, the second and third drugs are administered. He indicated that if an infiltration occurred, he would assess the inmate and the injection site and would probably switch to the second line but would start over with the first drug. A backup quantity of the first drug is always mixed for just such a contingency. Team Member # 17 admitted that he was not aware of a plan if there was an infiltration while injecting the second drug.

Counsel questioned Team Member # 17 regarding the Joseph Clark execution. Team Member # 17 testified that he was acting as a standby medical team member during that execution and that he had observed the difficulty the other medical team members were having in inserting the catheters into Clark's arms while in the holding cell. Team Member # 17 was in the equipment room with Team Member # 18 during the injection process. Once it was determined that there had been an infiltration and after the curtain was closed, Team Member # 17 entered the death chamber to assist in finding a new injection site. Team Member # 17 testified that he had attempted to get access to Clark's veins but that he did not remember how many times he attempted to gain access to a vein. He stated that Team Member # 18 attempted to gain access and that eventually Team Member # 18 had found a vein in Clark's forearm that appeared to be sufficient. Team Member # 17 also stated that he heard Clark snoring before the

intravenous site was obtained. Team Member # 17 denied that there was any pressure asserted by administrators to get access to a vein and get the process started again. After the vein access was completed, Team Member # 17 testified, he went back into the equipment room.

On cross examination, Team Member # 17 was asked about Team Member # 18's abilities. Including practices as well as during executions, Team Member # 17 estimated that he has witnessed Team Member # 18 inject drugs sixty times and stated that he has never observed Team Member # 18 deviate from the protocol.

Team Member # 17 admitted that he was not completely certain of the effects of each of the drugs used in the three-drug protocol. He stated that he did not know what effect the administration of the second and third drug would have on an inmate if the first drug was not administered.

12. Team Member # 18

Team Member # 18 testified next and stated that he has been employed by the State of Ohio for thirty-two years. Team Member # 18 stated that he began his career in corrections in 1976 as a hospital aid, became an equipment operator in 1978, and became a paramedic in 1980. Team Member # 18 testified that he worked as a corrections officer at a correctional institute from 1984 until 1987, and as a paramedic again from 1987 until 2001.

In 2001, Team Member # 18 testified, he began working in his current management position in which he does not serve as a paramedic. He testified that although he has made some inquiries into his retirement status with the State and has had non-specific conversations with certain co-workers, including members of the execution team, about the possibility that he might retire, he has neither made a definitive decision to retire nor informed any supervisors of a

definitive intention to retire. Team Member # 18 testified that he likes his job and feels that he does good work. Team Member # 18 stated in subsequent testimony that he believes that his co-workers anticipate that he will retire soon, but he reiterated that he has made no firm decision to retire.

Team Member # 18 testified that he had been a certified paramedic or EMT from 1980 until 2006. He explained that in 2006, he allowed his certification to lower to an intermediate EMT because he no longer wished to pay the fees or attend the courses necessary to maintain his previous certification level. Team Member # 18 testified that he previously had performed paramedic duties on a routine basis as part of his job or through volunteering. Team Member # 18 testified that he has worked as a paramedic on a limited, if not almost non-existent, basis since 2001 but has maintained his certification as described above. Team Member # 18 went on to describe the requirements for becoming a certified paramedic and agreed that the scope of practice for paramedics is set forth in Ohio Rev. Code § 4765. Describing a paramedic as a "doctor's hands in the field," Team Member # 18 testified that a certified paramedic can perform any medical procedures as ordered by a physician (or decide whether any ordered procedure is appropriate) and administer a wide variety of drugs. Team Member # 18 also testified that some paramedics even work in hospitals, but always technically under the supervision of a doctor.

Team Member # 18 reiterated that in 2006, he allowed his certification to lower to the level of intermediate EMT, which involves a lesser scope of practice than that of the highest level of certification for paramedics. Team Member # 18 agreed that there were certain drugs and procedures that a certified paramedic can administer but that an intermediate EMT cannot, such as specific cardiac drugs and cardiac monitoring. Team Member # 18 testified that a

certified paramedic would be authorized to administer the three drugs used in Ohio's lethal injection protocol under a doctor's orders. Team Member # 18 conceded that he has never checked whether an intermediate EMT would be authorized to administer all three drugs without on-site supervision but testified that he trusted his superiors to have made the necessary inquiries and determinations in that regard. Team Member # 18 stated that he had verbally informed the SOCF warden at the time (2006) that he had allowed his certification to change to that of an intermediate EMT. Team Member # 18 testified that he did not recall whether the warden at that time was Haviland or Voorhies, but stated that whomever it was did ask Team Member # 18 whether he would still be authorized to administer the three drugs as when he was a certified paramedic.

Team Member # 18 testified that he had joined the execution team in 1993 when he was working as a paramedic. Team Member # 18 recounted that he and his partner had inquired of a visiting superior whether emergency medical services ("EMS") providers would be permitted under Ohio law to participate in executions, given that doctors, under Team Member # 18's understanding, could not take part in executions. Team Member # 18 explained that he had pursued that line of inquiry because he believed that executions should be handled in a professional manner by people trained to perform medical procedures. Testifying that there is a state board that presides over EMS providers, Team Member # 18 conceded that he did not actually know what that board's position was regarding the participation of EMS providers in executions. Team Member # 18 went on to testify that some time after he and his partner had asked those questions of the visiting superior, a warden asked Team Member # 18 whether he would be interested in joining the execution team. Team Member # 18 followed up with a visit

to SOCF, he stated, where he was asked again whether he would be interested in joining the team. Team Member # 18 testified that he understood that the job would be voluntary (presumably in the sense that he would not be compensated and would be free to leave at his will). Team Member # 18 testified that he was also aware of the likelihood that as a member of the execution team, he would be either administering the drugs or starting the IV sites. Team Member # 18 stated that he did not know whether or to what extent he may have been called upon to participate in an execution by electrocution, as opposed to by lethal injection; he testified, however, that he had never participated in any rehearsal sessions involving electrocution.

Team Member # 18 testified that from 1993 until the Wilford Berry execution in 1999, the execution team was in place, active, and prepared because several condemned inmates during that time period had received execution dates that were ultimately stayed. It was during preparations for the Berry execution that Team Member # 18 was designated as the person who would administer the drugs because, Team Member # 18 presumed, of his medical training and the length of time that he had been on the execution team. Team Member # 18 testified that he was given the choice whether to serve as the "executioner" and that he agreed. Team Member # 18 testified, however, that it had not been the "plan" at that time, to his understanding, that he would continue to serve in that role; Team Member # 18 recalled discussions of that job rotating among the medical team members. That said, Team Member # 18 explained that he did in fact continue in that role because everyone on the execution team just seemed more comfortable with Team Member # 18 as "tried and proven." Regarding the term "executioner," Team Member # 18 testified that he referred to himself as Ohio's executioner during his deposition for lack of a

better term. He testified that, unbeknownst to him at the time, his wife also once described him as Ohio's executioner in a resume that she had typed and that circulated intra-departmentally.

Team Member # 18 confirmed that he has served as the executioner in all but one of the executions in Ohio since he joined the team in 1993. Team Member # 18 testified that Team Member # 17 administered the drugs for one execution and that Team Member # 17 had been trained to do so. Team Member # 18 could not recall, however, the execution for which Team Member # 17 had served as the executioner, when it took place, or why specifically Team Member # 17 served in that role instead of Team Member # 18. Team Member # 18 did recall that the execution was not a "high profile" one. Team Member # 18 explained that he could not recall which execution Team Member # 17 had conducted or anything specific about the executions he himself had conducted because he tried not to recall executions and regarded doing them as "just his job." Team Member # 18 denied, however, that the reason that Team Member # 17 administered the drugs for one execution had anything to do with an incapacity on Team Member # 18's part; rather, according to Team Member # 18, the team decided to use Team Member # 17 in that role because Team Member # 17 had been trained and needed or deserved the opportunity to serve in that role.

Team Member # 18 testified that he did not regard serving in the role as "executioner" as stressful because he dealt with death and dying on a regular basis through his experiences as a paramedic. Team Member # 18 agreed, however, that any time a person does something "unusual" or something that will be "picked to death at a future date," it is likely to cause a little bit of stress.

Continuing with this line of testimony, Team Member # 18 stated that he was not aware

of any specific plans for Team Member # 17 to administer the drugs for any future executions because, according to Team Member # 18's understanding, the execution team members simply were more comfortable with Team Member # 18 serving in that role because of his experience. Team Member # 18 could not say whether he or Team Member # 17 would administer the drugs for the Hartmann execution scheduled for April 7, 2009; Team Member # 18 testified that both he and Team Member # 17 have practiced in that role and that no one has told Team Member # 18 for certain whether he or Team Member # 17 will be doing the job. Team Member # 18 confirmed that the execution team conducts four rehearsal sessions before each execution and that the team has already completed its four rehearsal sessions for the scheduled Hartmann execution. Team Member # 18 testified that it was Team Member # 17 who most recently practiced the role of administering the drugs and that that was done at Team Member # 17's request. Team Member # 18 then denied again that Kerns has told him one way or the other who will be administering the drugs for the Hartmann execution. Team Member # 18 testified that he will simply serve in whatever role he is assigned for that execution, whether it is administering the drugs or only starting IV sites and lines. Team Member # 18 testified that Kerns has made comments suggesting that he intended to resurrect the idea of rotating among medical team members the job of administering the drugs.

Returning to the subject of the rehearsal sessions, Team Member # 18 testified that he has missed only five or six rehearsal sessions since joining the execution team in 1993. Team Member # 18 confirmed that it takes approximately two hours to drive from where he lives and works to SOCF in Lucasville. Team Member # 18 testified that he almost always has been the team member responsible for mixing the drugs to be used in the execution, but he explained that

the process of mixing the drugs is not practiced during the rehearsal sessions because there are no drugs available for practicing. Team Member # 18 clarified, however, that the team somehow practiced the mixing of the drugs in a rehearsal session preceding the Wilford Berry execution so that the team would have the most accurate idea possible of the timeframe in which they would be operating.

Team Member # 18 went on to testify that he practiced "pushing" the drugs by injecting the same volume of water or saline that they would use for an execution through syringes, the apparatus, and the IV lines just as he would for an execution, with the lines dumping into a bucket rather than the inmate's arm. Team Member # 18 insisted that the rehearsal sessions are intended to give as accurate a replication of an actual execution as possible and that the primary difference between practicing the administration of the drugs and actually administering the drugs is a lack of resistance that one would sense if one were pushing syringes into IV lines actually inserted in an inmate's arm. Confirming that the team always starts two IV lines for an actual execution, Team Member # 18 testified that most rehearsals involve the administration of drugs through only one IV line. Team Member # 18 went on to testify, however, that the team practiced early on using two lines, again in the interests of trying to prepare the team for every possible "what if" scenario. Team Member # 18 estimated that over the past four or five years, the execution team has rehearsed using only one line in an effort to reduce costs.

Team Member # 18 clarified that even if the team used only one line for its rehearsal, it would still be possible to practice or simulate with the syringes and apparatus the process of switching from the primary line to the secondary line. Team Member # 18 explained that "switching" involves removing the syringe in use from the stopcock leading to the primary line

and inserting that syringe into the stopcock leading to the secondary line. Although he could not recall specifically, Team Member # 18 estimated that some time within the past two years, the team did practice switching lines.

Continuing on the topic of the execution rehearsals, Team Member # 18 testified that the team does practice starting the IV sites and lines. He reiterated that the team most recently conducted a rehearsal session the previous week. Team Member # 18 testified that when practicing the process of starting an IV site, the team uses a "practice arm" and practices the entire process of locating a vein and inserting a catheter, rather than just "sticking" a needle. Team Member # 18 testified that prior to the most recent rehearsals for the Hartmann execution, he "every so often" practiced starting the IV sites regardless of whether the plan was for him to start IV lines for the upcoming execution and that he had actually done so several times recently. Team Member # 18 testified that he had never practiced during a rehearsal session attempting to start an IV site in the neck, but guessed that he might have done so at some point during his EMT training. Continuing on that topic, Team Member # 18 testified that he also never had practiced starting an IV site in the feet, but that they might have practiced during a rehearsal at least viewing the inmate's legs and feet. Team Member # 18 testified that he was not aware of a training aid, such as the "practice" arm, upon which one could practice starting IV sites in a leg or foot. When asked whether he knew anything about the "subclavian vein," Team Member # 18 responded that it was a "central line" (as opposed to a peripheral line) that ran along the clavicle on the right side of the body. Team Member # 18 testified that although he received training years ago on accessing the subclavian vein, he did not believe that EMTs received training on that any longer because the subclavian vein is considered a central line, rather than a peripheral

line.

Team Member # 18 confirmed that rehearsal sessions include discussions about the particular inmate's case, such as any stays or other court proceedings of which the team should be aware, as well as how many and which witnesses might be attending the execution. Team Member # 18 explained that other SOCF personnel who are not members of the execution team typically attend such meetings. Team Member # 18 agreed that the team might be aware of the inmate's offense, but Team Member # 18 also testified that he had never researched on his own the offense(s) for which any particular inmate was to be executed.

Turning to the subject of the three drugs used in Ohio's lethal injection protocol, Team Member # 18 testified that the first drug, sodium thiopental, was an anesthetic similar to what would be used to put a patient "to sleep" for surgery. Team Member # 18 testified that he knew nothing about the "properties" of sodium thiopental, but that he was under the impression that it was "medium acting." Team Member # 18 clarified that "medium acting" would last longer than a local anesthetic but that there are other anesthetics that would be "longer acting." Team Member # 18 testified that he believed that he had been told that two grams of sodium thiopental, the amount used in Ohio's lethal injection protocol, would render the average person unconscious for three or four hours. When asked whether just a few cc's of sodium thiopental would render a person unconscious, Team Member # 18 responded that it was possible, that the person would surely feel "some effects" of that amount of sodium thiopental, and that a person rendered unconscious by that amount would be unconscious for only a short time. When asked what effect eight or ten cc's of sodium thiopental would have on a person, Team Member # 18 testified that he did not know because that was outside his training. Team Member # 18

confirmed that DRC had not provided him any formal training on the three drugs used in Ohio's lethal injection protocol and that he had not otherwise received any such training. Team Member # 18 also confirmed that he had never received any sort of such training from a physician or anesthesiologist or requested any such training.

Team Member # 18 then answered a series of questions about the second drug used in Ohio's lethal injection protocol–pancuronium bromide, also known as pavulon. Team Member # 18 testified that pancuronium bromide was a paralytic agent that paralyzes the smooth muscles, including those that operate the respiratory tract. Thus, Team Member # 18 explained, pancuronium bromide does not paralyze organs such as the lungs or heart, but it causes an inmate to stop breathing by paralyzing the muscles that operate the respiratory tract. When asked how pancuronium bromide is used in ordinary paramedic or surgical procedures, Team Member # 18 explained that pancuronium bromide, and more commonly its "sister" drug "verset," often is used to assist an emergency provider or surgeon intubate a person by rendering that person still. Team Member # 18 testified that there would be no outward sign whether pancuronium bromide was having its intended effect, with the exception of the cessation of signs of respiration. Team Member # 18 cautioned, however, that in the execution setting, respiration will already have become shallow from administration of the first drug, sodium thiopental. Team Member # 18 continued that he did not know of any other signs to watch to determine whether pancuronium bromide was having its intended effect. When asked what purpose the use of pancuronium bromide serves in the execution process, Team Member # 18 responded simply that that was the "formula" that someone had selected, that it was used to cease any respiration that was still occurring, and that he did not have enough knowledge to give an opinion whether

pancuronium bromide was "necessary" to carry out an execution. Team Member # 18 confirmed that Ohio's lethal injection protocol provides for the use of 100 cc's of pancuronium bromide and testified that 100 cc's was "a lot." He testified that the pancuronium bromide arrives already mixed and that it is necessary only to draw the liquid into the two syringes that will be used during the execution process.

Team Member # 18 then proceeded to describe in detail the process for mixing the first drug, sodium thiopental. He explained that the sodium thiopental arrives in a box containing a vial of powder and a vial of liquid. Team Member # 18 testified that he mixes those contents by drawing the liquid from a vial into a syringe, dispensing that syringe into the vial containing the powder, shaking that vial until the powder is completely dissolved, and then drawing that mixed solution back into the syringe to be used during the execution process. Team Member # 18 explained that the contents of a package are pre-measured, such that one vial of powder is to be mixed with one vial of liquid. Team Member # 18 specified that Ohio's lethal injection protocol provides for the use of two grams of sodium thiopental, which amounts to two full syringes.

Turning to the subject of the third drug used in Ohio's lethal injection protocol–potassium chloride–Team Member # 18 testified that potassium is an electrolyte that is present already in the human system. Team Member # 18 explained that when potassium becomes unbalanced in the human body, it results in such conditions as dehydration or a heart attack. Team Member # 18 testified that the amount of potassium chloride provided for in Ohio's lethal injection protocol–100 milliequivalents–is a considerable amount that would never be therapeutic. When asked what purpose potassium chloride served in the execution process, Team Member # 18 answered that, from his understanding and training, it will stop all electrical

activity in the heart. Team Member # 18 testified that if administered alone, without the use first of an anesthetic, potassium chloride would cause death and possibly muscle contractions and cramping. He testified that he had no knowledge whether the administration of that amount of potassium chloride alone, without administration of an anesthetic, would cause pain, although he admitted that he was aware of the argument that it would. Team Member # 18 testified that he had never seen signs of pain from an inmate from the administration of potassium chloride.

Team Member # 18 went on to testify in detail about the physical set-up of the equipment used in the execution process. Team Member # 18 explained that approximately one half hour before the execution, the SOCF health care administrator delivers the drugs to the equipment room in the death house and observes as Team Member # 18 mixes the drugs and loads them into the syringes labeled one through five. Team Member # 18 testified that typically the team leader and Team Member # 17 also observe the mixing of the drugs and confirmed that that acted as a safeguard to ensure that Team Member # 18 committed no error in the mixing or loading of the drugs into the numbered syringes.

Team Member # 18 also explained that following the Clark execution, DRC changed Ohio's protocol to provide for the use of five syringes instead of eight: two syringes of sodium thiopental, followed by two syringes of pancuronium bromide, followed by one syringe of potassium chloride. Team Member # 18 explained that prior to the change, the administration of each of the three drugs would be separated by the manual administration of a syringe of saline flush. DRC changed from the manual administration of a saline flush to a constant saline drip, thereby providing for a constant flow of saline and the elimination of three syringes from the process. Team Member # 18 explained that instead of manually injecting the saline from a

syringe between each of the three drugs, he can now just open the IV line to allow for a constant drip. Team Member # 18 explained that once he has loaded the drugs into the syringes, he lays the syringes on the table in front of him, perpendicular to him with the plunger closest to him and the needle pointing away from him and toward the execution chamber. Syringe number one would be all the way on Team Member # 18's left and syringe number five would be all the way on Team Member # 18's right. In front of those syringes, specifically between the tips of the syringes and the wall of the execution chamber, Team Member # 18 places another syringe horizontally that contains an extra gram of sodium thiopental, in case it should become necessary to re-administer some sodium thiopental in the event that an execution stops and then resumes.

Team Member # 18 explained in detail that the equipment room where he administers the drugs is adjacent to the execution chamber, separated by a wall with a large window. The table at which he sits, he explained, is right up against the wall with the large window, facing into the execution chamber. In the execution chamber, the execution table to which the inmate is strapped is situated such that the inmate is perpendicular to Team Member # 18, with the inmate's feet closest to Team Member # 18, approximately five feet away, and the inmate's head farthest away, approximately ten feet away. Team Member # 18 went on to explain that as he sits at the table facing the execution chamber, there is a port, or a hole, in the wall to his left through which the two IV lines extend from the injection apparatus into the execution chamber and eventually into the heparin locks in each of the inmate's arms. Thus, as Team Member # 18 sits facing the inmate, the line on Team Member # 18's left corresponds to the inmate's right arm and Team Member # 18 tapes a label on that line designating as "I.R.," meaning "inmate's right." Concomitantly, the line on Team Member # 18's right corresponds to the inmate's left

arm and Team Member # 18 tapes a label on that line designating it as "I.L.," meaning "inmate's left." Team Member # 18 testified that those lines are flushed immediately prior to an execution to ensure that they contain no air. Team Member # 18 went on to describe the set up of the IV bags and syringes as they are prepared for, and used during, the execution process.

Team Member # 18 explained specifically that two IV bags of saline hang, secured in brackets, on the wall in front of him and slightly above his line of vision. Team Member # 18 testified that each of the IV bags contains between 500 cc's and 1000 cc's of saline, which has always been more than enough to complete an execution. Each IV bag is equipped with a line that descends from the bag, down the wall, secured by a clamp, down to the table in front of Team Member # 18, where each line is then anchored in a bar on the table. Along the bar anchoring the lines to the table, each line contains its own stopcock into which Team Member # 18 physically injects each syringe. Team Member # 18 testified that each of the lines or extensions are also clearly labeled near each's stopcock because during the Clark execution, after the new injection site was located and the execution resumed, Team Member # 18 for a very short moment grabbed the wrong line when he began administering the drugs.

Team Member # 18 testified that each IV line, just below the saline bag itself, contains a "roll-up type clamp" that Team Member # 18 can adjust to control the flow of saline from the bag into the line. Those clamps, Team Member # 18 testified, are at his eye level. Team Member # 18 testified that once the security team members strap an inmate to the execution table and the medical team members insert the IV lines into the heparin locks in each of the inmate's arms, Team Member # 18 will open each of the IV lines to allow a steady, slow flow of saline that Team Member # 18 described as a "keep open" rate. Team Member # 18 went on to explain

that whichever line has been designated as the primary line will be opened up a little more, while the line that has been designated as the secondary line will remain at the "keep open" rate. Team Member # 18 explained that the medical team members who started the IV sites typically will inform him which of the two sites was the better site and that that site will be designated as the primary site. Team Member # 18 testified that when he injects each syringe into the stopcock, he does so at a slow, steady rate that usually results in the delivery of one cc of drugs per second. In response to a question about what is involved in the event that it becomes necessary to switch from the primary line to the secondary line, Team Member # 18 explained that it simply involves unlocking the syringe from one stopcock, locking the syringe into the other stopcock, and then not only loosening the clamp below the IV bag for the secondary line to allow more flow than the "keep open" rate but also closing off completely the former primary line.

Regarding the IV sites, Team Member # 18 confirmed that the preferred IV sites are the antecubital areas on each arm (the crease inside of the arm). Team Member # 18 testified that it was the "policy," or custom and practice, of the execution team that dictated that the preferred IV sites were the antecubital regions of the inmate's arm. He testified that sometimes it becomes necessary to establish sites lower on the forearm, toward the wrist. He estimated that that has been done less than ten times in the executions in which he has participated and testified that other than the Clark execution, it had been three or four years since that alternate site has been used. In response to a question of whether a site had ever been established on an inmate's hand, Team Member # 18 guessed that that may have been done "once or twice." Team Member # 18 denied that injection sites have ever been established in an inmate's feet, legs, neck, clavicle area, or "axillary" area (armpit). Regarding the subclavian vein, Team Member # 18 emphasized

again that that was a "central line" as opposed to a peripheral line and that the process and equipment for gaining access to a central line are completely different from those used in the traditional IV process. When asked to identify other central lines in the body, Team Member # 18 responded that the internal femoral artery in the upper inside thigh qualifies. Team Member # 18 also testified that he received training early in his EMT experience for accessing central lines but that he believes that EMTs are no longer trained in accessing central lines.

Team Member # 18 testified that it is also within his discretion how fast to administer the drugs. He reiterated that he attempts, and practices to attempt, to deliver the drugs at a slow, steady rate of one cc per second. He explained that he administers drugs at that rate "completely by feel" as opposed to using a stopwatch or other timing mechanism. Team Member # 18 estimated, therefore, that it takes him approximately eighty seconds to fully deliver the first drug.

Team Member # 18 confirmed that it also is within his discretion whether to switch from the primary line to the secondary line during an execution. Team Member # 18 testified, albeit with some uncertainty, that some time ago he once switched lines shortly after beginning to administer the first drug because he thought he noticed swelling at the injection site. He insisted that he made the switch at a point when he had delivered very little of the sodium thiopental–five cc's at the most or close to a fourth of the way through the first syringe, he estimated–and that he encountered no difficulties or problems in simply continuing with the sequence of drugs after switching to the secondary line. Team Member # 18 could not recall whether he announced in the equipment room that he had switched the lines or whether he discussed it during the debriefing session immediately following the execution. Team Member # 18 testified, albeit again with some uncertainty, that he believed that James Haviland was the acting warden at the

time and that Team Member # 18 likely discussed the matter with Haviland. Team Member # 18 believed that Haviland also noticed the swelling at the injection site for the primary line and that Haviland asked after the execution whether Team Member # 18 had done something different.

Team Member # 18 then answered a series of questions about determining during an execution the inmate's level of unconsciousness. Team Member # 18 testified that, based on his thirty years of experience, he simply observes the inmate for any movement and watches the inmate's chest rising and falling, looking for those chest movements to become more shallow. Team Member # 18 stated in later testimony that although he would be focusing not only on administering the drugs but also observing the injection site for any problems, if he noticed that the inmate's chest movements became shallow or the inmate's coloring change, Team Member # 18 would believe that the inmate was drifting into unconsciousness. Team Member # 18 clarified that no one during the execution process monitors the inmate's vital signs as a method for assessing the inmate's level of unconsciousness. Team Member # 18 also clarified, however, that during an execution, he is not the one primarily responsible for assessing the inmate's level of unconsciousness. Rather, explained Team Member # 18, the warden and the team leader, who are in the execution chamber with the inmate, are primarily responsible for assessing the inmate's level of unconsciousness. He guessed that the acting warden and the team leader would use whatever methods with which they were comfortable for assessing the inmate's level of unconsciousness, such as shaking the inmate or using pain stimuli such as pinching. Team Member # 18 stated in later testimony that one might also call out or speak to the inmate to determine whether he was unconscious. Team Member # 18 testified that he did not believe that anything further needed to be done to ensure that the inmate was unconscious. Team Member #

18 clarified that, prior to the execution of Christopher Newton, the execution team always used "observation" of the inmate to determine his level of unconsciousness, but that perhaps beginning with the execution of Christopher Newton, the warden and/or the team leader began using the additional measures of shaking the inmate and using pain stimuli to ensure that the inmate was unconscious. Team Member # 18 did recall with more certainty that by the time of Gregory Bryant-Bey's execution, the warden not only shook Bryant-Bey in the shoulder or chest area but also pinched the upper inside of Bryant-Bey's arm to assess unconsciousness. Team Member # 18 could not recall specifically the force with which the warden shook Bryant-Bey, except to say that he was able to see the shaking from his vantage point in the equipment room. Team Member # 18 could not recall whether the warden had spoken or called out to Bryant-Bey. Team Member # 18 testified that he believed that the warden in that case had done enough to ensure that Bryant-Bey was unconscious. Team Member # 18 also testified that he believed that all corrections officers received training generally in determining whether a person is unconscious. Team Member # 18 testified that he believes that if anyone (with a vantage point to observe the inmate) noticed a problem or had a question, that person would speak up.

Turning to the subject of infiltration, Team Member # 18 defined that as a problem with or blockage at the injection site which almost always results in swelling at the site because the liquid builds up in the tissue instead of flowing into the vein. Team Member # 18 testified that because infiltrations are possible any time an IV is administered, it is important to monitor the injection site constantly to ensure that whatever drug is being delivered is having its intended effect. Team Member # 18 went on to testify that if an infiltration occurs, it is still possible that some of the drug would disseminate into a person's system and that a person would feel some

effects of the drug, but that it would not be as direct as if the drug were delivered to the person venously and it would take twenty or thirty minutes for the drug to have its intended effect fully. When asked who, prior to the Joseph Clark execution, was responsible for observing the inmate's injection site, Team Member # 18 answered that he was responsible and that Team Member # 17 might also have done so, though not as one of his official duties. Team Member # 18 did not believe that the warden or the team leader would observe for infiltration as part of their official duties because they were not medical personnel. That said, according to Team Member # 18's testimony, the warden and the team leader would have some awareness of the signs of infiltration from their training and the execution rehearsals, even if they had never received specific training on recognizing infiltration. To this point, Team Member # 18 testified that signs of an infiltration might be obvious to even those who had not received specific training and reiterated his belief that if any team member noticed a problem or had a question, that person would speak up.

Team Member # 18 continued in his testimony that a person administering drugs intravenously, when watching for signs of infiltration, would observe not only the injection site but also the rate of flow or resistance as he is pushing the drugs. Team Member # 18 disagreed that a person administering drugs intravenously would, as a matter of course, touch the injection site as a means for detecting an infiltration. Team Member # 18 disagreed that it is his preference or that he viewed it as necessary to be "bedside" when observing for signs of infiltration. Team Member # 18 testified that he believes that it is acceptable for him to monitor the inmate's injection site from the equipment room. Team Member # 18 agreed that one observing an injection site for signs of infiltration must be able to see the site and the area around

the site; thus, Team Member # 18 agreed, the site should not be covered. Team Member # 18 did not believe there was ever an execution during which he could not see the injection site and the area around the site, even before the execution team began the practice of rolling the inmate's sleeves up to his shoulders.

Team Member # 18 then testified at length about the Joseph Clark execution. Team Member # 18 testified that after mixing the drugs in the equipment room, he proceeded to the holding cell when it became evident that the medical team members were having difficulty finding two IV sites. Team Member # 18 recalled that another medical team member, Former Team Member # 1, actually requested Team Member # 18's assistance in the holding cell. Team Member # 18 testified that he flushed the site that they had established and then assisted in the process of trying to find a second site. Team Member # 18 explained that "everyone"–such as the media, the governor, and the "upper echelon" of DRC–had misconceptions about how quickly, or by what time, an execution should be proceeding, due to how efficiently the team had conducted the prior executions. Team Member # 18 testified that none of that pressure influenced him that day because of his EMT experience. Regarding the site that the medical team members had established in Clark's left arm, Team Member # 18 testified that he tested that site in the holding cell by manually injecting a saline flush. Team Member # 18 testified that he even drew back the syringe because a drawback from a "good" site should, but will not always, get a blood return. He testified that he then flushed the site again and asked Clark questions such as whether he was feeling a sensation of fluid, a sting, or coldness–all of which, according to 18, could be signs that the saline was seeping into the tissue rather than flowing into the vein. Team Member # 18 confirmed that he did not get a blood return from the drawback he

performed on Clark. Team Member # 18 also confirmed that he believed that the site in Clark's left arm was fine.

Team Member # 18 clarified that although he assisted in the process of trying to find a second injection site, he himself never attempted to start a second site. Regarding the "pressure" that the team may have felt to find two sites on Clark, Team Member # 18 did not recall any "higher ups" from DRC being in the holding cell, just in the equipment room and the hallway that ran between the holding cell and equipment room. Team Member # 18 went on to testify that it was Director Collins ultimately who made the decision to proceed with the execution using just one injection site. Team Member # 18 confirmed that Collins had consulted with Team Member # 18, that Team Member # 18 stated that he was not uncomfortable going forward with the execution using just one injection site, and that he in fact recommended proceeding with the execution.

That decision made, Team Member # 18 testified that he then proceeded to his position at the table in the equipment room. Team Member # 18 testified that Team Member # 17 sat next to him, after Team Member # 17 connected the IV line to the site in Clark's left arm, and that the person narrating observations to the command center was standing behind Team Member # 18's left shoulder. Team Member # 18 confirmed that it could "be tight" in the equipment room and that Collins, former warden Huffman, and perhaps another DRC director from the central office also were in the equipment room that day. Team Member # 18 testified that the SOCF health care administrator was not in the equipment room prior to the commencement of the Clark execution and that she never was present in the equipment room for executions. Team Member # 18 testified that once everyone was in position and the execution was set to begin, he dimmed

the track lighting in the equipment room, causing the window separating the equipment room from the execution chamber to function as a one way mirror out of which those in the equipment room could see but through which no one looking toward the equipment room could see those inside. Team Member # 18 testified, however, that the lighting as such did not strike him as "dim."

Continuing with his testimony about the Clark execution, Team Member # 18 testified that the warden gave Clark the opportunity to make a last statement, after which the warden signaled to Team Member # 18 in the equipment room to begin delivering the drugs. Team Member # 18 then began administering the drugs into the line labeled "I.L." (inmate's left). As he was plunging the second syringe of sodium thiopental, Team Member # 18 testified that he thought he noticed swelling at the injection site on Clark's left arm and asked Team Member # 17 if he, too, noticed any swelling. Recounting that Team Member # 17 responded that he was not sure whether he saw anything unusual, Team Member # 18 testified that Team Member # 17 did not have as much experience as Team Member # 18 did. Team Member # 18 testified that as he finished the second syringe of sodium thiopental, followed by the syringe of saline flush, he noticed that he was not feeling the pressure or resistance that he should feel from pushing the drugs. Team Member # 18 testified that again, he thought he noticed swelling just above the injection site on Clark's left arm. Team Member # 18 testified that he also noticed that Clark was not responding to the sodium thiopental in the manner that he should have been at that point in the delivery process (after the delivery of all two grams of sodium thiopental). Team Member # 18 testified that at that point, he knew in his mind that after completing the manual saline flush, he would signal to the warden and the team leader in the execution chamber that there was a

problem and that the team needed to stop the process. In response to questions about whether, in fact, the sleeve on Clark's smock was concealing the injection site, Team Member # 18 responded that he was still able to see the infiltration above the crease in Clark's arm at the base of his bicep because the sleeve on Clark's smock was loose. Team Member # 18 testified that from his vantage point in the equipment room, he could see up the sleeve even if someone standing at or near Clark's head would not be able to see the site. Team Member # 18 stated in later testimony that it was an "odd" infiltration in the sense that he did not feel the additional pressure or resistance that one would feel normally when trying to push drugs into a blocked, or infiltrated, site.

Team Member # 18 testified that before Clark raised his head and said that the drugs were not working, Team Member # 18 already had signaled to the execution chamber by flashing a light, the switch to which was to Team Member # 18's left and slightly up the wall, that he was stopping the administration of the drugs. It was as he was reaching up to turn the switch to flash that light, according to Team Member # 18's testimony, that Clark raised his head and the team leader closed the curtain on the window separating the witness rooms from the execution chamber. Team Member # 18 testified that he believed that everyone in the equipment room knew at that point that Team Member # 18 was stopping the execution process.

Team Member # 18 confirmed that if Clark had had two IV lines, which always is the preference, Team Member # 18 simply could have switched from the primary line to the secondary line. Team Member # 18 cautioned, however, that he might have prepared and used the spare gram of sodium thiopental because of how far he had gotten through the administration of the drugs when he finally stopped the execution. Team Member # 18 also testified that

decisions such as that were within his discretion and that in this regard, the written protocol did not specify any requirements or provide any particular guidance.

Team Member # 18 picked up with the execution itself by testifying that the infiltration swelling that he observed above the injection site on Clark's left arm was not quite the size of a fist, larger than a half a golf ball, but not larger than a half a baseball. Team Member # 18 testified that there was no way of knowing how much of the first drug had actually gone into Clark's body through the venous system and/or tissue. Team Member # 18 testified that Clark was not moaning or otherwise indicating that he was experiencing pain. Team Member # 18 recounted that after he left the equipment room and entered the execution chamber, he asked Clark whether the injection site hurt and Clark did not answer that it did. Team Member # 18 testified that he then proceeded to massage the infiltration in an effort to clear out or otherwise alleviate the build-up of fluid. Team Member # 18 confirmed that at some point while the medical team members were in the execution chamber searching for new injection sites, Clark did ask if there was something (a drug) he could just take by mouth. Team Member # 18 recalled that Clark was partially conscious the entire time until right around the point that the team finally found and started a new injection site. Team Member # 18 did not recall hearing Clark moan or make any sounds indicating that he was in discomfort.

Regarding the process of searching for a new injection site, Team Member # 18 confirmed that he did search Clark's neck for a "visible external jugular" as a possible last resort. Team Member # 18 also testified that he did eventually "stick" Clark's neck twice, but that he neither asked for nor received assistance from anyone in doing so. Team Member # 18 testified that he did not recall anyone holding Clark's head or chin. Team Member # 18 mentioned in his

testimony that at some point, he did attempt to use a stethoscope as a makeshift tourniquet. Team Member # 18 testified that they eventually found and started a site on Clark's lower inside forearm, close to the wrist. When asked how many times medical team members "stuck" Clark while looking for a new injection site, Team Member # 18 answered that he could testify only as to the number of times that he stuck Clark, which was three–twice in the neck and once on the lower inside forearm that resulted in a useable site. That said, Team Member # 18 testified that the final needle count following the execution produced seventeen or eighteen needles. When asked how many people might have stuck Clark, Team Member # 18 testified that the most it could have been was four–Team Member # 18, Team Member # 17, Former Team Member # 1, and Former Team Member # 19.

Team Member # 18 went on to testify about how many people, to his recollection, were in the execution chamber during the process of trying to find new injection sites. Specifically, Team Member # 18 testified that he recalled the following people being in the room: some security team members as a precaution, the warden, the team leader, former warden Huffman, Director Collins, and perhaps the SOCF health care administrator. Team Member # 18 testified that he did not recall any of those people shouting out orders or giving directions. Team Member # 18 testified, however, that he recalled asking Huffman at one point whether Huffman saw any possible injection sites and Huffman offering no suggestions.

Team Member # 18 testified that he did not recall trying to access the subclavian vein and that he thought it was highly unlikely that anyone tried that site, considering that they did not have the necessary equipment for doing so. Team Member # 18 continued in his testimony that he did not recall anyone searching beneath Clark's arms, around the axillary area, for

possible injection sites.

When asked how long it took from the time the team leader closed the curtain to the time when the team leader re-opened the curtain and the execution resumed, Team Member # 18 testified that it did not feel to him that it had been a long time and that he was "shocked" to learn after the fact that it had been approximately forty minutes. Team Member # 18 disagreed that it would have been helpful during that process to have present a physician, nurse, or other medical professional because those individuals, in Team Member # 18's opinion, were no better trained than the medical team members when it came to finding and starting IV sites. Team Member # 18 also testified that he felt no undue pressure during the process because he has been in higher pressure situations from his EMT experience. Team Member # 18 testified that he was not aware of any discussions during the process about the possibility of postponing the execution and continuing it some other day. Team Member # 18 testified that he was aware that the team had until midnight of the day of a scheduled execution to actually complete the execution, that there was no reason for the team to feel "time constraints," and that it was acceptable for the team members to take breaks if they encountered difficulties that prolonged the process. He testified that he also was aware that at some point during the fourteen hours between the 10:00 a.m. start time and midnight, a "higher up" might step in, stop the process, and postpone it to another day. Team Member # 18 testified that he was not aware whether Ohio's written protocol provided for any particular time limits or a timeframe.

Team Member # 18 also testified that he does not believe that Ohio's protocol or custom and practice limit the number of "sticks" the medical team members can or should attempt in trying to start two injection sites. Team Member # 18 testified that he did not believe that Ohio's

protocol or custom and practice contain a "back-up" plan in the event that the medical team members cannot find an IV site. Team Member # 18 confirmed that neither he nor any of the medical team members are qualified or trained to access non-peripheral sites.

Returning to the Clark execution, Team Member # 18 testified that he believed Director Collins made the decision, following the initial failure of the first injection site and the subsequent location of a new injection site, to go forward with the Clark execution. Team Member # 18 testified that he was not concerned about resuming the Clark execution with only one IV line because Team Member # 18 had started the IV site himself and believed it to be sound. Team Member # 18 testified that after starting the site, he did a drawback and obtained a blood return, indicating that the site was good. Team Member # 18 confirmed that at some point during the process of searching for a new injection site, they did not appear to have any more tourniquets on hand. Thus, Team Member # 18 confirmed, one of the security team members, at Team Member # 18's suggestion per training he had received, squeezed Clark's right bicep to create the same effect as a tourniquet. Team Member # 18 was not of the view that the security team member had applied so much pressure to have been painful to Clark. Team Member # 18 confirmed that when they proceeded with the execution, they completely re-started the three-drug protocol, rather than resuming where they had left off in the administration of the drugs.

Team Member # 18 continued his direct examination testimony about the Clark execution by testifying that he did not view the Clark execution as "botched," just one in which complications arose. He testified that he saw no obvious, outward signs that Clark was experiencing pain. He also testified that even though, when the execution resumed, Team Member # 18 briefly began administering the drugs to the wrong line, Team Member # 18

caught his error immediately and switched to the correct line before the mistake caused any problems. Team Member # 18 testified that he was certain that when he resumed administering the drugs, he began with the sodium thiopental and not the pancuronium bromide or potassium chloride. Team Member # 18 emphasized that all of the syringes are labeled clearly and unmistakably. He also insisted that under no scenario would the team ever administer the second drug before determining that the first drug has taken its full intended effect. Team Member # 18 remarked that it was clear, before they resumed the execution by starting over with the drugs, that Clark had begun experiencing effects from the sodium thiopental that he did receive both before the site became infiltrated and through absorption by his body of the drugs that had built up in the swollen site. Once they resumed the execution, Team Member # 18 testified, they were able to complete it without incident.

Regarding the various versions of Ohio's written execution protocol, Team Member # 18 testified that he does not "track" the changes that DRC makes to the written protocol. Team Member # 18 testified that he did not know whether the written protocol includes the various signals that the warden uses to communicate to the executioner when to begin the delivery of the drugs and that the executioner uses to communicate to the warden when he has begun or completed the delivery of the drugs. When asked whether he has participated in or was familiar with any discussions to change Ohio's lethal injection plan from a three-drug protocol to a single-drug protocol, Team Member # 18 answered that he recalled Voorhies mentioning that he had read about the idea and that Team Member # 18 was aware that a court proceeding might lead Ohio to employ a single-drug protocol eventually. Team Member # 18 testified, however, that it did not make a difference to him. When asked whether he would be more comfortable

with a single-drug protocol if there were evidence that the second or third drugs might cause pain, Team Member # 18 answered that he would be comfortable with whatever protocol the State chooses.

Team Member # 18 also answered a short series of questions about the time lines that DRC creates documenting Ohio's executions. Team Member # 18 estimated that the amount of time that passes from the time the warden signals to the executioner to begin the administration of drugs until the time that the executioner completes the administration of the drugs is thirteen to twenty minutes. Referring to a timeline (Pl.'s Hrg. Ex. 110) documenting the Christopher Newton execution, Team Member # 18 testified that he could not recall why that execution–specifically, the amount of time that elapsed from the moment that the warden had signaled to the executioner to begin and the moment that the executioner had finished administering the drugs–took longer than the other previous executions. Team Member # 18 testified that he did not recall what might have been different about the execution or that the team encountered any difficulties during the administration of the drugs. With respect to the accuracy of the execution timelines, Team Member # 18 agreed subsequently during cross examination that it was possible that the narrator relaying information to the command center might relay information inaccurately because the narrator is so familiar with the process that he might report an occurrence before or after it actually happens.

Team Member # 18 testified that from his experience, typically he notices decreases or shallowing of the inmate's respiration and possibly changes in the inmate's color before Team Member # 18 even finishes administering the first drug. Team Member # 18 denied that he was concerned whether the team allows enough time between the completion of the first drug and the

beginning of the second drug because Team Member # 18's observations and experiences have acted and will act as a safeguard against the administration the pancuronium bromide before the sodium thiopental fully takes effect.

Turning to personal issues, Team Member # 18 testified that no superiors ever asked him to sign a release permitting them access to his medical records, but that he would have done so if they had asked him. Team Member # 18 proceeded to confirm that in July of 2000 he requested disability leave. Team Member # 18 could not recall specifically how long his disability leave lasted, but guessed that it was two or three months. He also testified that he could not recall taking disability leave for depression before, but knows that he has not taken disability for that condition since. Regarding the diagnoses that Team Member # 18 received from several treating physicians, Team Member # 18 explained that he had never seen the medical records produced for this proceeding identifying those diagnoses but agreed that those diagnoses must have been what Team Member # 18's treating physicians believed they saw in him. Referring to an exhibit (Pl.'s Hrg. Ex. 105), Team Member # 18 confirmed that a treating physician told Team Member # 18 that the physician observed in Team Member # 18 depression symptoms and accordingly prescribed for Team Member # 18 Prozac, Effexor, and Buspar.

Team Member # 18 testified that he stopped seeing psychiatrist Dr. Baumgartner and elected to continue receiving psychiatric medications from his general physician, Dr. Badenhop. Team Member # 18 maintained that Dr. Baumgartner had told Team Member # 18 that the psychiatrist would be cutting back his practice and that Team Member # 18 would not really need Dr. Baumgartner's services. Team Member # 18 testified that he was "shocked" to learn that Dr. Baumgartner was still practicing.

Team Member # 18 confirmed that he has taken Effexor continuously since 2000 and still is taking Effexor, but only Effexor, to treat depression. Team Member # 18 explained that Dr. Badenhop has prescribed other anti-depressants, but that Effexor seems to work the best for Team Member # 18. Referring to an exhibit (Pl.'s Hrg. Ex. 108), Team Member # 18 testified that he could not recall Dr. Badenhop ever telling Team Member # 18 that Dr. Badenhop thought Team Member # 18 had bipolar disorder. Team Member # 18 testified that he believed that if he was ever on Seroquel for bipolar disorder, it was only for a short time. Team Member # 18 confirmed that he never told the team leader or any other superior about any psychiatric diagnoses that he had received. Team Member # 18 testified that no one ever asked and explained that he never tried to hide it. Team Member # 18 also confirmed that he had never availed himself of crisis intervention team services because he never felt a need for those services related to his participation in executions. Team Member # 18 testified that he believes that he informed any physicians who treated him that he served on Ohio's execution team. Finally, Team Member # 18 testified that his role as the person who administered the drugs in twenty-seven of Ohio's twenty-eight executions has not, to his knowledge or belief, had any relationship to his psychiatric or medical conditions.

Team Member # 18 began his cross examination testimony by confirming that he was a paramedic for DRC from 1987 until 2001, which was when DRC eliminated that position. Team Member # 18 then proceeded to recount the various awards and commendations that he has received during the course of his employment with the State of Ohio. Team Member # 18 also testified that he encountered many difficult or stressful situations as a paramedic, such as when a co-worker/physician went into cardiac arrest at work. When asked whether he had performed

duties under stressful situations, Team Member # 18 referenced his experience as a paramedic and asked, "What could be more stressful?" Team Member # 18 confirmed that he does not believe that any mental or physical conditions on his part have had any effect on his ability to carry out his duties or stemmed from his service on the execution team.

Team Member # 18 testified that he has been in a supervisory position for a long time in various jobs for the State of Ohio. He could not recall anyone expressing any concerns to him about his job performance, except perhaps in 2000 when he requested disability leave. Team Member # 18 then testified that he took disability leave in 2000 because he felt at the time that it was necessary. Team Member # 18 reiterated that he had never seen any of his medical records until these proceedings. Referring to an exhibit (Pl.'s Hrg. Ex. 105), Team Member # 18 confirmed that the records at issue contained a notation indicating that whatever symptoms the treating physician had observed in Team Member # 18 or that Team Member # 18 had reported experiencing should improve in four to eight weeks. Team Member # 18 testified that those symptoms must have improved because he did not take any additional disability leave.

Team Member # 18 then revisited the subject of what happens during the execution process once the inmate makes his last statement. Team Member # 18 recounted that following the inmate's last statement, the warden signals to the executioner to begin administering the first drug. Team Member # 18 reiterated that several DRC officials inside the equipment room are on telephones in the event that the inmate receives a last minute stay or reprieve. Team Member # 18 continued that after he finishes administering the first two syringes of the sodium thiopental, he opens the clamp on the IV line just below the bag to allow for a saline flush for sixty seconds. At that point, he turns a red light off to signal to the warden and the team leader that he has

completed delivery of the first drug and that they should check the inmate for signs of unconsciousness. Once the warden signals to the executioner to begin delivering the second drug, Team Member # 18 does so and turns the red light back on to signal back to the warden and the team leader that he has begun the second drug. After he finishes administering the second drug, Team Member # 18 continued, he opens up the clamp on the IV line just below the bag to allow another sixty-second saline flush. After he allows the sixty-second saline flush, Team Member # 18 administers the final syringe. Team Member # 18 testified that he then opens the IV line for a final sixty-second flush, announces to the narrator that he has finished administering the drugs, and turns off the red light one final time. At that point, according to Team Member # 18, the team leader closes the curtain on the window separating the execution chamber from the witness rooms. Team Member # 18 testified that a physician then enters the execution chamber to determine whether the inmate is dead. If he is, then the physician so pronounces him, the team leader opens the curtain, and the warden announces the time of death. At that point, Team Member # 18 testified, the team leader closes the curtain again and the witnesses exit the witness room.

Team Member # 18 confirmed that following the Clark execution, DRC changed the execution protocol to replace the manual administration of saline flush syringes with an IV saline flush. Team Member # 18 also confirmed that he uses a stopwatch to ensure that he allows a full sixty-second flush from the IV line. Team Member # 18 agreed that a full sixty-second flush provides more time for the sodium thiopental to have its intended effect on the inmate. That said, Team Member # 18 cautioned, he would never start the pancuronium bromide if he were not certain of the inmate's unconsciousness.

Turning to a series of miscellaneous questions, Team Member # 18 testified that Ohio's written execution protocol does not contain a requirement that the person who administers the three drugs be certified or licensed to administer those drugs (in a therapeutic setting). Rather, Team Member # 18 testified, the protocol requires only that the person who administers the drugs be trained or certified to administered IVs. Team Member # 18 testified that the post-execution debriefing sessions include all of the execution team members, the warden, and the religious "head" of SOCF. Team Member # 18 confirmed that he was always aware that the crisis intervention team services were available to him. He described the debriefing sessions as including the team members inquiring of one another whether each was okay. Team Member # 18 went on to describe a variety of occurrences that he observed during executions indicating to him that the sodium thiopental was having its intended effect–such as an inmate who was tapping his hand and then stopped tapping his hand; an inmate who looked up at his family and then lowered his head and closed his eyes; several inmates who appeared to be mouthing prayers whose lips then stopped moving; an inmate who was fingering prayer beads and then stopped; and inmates in general who were engaging in deliberate movements that stopped as the sodium thiopental took effect. Team Member # 18 testified that usually it is part way into the second syringe of the first drug when he notices the sodium thiopental taking effect. In that regard, Team Member # 18 reminded that considering the length of the tubing, the time when he gets part way through the second syringe is likely seconds after any sodium thiopental actually reaches the inmate.

Team Member # 18 confirmed that he has mentioned to co-workers and supervisors, including current SOCF Warden Phillip Kerns, that he has looked into the possibility of retiring.

Team Member # 18 opined that it was possible that Warden Kerns took it more seriously than Team Member # 18 intended, simply because of how much Team Member # 18 knew about various retirement scenarios. With respect to the preparations that Kerns has undertaken to ensure that Team Member # 17 is prepared to serve in the role of administering the execution drugs, Team Member # 18 testified that that was just prudent because of the possibility that Team Member # 18 will be detained at the last minute from making it to an execution and that every warden has prepared for that possibility.

Team Member # 18 confirmed that he was aware when he revealed information about his mental and physical health that he could have stopped and asserted privilege or his right to privacy. Team Member # 18 went on to testify, however, that he saw no need to do so, that he has nothing to hide, and that he does not believe that any mental or physical conditions he has are related in any way to his service on the execution team. Team Member # 18 agreed that the process of participating in these proceedings has been difficult but testified that he believed it would be difficult on anyone and believed that it was part of his obligation and duty to participate in this factfinding process. Team Member # 18 concluded by testifying that he feels and always has felt that the execution process should be professional and humane, that that is why he volunteered to participate, and that the executions the team has conducted in Ohio have been professional and humane.

13. Robert Lowe

Robert Lowe testified on behalf of Biros. Lowe represented Christopher Newton and witnessed his execution on May 24, 2007. Lowe recounted that after he met with Newton the morning of the execution, Lowe was then ushered into the witness viewing room and watched

the catheter insertion taking place in the holding cell via the television monitor. There was some delay, and because inmate Newton was a "volunteer," Lowe inquired as to the reason for the delay. He was advised by the legal counsel for DRC that the medical team was taking things slowly and that there was no consideration of a "cut-down" procedure, which would entail cutting the inmate's arm to insert the intravenous needle directly into a central vein or artery. Lowe indicated that it took the medical team over an hour to insert the catheters into each of Newton's arms.

Lowe testified that Newton was led into the death chamber. He stated that the security team member who strapped Newton to the bed was shaking as he was attaching the straps. Lowe testified that after Newton gave his final statement, the team leader, who was in the chamber, gave a bewildered look to Voorhies when after the execution process had begun Newton's chin moved. Lowe stated that he had observed the last movement of Newton nine minutes after the last statement was given. The curtain was closed six minutes after the last movement was observed.

On cross examination, Lowe admitted that he may have told the news media that the prison officials had been very kind in keeping him informed.

14. Dr. Mark Heath

Dr. Mark Heath, Biros' expert, testified next. He is an anesthesiologist at Columbia University Medical Center and is board certified in anesthesiology. Columbia University Medical Center is a teaching hospital and Dr. Heath works elbow-to-elbow with residents and fellows on a daily basis. He explained that his interest in the methods of execution utilized by the different states was initially piqued when he heard a broadcast of the Timothy McVeigh

execution and became aware then of the drug protocol that was being used. Because he believed the drugs used could be a problem, Dr. Heath testified, he began investigating but could get no answers. Finally, he was called by a Georgia attorney who had heard of Dr. Heath's interest in the three-drug protocol. The attorney provided him with information about Georgia's protocol, Dr. Heath explained, and from there Dr. Heath began accumulating data and information from the various states that perform executions by lethal injection. Dr. Heath stated that he has published articles, reviewed autopsy data, studied the execution protocols, viewed death chambers, and communicated with Dr. Chapman, who first devised the three-drug protocol. Based upon Dr. Heath's qualifications, the Court found Dr. Heath to be an expert in the field of anesthesiology and on the methods of execution using the three-drug protocol.

Dr. Heath explained the three drugs used in Ohio's execution. The first drug is sodium thiopental. It is, according to Dr. Heath, a short-acting anesthetic. When given in a small amount the drug can make a person sleepy and when given in larger doses can cause unconsciousness for hours or death depending on the amount given. The second drug administered is pancurium bromide. This drug paralyzes only the voluntary muscles that an individual can control, but does not harm the heart. Although it has no anesthetic effect, it can cause a person to appear tranquil and serene even though the individual would still be able to see, hear, and feel. The third drug is potassium chloride. This drug stops the heart and can cause excruciating pain if no anesthetic is given before its administration.

Dr. Heath explained that both the first and second drugs can independently stop an individual's breathing depending on the dosages. The first drug, sodium thiopental, shuts down the electrical activity in the brain so the brain can not give a signal to draw a breath. A large

dose of the first drug can cause death. The second drug, pancurium bromide, has no effect on the brain, but rather stops the muscles from receiving the signal from the brain. If the second drug were given without the anesthetic effect of the first drug, the individual's ability to draw a breath would be stopped and the individual would internally suffocate. If the third drug were administered without anesthesia, the individual would be in terrible, searing pain before suffering cardiac arrest.

Dr. Heath testified that each drug could cause death but the key is the dosage of the sodium thiopental. He believes that an execution can be accomplished in a humane manner, he stated, but that Ohio's protocol falls far below what he considers to be a humane method.

Dr. Heath testified that one problem with Ohio's protocol is that the people who are performing the execution functions are not knowledgeable about whether an inmate has been properly anesthetized. If an inmate is not properly anesthetized, he explained, the drug can cause suffocation and burning pain. Dr. Heath testified that trained personnel could look for signs such as enlarged pupils, tearing, and sweating, and that instruments should be employed to assist in making that assessment. Dr. Heath advocated the use of an electrocardiogram machine to measure the heart rate, a blood pressure cuff to determine an inmate's blood pressure, and a Bispectral Index ("BIS") monitor that can assess the level of brain activity. Dr. Heath criticized Ohio's method of execution because it does not employ any monitors and because the warden and the team leader have no medical training to look for signs of consciousness. Because drugs sometimes do not do what they are supposed to do, according to Dr. Heath, it is imperative that monitoring equipment be employed to measure the depth of consciousness and heart rate, as well as blood pressure. Dr. Heath explained that because the first drug is short acting, an inmate can

fall asleep but then begin waking up a few minutes later when paralyzed by the second drug and then experience pain. He testified that he believes that the methods used by the warden to observe, shake, and pinch are completely inadequate and are only used in a hospital setting to determine if someone is waking up from the anesthetic. Dr. Heath recommended that an EMT be placed in the death chamber and trained to use the brain monitor to measure the depth of consciousness.

Dr. Heath outlined several occurrences that he stated are foreseeable and that could lead to the inmate being conscious. Included in these scenarios are: a bad batch of drugs, improper mixing, deliberate diversion of drugs, error in delivery of drugs, error in labeling or selecting syringes, leakage in tubing, leakage in the catheter, infiltration, and vein rupture. He testified that errors or malfunctions could always occur. Dr. Heath also criticized the length of the tubing claiming that the person injecting the drugs should be beside the inmate so that the executioner could closely monitor and observe the vital signs. The expert was similarly critical of the personnel involved. He found fault with the fact that the only two persons in the death chamber, the warden and the team leader, are not medically trained and do not understand what they should be looking for and the two medical personnel, Team Members # 18 and # 17, do not understand the drugs and the effect the drugs have on the inmate. Dr. Heath testified that he believed that without the safeguards of properly trained personnel and monitoring equipment there is a substantial risk that an inmate will experience pain during the execution process. Dr. Heath suggested that the protocol could be improved by obtaining a physician to assist and assess, reconfiguring the death chamber where the drugs would be administered in the same room as the inmate thereby providing good visual opportunities and less tubing, employing

monitoring equipment with trained and qualified personnel, and employing more than two grams of the first drug.

Dr. Heath also testified that Ohio's medical team lacks the level of skill needed to successfully insert the catheters to gain intravenous access. The medical team members, with the exception of Team Member # 19, do not routinely insert catheters on a day-to-day basis. He also criticized the medical team's lack of knowledge concerning the drugs used.

Dr. Heath advocated the use of a one-drug protocol for executions. He testified that a massive dose of sodium thiopental would complete the execution within ten minutes. He also stated that a large dose of sodium thiopental would first stop brain functioning and then the heart would stop.

Dr. Heath reviewed Team Member # 18's testimony and found it to be in error in certain respects. Dr. Heath criticized Team Member # 18's testimony with regard to the muscles that the pancurium bromide affects. According to Dr. Heath, Team Member # 18's testimony concerning the respiratory effect and the drug family of pancurium bromide was also wrong. Dr. Heath emphasized Team Member # 18's testimony wherein Team Member # 18 stated that he did not have enough knowledge about the drug. Dr. Heath believes that Team Member # 18, because of his position as the executioner, needs to know the information. By entrusting Team Member # 18 with the important position of executioner, Dr. Heath testified, there is a substantial risk of an inhumane execution.

Dr. Heath then compared Ohio's protocol to the Kentucky protocol. He indicated that three grams of the first drug is used in Kentucky instead of the two grams provided for by the Ohio protocol. He cited from the transcript of the *Baze* case before the United States Supreme

Court wherein the attorneys for the State of Kentucky referred to their medical personnel as "the best in the Commonwealth." Dr. Heath testified that the personnel in Ohio are substandard. It is written in the Kentucky protocol that the warden is to check for consciousness whereas, in the Ohio protocol, it is not in writing. A one-hour time limit is placed on inserting the intravenous lines in Kentucky and Ohio has no time limit other than completing the execution before midnight of the day of the execution. By court order in Kentucky, the medical team is prohibited from accessing a vein in the neck. There is no such prohibition, written or unwritten, in Ohio's protocol. According to Dr. Heath, there is medical expert or physician input into Kentucky's processes and a heart monitor is required to be utilized. In Ohio, there is little to no medical input and no monitors are used.

When asked to comment on the Clark execution, Dr. Heath testified that it was not proper to stick the inmate seventeen or eighteen times in an attempt to find another vein after the first access point had failed and that it was improper to attempt to start a line in the neck as was testified to by Team Member # 18.

On cross-examination, Dr. Heath admitted that United States Supreme Court found the three-drug protocol to be constitutional. He agreed that the three-drug protocol can be a humane method of execution so long as an adequate amount of the first drug is used.

In response to Dr. Heath's criticism of Team Member # 18 and, in particular, his misunderstanding of the first drug, Dr. Heath was asked questions about mixing that drug. Dr. Heath confirmed that so long as the directions are followed and so long as the drug has been properly manufactured, there is little risk of an improper mix.

Although the United States Supreme Court held that observation of the intravenous site

by a lay individual is satisfactory, Dr. Heath maintained that medically trained personnel should be utilized. He believes that unqualified persons could miss signs of infiltration.

Dr. Heath also admitted that the United States Supreme Court found that a blood pressure cuff would have little utility because the inmate's blood pressure would be very low after the administration of the first drug. He cautioned, however, that a cuff would be useful if the inmate was not receiving all of the first drug. In that case, because of infiltration, a cuff could detect that the inmate was not unconscious to a depth that would be considered humane.

Dr. Heath suggested that physicians should be used throughout the process. He believes that some physicians may volunteer but admitted that he had no data to support that conclusion.

In conclusion, Dr. Heath testified that he believes that there is a likelihood in Ohio that an inmate will suffer pain and it would be easy to remedy the problems by changing the protocol to comport with his suggestions.

15. Dr. Mark Dershwitz

The only witness that Defendants called was Dr. Mark Dershwitz, who testified via video transmission. Dr. Dershwitz testified that he is a board certified anesthesiologist; a professor in the departments of Anesthesiology and Biochemistry and Molecular Pharmacology at the University of Massachusetts ("UMASS"); and a staff anesthesiologist at UMASS Memorial Medical Center. Confirming that he has provided expert testimony several times in cases involving the use of lethal injection as a method of execution, Dr. Dershwitz explained that he rendered his expert opinions in the fields of general pharmacology of the drugs used in lethal injection, as well as related topics such as the method of delivery of the drugs to the inmate. Defendants offered Dr. Dershwitz as an expert in anesthesiology and related scientific and

medical fields, Biros did not object, and the Court so recognized Dr. Dershwitz as an expert.

Dr. Dershwitz testified that he was familiar with the expert opinions of Dr. Mark Heath. He described Dr. Heath's opinions as consisting of a significant number of things that could possibly go wrong in the overall process of lethal injection and a "good chance," in Dr. Heath's view, that those things actually will go wrong. Dr. Dershwitz testified that although he agreed with Dr. Heath about the theoretical basis that any one of those things could go wrong, Dr. Dershwitz was of the view that, historically, the only problem of which he was aware was the malfunctioning of an intravenous catheter and that that sort of problem has happened in only a small number of executions. Dr. Dershwitz testified that he did not believe it was possible to put a "scientific probability" on any given risk happening and that he did not believe that Dr. Heath has ever tried to do so.

Dr. Dershwitz proceed to recount the materials that he reviewed to prepare to testify in this proceeding, to wit: the protocols from both Ohio and Kentucky; depositions of Team Members # 18, 17, 9, 10, 1, 4, 5, 11, 19, 20, 15, 16, 12, 13, 14, 6, 7, and 8; depositions by Collins, Kerns, Voorhies, and Haviland; the deposition of Dr. Heath; and the trial testimony that Dr. Dershwitz had given a year ago in the *Rivera* case.

Dr. Dershwitz agreed that sodium thiopental is described in textbooks as an ultra short-acting barbiturate, but he qualified that by explaining that that characterization stems from a comparison to other barbiturates, not to other drugs in general. Thus, Dr. Dershwitz explained, long-acting barbiturates are used to treat conditions such as epilepsy, intermediate-duration barbiturates are used as nighttime sedatives, and ultra short-acting barbiturates are used as anesthetic medications. Dr. Dershwitz went on to testify that the two-gram dose of sodium

thiopental used in Ohio's lethal injection protocol would render the average person unconscious for approximately two hours, assuming that dose did not kill the person by stopping his breathing or dropping his blood pressure. Dr. Dershwitz opined that "there is the significant chance that some large fraction of people" would not survive a two-gram dose of sodium thiopental.

With respect to Dr. Heath's opinion that "medical standards of practice" should be applied to the process of lethal injection, Dr. Dershwitz testified that he agreed "in part," even though he does not view lethal injection as a medical procedure. Thus, Dr. Dershwitz explained, the people who perform the administration of the medications and the securing of IV catheters should have experience performing those procedures in patients. When asked whether he thought it was appropriate for a medical practitioner to opine whether one method of execution was preferable to another, Dr. Dershwitz answered that he believed that he was qualified to discuss the pharmacological effects of the drugs at issue in these proceedings. Dr. Dershwitz went on to testify that the characterization of one protocol as "better" than another is a matter of public policy rather than medicine.

Dr. Dershwitz testified that he believed that physicians who have regularly and commonly given expert opinions on this matter would agree that a multi-gram dose of sodium thiopental, if administered effectively and as written in the protocol, would yield only a minuscule chance that the inmate would suffer from the subsequent administration of pancuronium bromide and potassium chloride. Dr. Dershwitz confirmed that he has done a number of studies consisting of "computer modeling calculations" to assess the effect on humans of a two-gram dose of sodium thiopental. Dr. Dershwitz explained that computer model calculations were preferable to experimenting on humans because typically a human given two

or three grams of sodium thiopental is kept unconscious deliberately for hours or days, typically to mitigate a brain injury. Dr. Dershwitz testified that administering intravenously a two-gram dose of sodium thiopental to a person will cause the person to lose consciousness in approximately the amount of time it takes for blood to circulate from the arm to the brain–thirty to sixty seconds–and remain deeply anesthetized for many minutes thereafter. Dr. Dershwitz went on to testify that the average person given such a dose would remain unconscious for approximately two hours, but at a minimum, for seven or eight minutes and in a state of anesthesia so deep that it is associated with deep coma and much deeper than typically would be used for surgery. Dr. Dershwitz reiterated that "a significant subset of the population" would die from a two-gram dose of sodium thiopental, either because they would stop breathing or because their blood pressure would drop to a degree that all circulation would almost completely stop. When asked whether a rapid cessation of breathing would be a visible sign that sodium thiopental had been administered effectively, Dr. Dershwitz agreed and explained that a dose of sodium thiopental would cause virtually anyone to stop breathing within approximately the time that it takes for the blood to circulate from the arm to the brain.

Dr. Dershwitz testified that he believed that the Ohio team members, based on the training and credentialing that they have received, would be qualified to prepare sodium thiopental for executions. Dr. Dershwitz opined that two of the three are credentialed EMTs and the third is a phlebotomist with many years of experience; all should be able to carry out their assigned tasks. Dr. Dershwitz described the process of mixing sodium thiopental as "actually rather simple." He explained that the typical sodium thiopental kit consists of a vial containing 500 milligrams or a half a gram of powder and another vial containing twenty milliliters of

diluent, which might be water or saline depending on the manufacturer. He continued that one would draw the diluent into a syringe, inject that diluent into the vial of powder, swirl the vial "a little bit" to dissolve all of the powder, and then draw the twenty-milliliter solution containing a half a gram of sodium thiopental back into the syringe. Dr. Dershwitz testified that because Ohio's protocol prescribes a two-gram dose of sodium thiopental, it would be necessary to prepare four such vials for the syringes used in the lethal injection process. Dr. Dershwitz testified that the mixing process was so straightforward that at the hospital where he once worked, when sodium thiopental was routinely used as an anesthetic, it was necessary to prepare "scores and scores" of syringes every day and the task usually was performed by an anesthesia technician or pharmacy technician with only on-the-job training.

Dr. Dershwitz testified subsequently about the qualifications of those on the execution team tasked with the job of administering the IVs. Dr. Dershwitz stated that it is appropriate to allow Team Member # 17 to administer an IV to an inmate because Team Member # 17 is an intermediate EMT who by his own testimony administers IVs in approximately 80 per cent of the people he treats on EMT runs. Dr. Dershwitz further testified that Team Member # 9, as a phlebotomist at a prison who draws blood and has a fair amount of experience administering IVs in emergency situations, is a person suitable to start an IV in an inmate.

In regard to the fact that the warden and the team leader in Ohio are tasked with observing the inmate's IV sites for possible infiltration of sodium thiopental, Dr. Dershwitz testified that in view of the volume that is injected, it is likely that any infiltration (or subcutaneous injection rather than intravenous injection) would cause visible swelling. When asked about Dr. Heath's concern that a layperson might not recognize subtle signs of infiltration,

Dr. Dershwitz reiterated that in light of the eighty milliliters of sodium thiopental used in Ohio's protocol, if so small an amount infiltrated as to be not visible to the naked eye or to a layperson, that would mean that a large fraction of the sodium thiopental had been injected into the bloodstream as intended. In subsequent testimony, Dr. Dershwitz characterized as "incredibly far-fetched" the possibility that an injection site might fail during the attempted administration of sodium thiopental but then somehow subsequently allow the administration of pancuronium bromide and/or potassium chloride.

Dr. Dershwitz agreed that the administration of pancuronium bromide would mitigate the involuntary visible movements that might be caused by a subsequent administration of potassium chloride. Dr. Dershwitz explained that although the dose of potassium chloride prescribed in Ohio's protocol will cause all electrical activity in the heart to cease, it also will cause wide-spread stimulation of nerve and muscle tissue that would in turn result in involuntary muscle contractions. Thus, according to Dr. Dershwitz's testimony, pancuronium will mitigate the effect of potassium on nerve and muscle tissue. That said, Dr. Dershwitz continued, the likelihood that an inmate would experience seizures or convulsions from the potassium chloride already is remote due to the volume of sodium thiopental that will have been administered and considering that sodium thiopental is the best medication to prevent or treat seizures.

With respect to what purpose the use of pancuronium bromide serves in the lethal injection process, such as mitigating the risk that laypeople might perceive from involuntary contractions that the execution is causing pain to the inmate that the inmate is not in fact experiencing, Dr. Dershwitz agreed that he could not render an expert opinion whether the public policy decision to include pancuronium bromide for a purpose such as that described above was

good or bad. Dr. Dershwitz clarified that his expertise is limited to providing expert information on the effects of the drugs and advantages or disadvantages of various permutations of the protocol.

In response to a question of whether he thought it was necessary for a person administering the lethal injection drugs to have the same knowledge of the properties of those drugs that an anesthesiologist or nurse or health-care practitioner would have, Dr. Dershwitz answered that he thought it was important for the person who prepares and injects the drugs to have sufficient training and experience in preparing medications for intravenous administration and the ability to follow and implement the protocol as written. Dr. Dershwitz testified that he believed that Team Member # 18, as the person who mixed and administered the drugs in all but one of Ohio's executions, and Team Member # 17, as the person who mixed and administered the drugs in the one execution in which Team Member # 18 did not, should not be regarded as unable "to follow relatively simply directions in a relatively simple protocol" just because neither of them would be expected to give sodium thiopental as part of "their day job." Dr. Dershwitz based that opinion on Team Member # 18's training as a paramedic and experience in administering medications and on Team Member # 17's training and experience as an intermediate EMT.

Dr. Dershwitz then answered questions about the "rough-and-ready" consciousness check that the warden has employed during the two most recent executions. Dr. Dershwitz stated that such a consciousness check was sufficient to confirm that sodium thiopental had rendered the inmate unconscious. He explained that he viewed it as important to differentiate between assessing a person's level of unconsciousness, which laypeople easily can be taught to do, and

assessing a person's depth of anesthesia (for purposes of ensuring that the patient is at the right depth of anesthesia and not too deep or too light), which typically only a trained clinician can do. Dr. Dershwitz testified that the graded stimulus described in the warden's deposition–whereby the warden first speaks the person's name and then perhaps shakes or pinches the inmate–would be sufficient to ensure that the inmate received an adequate dose of sodium thiopental intravenously and was indeed unconscious. Dr. Dershwitz stated that because it is reasonable to assume that an inmate would be highly motivated to respond if he or she were awake or not fully unconscious, a lack of response is very good evidence that the person is indeed unconscious. Dr. Dershwitz testified that it would not necessarily be helpful to employ equipment such as a blood pressure cuff in assessing the level of an inmate's unconsciousness following administration of sodium thiopental. Dr. Dershwitz explained that there is a distinction between the need to monitor blood pressure intra-operatively (to ensure that the patient has adequate blood pressure for circulation and to ascertain whether the patient might be responding to "noxious stimuli") and determining simply whether a person is unconscious, for which changes in blood pressure would not be a reliable indicator.

Finally, Dr. Dershwitz agreed that the defendants in this case have acted reasonably in conducting lethal injections using the execution team that they have used and under the protocol that has been established. Dr. Dershwitz stated that he based that belief on the information that he reviewed concerning the team members who establish the IV sites for executions and the members who administer the drugs for executions, Ohio's written protocol itself, and testimony from numerous persons who have participated in Ohio's lethal injections.

On cross-examination, Dr. Dershwitz stated that a typical person will be unconscious

following a dose of 200 milligrams of sodium thiopental but will not remain unconscious for long because the drug at that dose will wear off in a relatively brief period of time, perhaps as soon as five minutes. Dr. Dershwitz confirmed, therefore, that if an average person received a 200-milligram dose of sodium thiopental and was immediately subjected to a rough-and-ready consciousness check, that person likely would be deemed unconscious at that moment but could regain consciousness in approximately five minutes. Dr. Dershwitz then hedged on confirming whether a rough-and-ready consciousness check would be sufficient to ensure that an inmate who had received a 200-milligram dose of sodium thiopental instead of the full two grams would remain unconscious for the duration of an execution, assuming that the execution procedure lasts longer than five minutes. Dr. Dershwitz based his reluctance to agree with that conclusion on his understanding that the rough-and-ready consciousness check was not the only piece of data that is used in determining whether the second and third drugs can be administered. Dr. Dershwitz opined that the process of the executioner sensing whether the feel of the syringe is as expected, coupled with others observing signs from the inmate such as whether the inmate stops breathing and whether there is swelling at the injection site, taken as a whole are used to determine whether or not the first drug was successfully administered. Dr. Dershwitz concluded by agreeing that a rough-and-ready consciousness check should not be the only piece of data that is used to determine whether it is appropriate to proceed with the administration of the full protocol of drugs and by reiterating his belief that it is not.

In response to the relative qualifications of the personnel in Ohio tasked with carrying out executions, Dr. Dershwitz testified that although the best way to determine whether someone was qualified was to evaluate that person individually, he was not able to do that and could only

opine generally that someone who is trained as an EMT should be able to perform such tasks as securing IV access and preparing medications. Dr. Dershwitz agreed that the people who implement a protocol, in order to implement it as written, must be capable and competent to follow that protocol and that it is essential that there be somebody within the prison administration who ensures that those tasked with implementing the protocol are competent to do so. Dr. Dershwitz testified that it was his understanding that in Ohio, the warden takes responsibility for all steps involved in the execution, including ensuring that the persons who carry out the protocol are qualified to do so. Dr. Dershwitz went on to testify that through not only periodic reviews of the certifications of the team members but also observations of the execution team rehearsals, the warden should be able to make a sufficient determination whether the team members are capable of doing their assigned jobs.

Dr. Dershwitz confirmed his previous testimony that he believed that if Ohio's protocol is administered as written, there is minuscule chance of pain. He also testified that he believed that "virtually every medical expert who has evaluated protocols on behalf of both inmates and states agrees with that statement in a general way." In response to hypothetical questions whether he would agree that there are "textbook" ways to perform a task or a "textbook way" of teaching people to perform a task, Dr. Dershwitz answered in the negative, testifying that he does not rely on textbooks when teaching a procedure to students because he believes that people typically learn better how to perform a procedure by observing rather than by reading. Dr. Dershwitz also disagreed that if a person does not follow an instruction the way that it has been given, there is a risk that the person will not perform the procedure properly. Dr. Dershwitz explained that there are many safe, responsible, and effective ways for achieving any given

endpoint.

Dr. Dershwitz restated that a layperson should be able to determine that an IV site has infiltrated if a significant amount of fluid is involved because a significant amount of fluid that goes subcutaneously will produce visible swelling. With respect to the amount of sodium thiopental that Ohio uses in its protocol, eighty milliliters or a little less than three fluid ounces, Dr. Dershwitz testified that if a significant fraction of that amount went subcutaneously, it should cause visible swelling. Dr. Dershwitz agreed that one does not need "special training" to see swelling. Dr. Dershwitz also agreed that if the IV insertion site is covered, then the ability to discern swelling is not there. Dr. Dershwitz then agreed that if a team proceeded present day with an execution during which the injection site is not visible to them because it is covered by a smock, he would question whether those team members have the appropriate level of knowledge necessary to serve in the roles in which they have been asked to serve. He later agreed that in general, it always would be a good idea to evaluate the IV site and to have the site visible. When asked whether the written protocol that he had reviewed contained anything specifically requiring the warden, team leader, or anyone else observe the IV sites, Dr. Dershwitz answered that no such requirement is "written down." He then agreed that if it were the intent to have the warden, team leader, or anyone else observe the IV sites, it would be a good idea to have that written down.

Following questioning about when during the Clark execution infiltration was detected and whether Dr. Dershwitz had any concerns about the fact that two syringes of sodium thiopental and a syringe of saline flush had been delivered before anyone had noticed an infiltration, Dr. Dershwitz testified that to the extent that the team administered an IV that did

not work, he does not fault any member of the team because such failures happen in clinical medicine to patients and because some people have risk factors, such as a history of drug abuse, that make establishing an IV "very, very difficult." Dr. Dershwitz went on to testify with respect to the risk that Clark might have been subjected to discomfort and unpleasantness from administration of pancuronium bromide or potassium chloride that it was Dr. Dershwitz's understanding that Team Member # 18 did notice that was something wrong and did not intend to deliver the second and third drugs. Thus, Dr. Dershwitz concluded, even though Clark was not rendered unconscious in a timely fashion, there was not a significant risk that the execution team was going to proceed with the administration of the second and third drugs. Dr. Dershwitz ultimately agreed, however, that assuming a person were standing next to the inmate, feeling the injection site with his fingers, and observing the injection site with his eyes, and assuming that the volume of fluid described was administered subcutaneously as opposed to intramuscularly, then that infiltration should be observable to the person next to the inmate.

Regarding the fact that Clark was awake for thirty to forty minutes after being given a two-gram dose of sodium thiopental, Dr. Dershwitz explained that if two grams of sodium thiopental were administered anywhere into the body, the person sooner or later will lose unconsciousness. Dr. Dershwitz readily agreed that if the sodium thiopental was administered in one arm subcutaneously (due to an infiltrated site), it would be a "bad idea" to switch IV lines to administer the pancuronium bromide or to switch IV lines from one to the other without starting the entire injection sequence from the beginning because without proper anesthesia, the administration of pancuronium bromide would cause great discomfort and the administration of potassium chloride would be painful.

Regarding Dr. Dershwitz's distinction that the administration of pancuronium bromide by itself would cause great discomfort rather that extreme pain, Dr. Dershwitz was asked to describe in more detail what he believed the effect of Ohio's dosage level of pancuronium bromide alone would be on the inmate. Dr. Dershwitz answered that administration of pancuronium bromide to a person who was wide awake initially would cause the person to feel a sense of weakness that progresses to complete paralysis of all muscles in the body, resulting in a conscious desire to breathe but an inability to do so. After conceding that he had committed a "pharmacological boo-boo" by suggesting that pancuronium bromide would paralyze *all* of the muscles in the human body, Dr. Dershwitz clarified that it would paralyze all of the *skeletal* muscles in the body. Dr. Dershwitz agreed that pancuronium bromide in the dosages prescribed by Ohio's protocol would not only be sufficient to cause death, but also are seven to ten times the lethal dose.

Dr. Dershwitz testified that the amount of potassium chloride prescribed by Ohio's protocol would be sufficient without any other drugs to cause death. Dr. Dershwitz explained that potassium chloride, given in that dose and without anesthesia, would cause the inmate to experience a significant burning sensation at the injection site. He stated that as it circulates to the heart within fifteen to thirty seconds, the drug would within a few seconds of reaching the heart stop the heart's electrical and mechanical activity, causing the person to feel heart or chest pain and to lose consciousness. Dr. Dershwitz estimated that it would take a minute from the time the person is injected in the arm with that dose of potassium chloride until the time when the person loses consciousness.

Dr. Dershwitz agreed that Ohio's written protocol does not include any instructions to the

medical team regarding the switching of lines from the primary line to the back-up line. Emphasizing that he was not aware of an execution in Ohio where the team switched lines without starting the drug sequence over, Dr. Dershwitz agreed that it would be reasonable and prudent to include that level of detail in the written protocol, "as it is in some other jurisdictions."

Dr. Dershwitz agreed that the effective delivery of sodium thiopental is critical to a humane execution. Dr. Dershwitz elaborated that if sodium thiopental was administered unsuccessfully and then immediately pancuronium bromide and potassium chloride were given successfully, he would expect that the inmate would suffer. Agreeing that the inclusion of pancuronium bromide and potassium chloride increases the risk that an inmate could suffer during an execution, Dr. Dershwitz cautioned that because there are advantages and disadvantages to alternatives, he would leave it to others to decide whether it is a good idea to include those two drugs. Dr. Dershwitz also agreed that a single, large, multi-gram dose of sodium thiopental could effectively cause death, but qualified that answer by testifying that because that had never been done, he would have a difficult time opining on what specific dose of sodium thiopental would be absolutely lethal to anyone. He agreed, however, that all anesthesiologists typically would "believe that there is no person who could not be rendered dead by some dose of [sodium] thiopental." With the understanding that no one knows what effect a dose of five grams of sodium thiopental would have on a person, Dr. Dershwitz was willing to testify that a single, multi-gram dose of sodium thiopental would cause an inmate to expire in no more than ten minutes.

Dr. Dershwitz then answered a series of questions about a BIS monitor. He explained

that "BIS" stands for Bispectral Index, which is a number that is derived from a computer that measures brain waves. Thus, Dr. Dershwitz continued, whereas interpretation of "raw EEG squiggles" requires a neurological expert, a BIS monitor would be useful to anyone because it simply assigns a number measuring brain waves between zero and one-hundred. Dr. Dershwitz explained that a BIS monitor is commonly used in anesthesia to assist in keeping the patient ideally between 40 and 60, which ensures a high probability of unconsciousness during the surgery while ensuring the quickest possible awakening following the surgery. Dr. Dershwitz testified that at least one state, North Carolina, employs a BIS monitor in connection with its execution process, that at least one other state had acquired a BIS monitor for use in executions but had not used it yet, and that at least one other state was actively discussing making it a part of the state's execution protocol. Dr. Dershwitz agreed that he finds it helpful as an anesthesiologist to use a BIS monitor to assess the level of anesthesia and that depth of consciousness–or more precisely, depth of anesthesia–would be a relevant factor to measure in an execution.

Dr. Dershwitz agreed generally that a person administering the three drugs in an execution should have a basic knowledge as to what effect the drugs have on the body and a great appreciation for why it would be a bad idea to give the second and third drugs to a person who is awake.

In response to whether he was aware of any State protocol calling for the use of a "central line" for the primary site for the administration of the lethal injection drugs, Dr. Dershwitz testified that he was under the impression that Missouri's protocol and the federal government's protocol called for the use of the femoral vein as the primary injection site in lethal

injection executions. Dr. Dershwitz testified that it was also his understanding that both of those jurisdictions utilized physicians to access those femoral sites. Dr. Dershwitz then agreed that it would be prudent for a protocol like Ohio's protocol, which calls for peripheral IV sites in the antecubital areas of each of the inmate's arms, to have a back-up plan in the event that one of those peripheral sites cannot be accessed. Dr. Dershwitz explained that if experienced people are not able to achieve peripheral IV access, it would be reasonable to have a different person with greater training and experience–perhaps but not necessarily a physician– to attempt an IV in either the internal jugular vein, the subclavian vein, or the femoral vein. Dr. Dershwitz agreed during redirect examination that his testimony assumed without knowing that a physician in that scenario could be found who would have no ethical obligations barring his participation in that part of an execution process.

Dr. Dershwitz concluded his cross examination testimony by agreeing generally that the inclusion in Ohio's written execution protocol of a few additional steps or details would make the protocol more sound. He cautioned, however, that if the precise question was whether, in his expert opinion, a written protocol should include all of the essential components of the execution process, then he could not answer the question as phrased "because different people will have different definitions of the word 'essential.' "

16. Terry Collins

The last witness to testify at the hearing was Terry J. Collins. Collins testified that he had been with the department for thirty-two years and that he had served as warden at SOCF beginning in 1993. In May 2006, Collins testified, he assumed his current position as Director of the DRC.

Collins testified that during his tenure as SOCF's warden, there were no executions performed. He stated that he was not familiar with how the execution team then in place had been assembled and explained that prior to Ohio's adoption of the lethal injection protocol, there had been no medical team members on the execution team. Therefore, Collins testified, he added medical team members to the execution team while serving as warden, including Team Member # 18.

When asked about training of the team members, the former warden testified that no special education had been given to the individual serving as the executioner. Collins testified that he had no recollection of any training on how to administer the three-drug protocol. He also testified that he had traveled to Huntsville, Texas for three days to shadow a Texas warden prior to and during an execution in that state, but that he had never consulted out-of-state individuals as to how to improve Ohio's protocol. Collins testified that former SOCF warden Voorhies had implemented training related to the execution process. In later testimony, Collins explained that he knows the three medical team members and that he relies on the warden to check their qualifications. Collins later testified that the SOCF warden is not required to have medical training.

Collins described the bureaucratic oversight of the execution process. Technically, he stated, the SOCF warden oversees the execution and the Director, who oversees the entire DRC, assists the warden, as do individuals such as the regional director. If a judgment call needs to be made in carrying out the execution process, Collins testified, it depends on the context who would make that call. Collins explained that he would call the governor with a recommendation and that, technically, the governor would be the individual to tell them to stop by granting a

reprieve. Collins also testified that he could not say that the governor was in the room when he would call the governor's office, but stated that he assumes he would be able to talk to the governor.

When asked about making changes to the current protocol, Collins testified that Ohio was looking at a "whole bunch" of possible changes to its protocol. He stated that the current protocol is a "closed policy," which means that unlike other policies, it is sent to only select individuals when changes are considered, including himself, the legal counsel for the DRC, and others. If the warden or chief legal counsel suggested a change, Collins explained, then he would assemble various individuals to discuss the policy and consider the proposed change. Collins stated that such a change could be implemented in thirty days, or possibly fifteen days, or possibly ten days; usually, he noted, the group of advisers have to wait on him because he is so busy.

Collins testified that he agrees with the proposition that the warden must implement the written policy to carry out the law of Ohio. He also testified that the warden does not have to implement what is not in the written policy.

In response to questioning concerning the Clark execution, Collins testified that he had been told of the difficulty in obtaining IV sites in the holding cell and that he had been told that they could proceed with only one site, so he accepted that recommendation. After problems arose and the curtain was closed in the death chamber, Collins got on a landline telephone to speak with the governor and on a cell phone to speak with the attorney general's office. He also met with his chief counsel in the hallway outside the death chamber for a brief discussion. Collins stated that he spoke with the governor's office two to three times and that he may or may

not have stepped into the death chamber. He testified that he gave no orders or opinions on what should or should not be done during that execution.

In response to questioning concerning the possible adoption of a one-drug protocol, Collins acknowledged that he was aware of the state court decision in *State v. Rivera* and testified that he understood the case was on appeal. Collins stated that the case has not prompted him to inquire into the one-drug protocol and that until he receives a death warrant for either of the two defendants involved in *Rivera*, he does not see the need to look at a one-drug protocol. Collins stated that he would study the issue if the warden came to him with the suggestion of adopting a one-drug protocol. Collins testified that he was not aware that any Ohio statute authorizes a one-drug protocol. Collins also testified that he had once mentioned the possibility of a one-drug protocol in a meeting, but when no one responded, he never followed up on the possibility. He noted that adoption of a one-drug protocol could have ramifications in Ohio and for other states as well and stated that he would send the issue to the governor before ever changing the protocol. When directed to Ohio Rev. Code § 2949.22, which authorizes execution by a drug or combination of drugs, Collins testified that Ohio could perform executions with one drug without a statutory change.

Collins testified that executions were one of the most difficult parts of his job. He stated that he agrees that any significant changes to Ohio's protocol should be in its written policy. On cross-examination, Collins testified that if a warden believed that something could be done better in the execution process and if Collins approved, then Collins would tell him to proceed with the suggestion. He noted that he had previously been asked for permission to deviate from the written policy in regard to visitation of the inmate by family members who had arrived outside

the time period for visitation permitted by the protocol and that he had permitted the deviation. Collins opined that Ohio has the best written policy in the country. He also stated that he strives each day to do the best that he can do and that the ultimate goal is to be as humane as possible and as professional as possible in the execution process. Collins concluded by stating that he believes that Ohio's procedures are as humane and as best as they can be right now.

17. Team Member # 9

The parties agreed to submit the deposition of Team Member # 9. Team Member # 9 is a phlebotomist within the Ohio corrections system and is a medical team member on the execution team. She has been a phlebotomist for twenty years and is trained to draw blood under the supervision of a physician. Although she assisted nurses in inserting heparin locks in the hospital setting before she came to the institution at which she works, she did not insert them herself until she became a part of the medical team and after she received training on the procedure.

Team Member # 9 testified that she has participated in three executions. Her first experience on the team was the execution of Christopher Newton and she later participated in the executions of inmates Bryant-Bey and Cooey. Team Member # 9 indicated that she and another medical team member inserted the heparin locks and catheters in Christopher Newton. She testified that it was not difficult to gain access to inmate Newton's veins but that the veins would thereafter collapse. It took approximately one hour to find a vein that would not collapse in one of the inmate's arms. A good vein was found in the other arm in about ten minutes. She indicated that the inmate was cooperative throughout the time it took to complete the insertions. She also indicated that no one tried to hurry the process and they took their time to make sure

that they got it right.

Team Member # 9 said that she had no familiarity with the three drugs used because she is not involved in that part of the execution. Her duties include inserting the catheter and the heparin locks in the holding cell and then, when the execution is completed, she removes the catheters and heparin locks and cleans the insertion areas.

After the Newton execution, Team Member # 9 received some additional training in intravenous therapy and the different methods of inserting the catheters. She does not use the training in her day-to-day activities at the institution because she does not insert catheters and heparin locks as a phlebotomist. Team Member # 9 testified that the medical team members had no problems inserting the catheters in the Bryant-Bey or Cooey executions.

On cross-examination, Team Member # 9 maintained that she does not have any training in administering drugs but she has sufficient training to gain access to a vein which would allow someone else to administer the drugs.

II. Analysis

A. Standard involved

It is well settled that "[t]he purpose of a preliminary injunction is always to prevent irreparable injury so as to preserve the court's ability to render a meaningful decision on the merits." *United Food & Commercial Workers Union, Local 1099 v. Southwest Ohio Reg'l Transit Auth.*, 163 F.3d 341, 348 (6th Cir. 1998) (quoting *Stenberg v. Cheker Oil Co.*, 573 F.2d 921, 925 (6th Cir. 1978)). The decision of whether to issue a preliminary injunction rests within the discretion of the district court. *See, e.g., N.A.A.C.P. v. City of Mansfield*, 866 F.2d 162, 166 (6th Cir. 1989). In determining whether to exercise its discretion to grant a preliminary

injunction–and by logical extension whether to continue an existing preliminary injunction–a district court must balance the following factors:

> "(1) whether the movant has a 'strong' likelihood of success on the merits; (2) whether the movant would otherwise suffer irreparable injury; (3) whether issuance of a preliminary injunction would cause substantial harm to others; and (4) whether the public interest would be served by issuance of a preliminary injunction."

McPherson v. Michigan High Sch. Athletic Ass'n, Inc., 119 F.3d 453, 459 (6th Cir. 1997) (en banc) (quoting *Sandison v. Michigan High Sch. Athletic Ass'n, Inc.*, 64 F.3d 1026, 1030 (6th Cir. 1995)). This Court shall therefore proceed with the foregoing inquiry as it relates to Biros' request for a continued preliminary injunction, in addition to addressing one issue involving the All Writs Act as it relates to the limited nature of the remand.

B. Likelihood of success

Ohio's method of execution by lethal injection is a flawed system. The weaknesses that pervade this system are not so profound, however, that they rise to the level of constitutional dimension so that they present this Court with a violation of the Eighth Amendment to the United States Constitution. Thus, despite the troubling concerns that exist with Ohio's written lethal injection protocol[3] and the unwritten customs and practices that surround that protocol, this Court must conclude based on the evidence that Biros has failed to demonstrate a strong or substantial likelihood of success on the merits of his § 1983 claims.

The analytic path leading to this conclusion begins with the Sixth Circuit's charge to this

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[3] Similar to other courts entertaining challenges to lethal injection protocols under 42 U.S.C. § 1983, this Court follows the parties' lead in "us[ing] the term 'protocol' to encompass not only the quantities, preparation, injection, and the actual drugs administered during the execution process, but also all policies, procedures, and staff qualification requirements." *Walker v. Epps*, 587 F. Supp. 2d 763, 766 n.3 (N.D. Miss. 2008).

Court to determine whether *Baze* supports a continued preliminary injunction. Stated more specifically, the court of appeals has directed this Court to ascertain whether Biros has indeed demonstrated a substantial likelihood of prevailing on the merits in light of the *Baze* analysis. The extant question is thus what, if anything, *Baze* ultimately means.

In *Baze*, the United States Supreme Court addressed whether Kentucky's lethal injection protocol violated the Eighth Amendment. The resulting decision generated seven opinions: a plurality opinion authored by Chief Justice Roberts and joined by Justices Kennedy and Alito; a separate concurring opinion by Justice Alito; an opinion authored by Justice Stevens, who concurred in judgment; an opinion authored by Justice Scalia and joined by Justice Thomas, both of whom concurred in judgment; an opinion authored by Justice Thomas and joined by Justice Scalia; an opinion by Justice Breyer, who concurred in judgment; and a dissent authored by Justice Ginsburg and joined by Justice Souter. Although distinctly fractured in its rationale, the United States Supreme Court came to a majority judgment that upheld Kentucky's protocol. Two things are clear concerning the meaning of *Baze* for Ohio.

First, pursuant to the United States Supreme Court, Kentucky can continue to conduct executions under its existing protocol without violating the Eighth Amendment. This would be useful on its face if Ohio's protocol were identical to Kentucky's protocol, which it is not, or if Ohio had logically adopted Kentucky's protocol following *Baze*, which it did not.[4]

Second, what *Baze* teaches is that § 1983 challenges to a State's lethal injection protocol need not be confined merely to challenging the drugs and dosages employed. As Biros notes in

[4] At the hearing, the Court asked Defendants' counsel why Ohio had not simply adopted Kentucky's protocol as its own in light of the fact that *Baze* unquestionably stands for the proposition that the Kentucky protocol does not violate the Eighth Amendment. Counsel offered no response whatsoever but simply sat down at counsel's table.

his briefing, "[t]he Baze plurality went well beyond a mere discussion of the three drugs, delving deeply into the details of the drugs and equipment used, and the training of the executioners."[5] (Doc. # 460, at 11.) Biros himself raises challenges to just such components of Ohio's protocol.

In addressing these challenges, the threshold question is what standard or test this Court should apply. Absent a controlling rationale set forth by a majority of the high court, what can be gleaned from the diverse array of opinions in *Baze* is debatable. Some courts construing *Baze*, just as the counsel in this case often did during the hearing, have treated the *Baze* plurality authored by Chief Justice Roberts as presenting a controlling rationale. *See, e.g.*, *Emmett v. Johnson*, 532 F.3d 291, 298 n.4 (4th Cir. 2008) ("Because it represents the controlling opinion of the Court, all references to *Baze*, unless otherwise noted, are to the plurality opinion authored by the Chief Justice."); *see also Jackson v. Danberg*, No. 06-300-SLR, 2009 WL 612469 (D.Del. Mar. 11, 2009) (discussing *Baze* as dispositive without mentioning plurality nature of lead opinion); *Raby v. Johnson*, No. H-05-765, 2008 WL 4763677 (S.D. Tex. Oct. 27, 2008) (same). At least one commentator has inquired into the validity of this approach, cautioning that, "[u]nfortunately, the Supreme Court proved incapable of achieving even minimal majority consensus as to the interplay between the Eighth Amendment and lethal injection procedures." Justin F. Marceau, *Lifting the Haze of* Baze*: Lethal Injection, the Eighth Amendment, and*

[5] Not just the plurality, but a majority of the United States Supreme Court actually looked to the implementation of the entire protocol and not just the use of the three protocol drugs. Chief Justice Roberts and Justices Kennedy and Alito (the plurality) and Justices Ginsburg and Souter (the dissent) all addressed the details of administration and the safeguards employed. Justices Scalia and Thomas apply a more stringent perspective. Although it is unclear to what test Justice Stevens subscribes, he does look to the facts (*i.e.*, presumably the entire protocol and not just the drugs used) and concludes that they do not present a violation of the Eighth Amendment.

Plurality Opinions, 41 Ariz. St. L.J. 159 (forthcoming 2009) (manuscript at 2).[6]

Interpretation of *Baze* thus begins with the United States Supreme Court's direction as to how to construe a plurality opinion: "When a fragmented Court decides a case and no single rationale explaining the result enjoys the assent of five Justices, 'the holding of the Court may be viewed as that position taken by those Members who concurred in the judgments on the narrowest grounds . . . .' " *Marks v. United States*, 430 U.S. 188, 193 (1977) (quoting *Gregg v. Georgia*, 428 U.S. 153, 169 n.15 (1976) (opinion of Stewart, Powell, and Stevens, JJ.)). Unfortunately, actual application of this deceptively simple rule can of course be an exercise in frustration, if not futility. What sounds reasonable in theory to elevated courts often becomes mired in the pragmatic trenches of a trial court.[7]

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[6] While researching the issues involved in this litigation, the Court uncovered the cited law review article, which has not yet been published. The Court was able to obtain a copy of the useful text, but it appears not a copy that enables this Court to provide pinpoint citations to the precise page on which the quoted material will appear once published. The Court has therefore cited the article with pinpoints to its manuscript pages.

[7] Some would suggest that plurality opinions in the capital context are not only of little value, but actually harmful. *See* Marceau, *Lifting the Haze of* Baze*: Lethal Injection, the Eighth Amendment, and Plurality Opinions*, 41 Ariz. St. L.J. 159 (manuscript at 9, 11) (stating that "[w]hen majority agreement is limited to the judgment, it is neither obvious as a matter of history, nor intuitive as a matter of constitutional interpretation, that pluralities do anything more than announce a judgment in a particular case" and that "the simplicity of the [*Marks*] rule's articulation–identifying the 'narrowest grounds'–obscures the enigmatic, even unworkable, application of the doctrine."). One commentator asserts:

> [T]here are few, if any, procedural rules that have proven more enigmatic for lower courts than *Marks*. The application of the *Marks* rule has been characterized by widespread acknowledgment by courts across the country that the determination of the "narrowest grounds" is never "a straightforward endeavor." Thus, lower courts are left in an impassable procedural morass. The [Supreme] Court instructs that they are bound by the precedent of pluralities, and yet definitional clarity of regularity in the rule's application is entirely lacking. This sort of procedural uncertainty is not countenanced by the Eighth Amendment.

That ambiguity in life is often unavoidable is a truism. *Avoidable* ambiguity in death penalty jurisprudence rings less necessary or true when pragmatic compromise would promote clarity, provide direction, and perpetuate legitimacy. It is thus distinctly unfortunate that there is no clear holding from *Baze* resulting from a principled and pragmatic compromise by a majority of the United States Supreme Court. In fact, Chief Justice Roberts, the author of the lead opinion in *Baze*, has explicitly recognized that when "no opinion commands a majority of the Court," lower courts will have "to feel their way on a case-by-case basis." *Rapanos v. United States*, 547 U.S. 715, 758 (2006) (Roberts, C.J., concurring). Crediting in the instant case that proposition, this Court has felt its way throughout this litigation to arrive at the conclusion that Biros has failed to demonstrate a strong likelihood of success on the merits under not only the standard of the plurality opinion authored by the Chief Justice, but also under any standard recognized by any Justice who concurred in the judgment in *Baze*.[8]

Under the rationale of the lead opinion, it apparently does not matter whether a protocol addresses all of the concerns an inmate may raise. Chief Justice Roberts, Justice Kennedy, and Justice Alito found Kentucky's protocol sufficient without even addressing all of the arguments raised by the inmate concerning the alleged unconstitutionality of the protocol. The lead opinion described the inmate's allegations regarding the risk of improper administration as follows:

Id. (manuscript at 28 (footnotes omitted)). This Court expresses no opinion on the ultimate conclusion reached by that commentator, but agrees with the simple proposition that pluralities often introduce more problems than they resolve.

[8] The Court notes the theoretical argument that, given the inherent taint of uncertainty that pervades the doctrine, application of the *Marks* rule in the death penalty context itself constitutes an Eighth Amendment violation. This theory is predicated on the underlying premise that heightened due process applies. *See* Marceau, *Lifting the Haze of* Baze*: Lethal Injection, the Eighth Amendment, and Plurality Opinions*, 41 Ariz. St. L.J. 159 (manuscript at 24).

> Petitioners contend that there is a risk of improper administration of thiopental because the doses are difficult to mix into solution form and load into syringes; because the protocol fails to establish a rate of injection, which could lead to a failure of the IV; because it is possible that the IV catheters will infiltrate into surrounding tissue, causing an inadequate dose to be delivered to the vein; because of inadequate facilities and training; and because Kentucky has no reliable means of monitoring the anesthetic depth of the prisoner after the sodium thiopental has been administered.

Baze, 128 S. Ct. at 1533. Addressing the majority of this list, the plurality neglected to discuss the alleged difficulty of loading sodium thiopental into syringes and the rate of injection; the opinion proceeds from discussing the trial court's factual findings concerning mixing to addressing issues related to IVs, and it never touches in its analysis section upon the adequacy of the facilities. Much of the analysis that is presented by the *Baze* plurality relates to Biros' arguments, the crux of which is that Ohio's protocol fails to require sufficient qualifications and training for the execution team personnel, that the protocol fails to provide oversight of these individuals, and that because the team cannot properly administer the three-drug protocol and adequately ascertain the depth of unconsciousness of the inmate, use of the second and third drugs presents intolerable risks.

Biros specifically raises the following arguments as to why he believes Ohio's protocol is unconstitutional in light of *Baze*: (1) selection of the three-drug protocol was not the product of careful deliberation, (2) the use of pancuronium bromide and potassium chloride are cruel, (3) a one-drug protocol using a massive dose of sodium thiopental is an available and easily implemented alternative, (4) the execution team lacks the necessary medical background, (5) the execution team is not sufficiently trained, (6) the practice sessions are insufficient, (7) there is a lack of trained personnel in the execution chamber, (8) reliance on Team Member # 18 is reckless and irresponsible, (9) the protocol lacks oversight of the medical team for competence,

performance, and effectiveness, (10) there is no monitoring of the mental and physical health of current or prospective execution team members, (11) the written protocols are inadequate and omit key details of the process, (12) there have been at least three "botched" executions, and (13) changes to the protocol following the Clark execution do not remedy structural problems.

The Court recognizes that the State's written protocol has been introduced in this litigation (Pl.'s Hrg. Ex. 12) and testimony from witnesses set forth the unwritten custom and practice that supplement the written protocol. Together, they constitute Ohio's lethal injection protocol, and the Court expressly adopts as its findings the exhibit and relevant custom and practice testimony described herein. It is notable that the parties do not dispute what practices and policies Ohio employs in conducting executions by lethal injection. Instead of targeting what is done, Biros attacks whether the protocol is adequate in light of the Eighth Amendment.

Biros' arguments primarily hinge on reasons why delivery of a sufficient dose of sodium thiopental would fail. Similar to the trial court in *Baze*, *id.* at 1533, this Court concludes that the mixing of sodium thiopental does not present a problem for the protocol. Dr. Heath testified that as long as the mixing directions are followed and provided that the drug has been properly manufactured, there is little risk of an improper mix. Dr. Dershwitz testified that the mixing process was both very simple and straightforward. This Court credits both experts' testimony.

Similarly unpersuasive, but necessitating greater discussion, are Biros' contentions concerning alleged problems with the IV lines. The evidence demonstrates that, like Kentucky, Ohio "has put in place several important safeguards to ensure that an adequate dose of sodium thiopental is delivered to the condemned prisoner." *Baze*, 128 S. Ct. at 1533. For example, Ohio

requires that the medical team member who administers or "pushes" the drugs through the IV lines be certified to administer drugs. Another medical team member who can also administer drugs is present as a back-up during the execution process. Both individuals possess intermediate EMT certifications and either work or have worked in that capacity. The third medical team member is a twenty-year phlebotomist who has received training on the insertion of heparin locks in addition to the general training on needle insertion that is related to her primary duty of drawing blood. The *Baze* plurality found such general credentials sufficient, concluding that the "most significant" safeguard in place was "that members of the IV team must have at least one year of professional experience as a certified medical assistant, phlebotomist, EMT, paramedic, or military corpsman." *Id.* The plurality also noted that Kentucky utilizes a phlebotomist and an EMT. *Id.*

Ohio's medical team members do not have daily experience establishing IV catheters for inmates, however, as the actors involved in the Kentucky protocol do. Team Member # 10 testified, for example, that the team member who is a phlebotomist, Team Member # 9, is not required to perform daily IVs. The testimony indicates that Team Member # 18 does not serve as an EMT in his daily job. Team Member # 17, the backup executioner who may assume primary duty of administering the drug protocol at the next execution, is currently a corrections officer, and this Court credits his testimony that he regularly starts IV lines while performing his volunteer EMT duties. There was no evidence that this Court credits that the experience these individuals have with IV lines is insufficient or falls below an acceptable level. Although one would assume that those who establish IVs on a daily basis may be more adept at performing the procedure, this is of course a matter that varies from individual to individual. Based on the

testimony before this Court, there is no basis to conclude that Ohio's protocol in this area is readily distinguishable from the Kentucky protocol approved in *Baze*.

The plurality credited as a safeguard the ten practice sessions Kentucky requires each year. *Id.* at 1534. Testimony in the instant case indicates that Ohio conducts required practice sessions in the four consecutive weeks leading to each execution, with the team conducting at least one complete walk-through of the execution and practicing on a fake arm by pushing water as opposed to the actual drugs through the lines at least twice at each practice. Here again Ohio essentially parallels Kentucky, although Kentucky's practices include the siting of IV catheters into volunteers. *Id.*

Both the Kentucky protocol and the Ohio protocol now call for the use of primary and backup IV lines. Team Member # 18 testified to the process in some detail, even completing a drawing for the Court of these lines and recounting the labeling safeguards that have been developed to protect against confusing the lines. As in Kentucky, Ohio employs the redundant lines and sufficient quantities of the drugs to permit restarting of the administration process as may be necessary. The testimony indicates that in the event that there is a switch to the second or backup line, there will be a new dose of sodium thiopental administered. A second medical team member, typically Team Member # 17, is present in the equipment room to observe the administration of the drug, typically by Team Member # 18.

Unlike Kentucky, Ohio does not place a one-hour time limit on establishing the primary and backup IVs. *See id.* at 1534. Of more significant pragmatic concern is the established fact that, as several witnesses testified, Defendants insist that they can take until midnight to complete the execution process. Surely at some point repeated attempts at initiating or restarting

the execution process would rise to the level of cruel and unusual punishment. For example, perhaps nine hours of performing procedures to access veins may cross the line; a lesser or greater amount of time might be the limit, which may or may not fall within the midnight expiration of the death warrant. The testimony indicated that after approximately an hour of effort, a recess would be taken and there would be discussions as to whether to proceed. Testimony also indicated that although statutory responsibility for the execution is invested in the warden, such a decision would as a practical matter proceed up the bureaucratic chain of command to Ohio's governor. But Biros curiously failed to present any evidence as to what time limit the governor would impose, if any, or what considerations would influence that decision. Instead of calling the governor as a witness, Biros elected to leave this aspect of his case unfinished, which means that his argument that an execution could take most of an entire day is ultimately based on speculation. Assuming only for the sake of argument that such an extended execution would violate the Eighth Amendment, this Court declines to find a strong likelihood of proving unconstitutionality based on conjecture.

The *Baze* plurality also relied upon the presence of the Kentucky warden and deputy warden in the execution chamber with the inmate during the execution as an additional safeguard against IV problems such as infiltration. *Id.* Ohio echoes this approach. The SOCF warden and the execution team leader are present with the inmate in the death chamber during the execution. Both individuals are charged with observing the inmate for problems such as infiltration. Contrary to past practice, custom and practice now has the warden shake the inmate, call the inmate's name, and pinch the inmate after the administration of sodium thiopental. These consciousness checks provide a safeguard targeting the consciousness of the inmate. At all

times, the warden and team leader also watch the IV site for signs of infiltration, and the sleeve of the inmate is no longer permitted to block ready visual access to the IV site. Numerous witnesses testified as to the physical signs that accompany infiltration, and this Court credits that although lacking medical training, they are aware of at least the most obvious signs of such a problem. Additionally, Team Member # 18 also testified that he observes the inmate from his location on the other side of the glass, watching for signs of infiltration. Some states employ greater safeguards to ascertain unconsciousness, several of which Justice Ginsburg notes in her dissent in *Baze*. But Ohio's safeguards involving the warden and the team leader meet the safeguards approved by the *Baze* plurality.

This conclusion does not wholly obviate concern for the fact that simple training that would address many of Biros' concerns is lacking. Citing various examples of flawed testimony, Dr. Heath emphasized in his testimony that numerous execution team members did not know what the protocol drugs do or how they function, which implicitly undercuts the ability to make informed decisions. It makes little sense to this Court that Ohio does not provide periodic substantive training to the execution team in obvious areas: the effect of the protocol drugs, what to watch for in cases of infiltration, and how to ascertain consciousness, among other key areas. The *Baze* plurality found constitutional the Kentucky protocol without citing such training, which arguably suggests a lack of a constitutional mandate for this training. That may or may not be, but such training cannot hurt and in fact could assist in preventing harm that if serious enough would rise to the level of an Eighth Amendment problem for the State. Like the *Baze* plurality, however, this Court is not persuaded that medical professionals of the sort called for by Dr. Heath must be involved in the execution process. The testimony neither supports such a

mandate nor invalidates the competence of the state actors involved in the execution process. But the evidence does point to a need for training of the sort described above, so that the less credentialed but still acceptable–and on this record, effective and competent, even if at times operating on misinformation–execution team members can perform their tasks more fully aware of the risks involved and how to guard against these risks.

The plurality credited as an additional significant analytic point that Kentucky specifically "requires the warden to redirect the flow of chemicals to the backup IV site if the prisoner does not lose consciousness within 60 seconds." *Id.* at 1534. Ohio lacks such a precise mandate. The testimony is that absent a loss of consciousness, the warden will not give the second signal that permits commencement of the staggered administration of the second protocol drug. Switching lines is left to the discretion of the medical team member who administers the drugs, although the warden would consult with that individual if the warden detected infiltration. Team Member # 18 testified that *any* member of the execution team witnessing the execution would alert him to possible infiltration.

The next point of analysis discussed by the *Baze* plurality was whether Kentucky's failure to adopt proposed alternatives demonstrated that the Commonwealth's execution procedure violated the Eighth Amendment. Answering the question in the negative, the plurality noted that because a one-drug protocol employing a dose of sodium thiopental "was not proposed to the state courts below . . . we are left without any findings on the effectiveness of petitioners' barbiturate-only protocol, despite scattered references in the trial testimony to the sole use of sodium thiopental or pentobarbital as a preferred method of execution." *Baze*, 128 S. Ct. at 1534-535. In the instant case, however, there appears to have been more testimony

regarding the use of a one-drug protocol than in *Baze*. Advocating such an execution protocol, Dr. Heath testified that a massive dose of sodium thiopental would complete an execution within ten minutes.

Despite such testimony, however, a portion of the same analysis employed by the plurality can be said to apply here in regard to the issue of a one-drug protocol.[9] Setting aside the lack of trial court findings on the effectiveness of a one-drug protocol, the plurality reasoned as follows:

> [T]he Commonwealth's continued use of the three-drug protocol cannot be viewed as posing an "objectively intolerable risk" when no other State has adopted the one-drug method and petitioners proffered no study showing that it is an equally effective manner of imposing a death sentence. See App. 760-761, n. 8 ("Plaintiffs have not presented any scientific study indicating a better method of execution by lethal injection"). Indeed, the State of Tennessee, after reviewing its execution procedures, rejected a proposal to adopt a one-drug protocol using sodium thiopental. The State concluded that the one-drug alternative would take longer than the three-drug method and that the "required dosage of sodium thiopental would be less predictable and more variable when it is used as the sole mechanism for producing death . . . ." *Workman*, 486 F.3d, at 919 (Appendix A). We need not endorse the accuracy of those conclusions to note simply that the comparative efficacy of a one-drug method of execution is not so well established that Kentucky's failure to adopt it constitutes a violation of the Eighth Amendment.
>
> Petitioners also contend that Kentucky should omit the second drug, pancuronium bromide, because it serves no therapeutic purpose while suppressing muscle movements that could reveal an inadequate administration of the first drug. The state trial court, however, specifically found that pancuronium serves two purposes. First, it prevents involuntary physical movements during unconsciousness that may accompany the injection of potassium chloride. App. 763. The Commonwealth has an interest in preserving the dignity of the procedure, especially where convulsions or seizures could be misperceived as signs of consciousness or distress. Second, pancuronium stops respiration,

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[9] This Court also recognizes that the *Baze* plurality agreed with the Sixth Circuit in rejecting the argument, adopted by Biros, that the three-drug protocol is unconstitutional based on the practices of veterinarians. *Baze*, 128 S. Ct. at 1535-536 (citing *Workman v. Bredesen*, 486 F.3d 896, 909 (6th Cir. 2007)).

> hastening death. *Ibid*. Kentucky's decision to include the drug does not offend the Eighth Amendment.

Baze, 128 S. Ct. at 1535. This analysis presents two relevant points.

First, this Court, like the plurality, need not endorse the accuracy of the conclusions undercutting the one-drug protocol to note that the comparative efficacy of the one-drug method of execution is not so well established that a failure to adopt it is violative of the Eighth Amendment. Even if the three-drug protocol was not adopted as the result of considered deliberation as Biros contends, that does not inescapably mean that it presents a substantial risk of serious harm. Nor does a generalized endorsement of how a one-drug protocol could alleviate theoretical risks mean that substantial risks are avoided. When compared to the three-drug protocol, a one-drug protocol may be equally appropriate for executions, it may be less appropriate, or it may be more appropriate. But based on the evidence presented to this Court, there is no foundation upon which to conclude that a one-drug protocol is constitutionally compelled or that a State's refusal to replace the three-drug protocol with a one-drug protocol is constitutionally infirm.

Second, like the Kentucky trial court, this Court credits the testimony that the second protocol drug serves a useful purpose. Dr. Dershwitz testified that pancuronium bromide mitigates the possible effect of involuntary muscle contractions caused by the third protocol drug, potassium chloride. He also testified that it is administered in Ohio at seven to ten times a lethal dose. Because this Court credits that testimony, the *Baze* plurality's analysis controls here. There is no constitutional violation because Ohio has an interest in preserving the dignity of the execution proceedings by preventing involuntary physical movements during unconsciousness that could accompany administration of potassium chloride and because pancuronium bromide

aids the imposition of a prompt death.

In an effort to nevertheless point to an intolerable risk of harm, Biros has directed this Court again and again to what he describes as three "botched" executions (Doc. # 460, at 44),[10] but primarily to the Clark execution,[11] as evidence that Ohio's lethal injection procedures fail to pass constitutional muster. But regardless of whether the Clark execution rises to the level of a series of abortive attempts at lethal injection analogous to the hypothetical series of abortive attempts at electrocution that would demonstrate an objectively intolerable risk of harm that gives rise to an Eighth Amendment violation, *see Baze*, 128 S, Ct. at 1531, the procedures followed for Clark no longer exist without alteration. Following the Clark execution, Ohio implemented a number of changes to its written protocol. Significantly, participants in the State's execution process also admirably adopted unwritten procedures, most accurately characterized as custom and practice.

That the Clark execution no longer presents the Ohio execution landscape bears

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[10] Biros is even less diplomatic in his memorandum in support of a continued preliminary injunction, stating that "[w]hat happened to Joe Clark in May 2006, and likely to others before him, demonstrates what a bumbling, incompetent, even dangerous operation we have here in Ohio." (Doc. # 460, at 6.)

[11] Biros also directs this Court to the unidentified execution that Haviland testified he witnessed in which there was apparent infiltration and Team Member # 18 switched lines. The third execution to which Biros points is the execution of Christopher Newton. In neither instance is there evidence that the inmates were not unconscious by the time the second protocol drug was administered, which means that there is no evidence of a substantial risk of serious pain. Although there was testimony concerning chest and chin movement by Newton following initiation of the drug administration, primarily by layperson Lowe, it was described by other witnesses as involuntary muscle twitching. There is no basis in this record to assign Newton's movement to the faulty administration of drugs, and Team Member # 12 testified that he did not detect suffering by Newton. Moreover, Newton's joking during the siting of his IVs in the holding cell undercuts designating the siting as presenting an intolerable risk of pain. If anything, the additional time taken with Newton in the siting and in the actual administration of the protocol drugs reflects the effect of safeguards added post-Clark.

emphasizing because it undercuts a primary, if not the primary, core of Biros' argument. What Biros fails to credit is that the custom and practice that has developed in the post-Clark execution era provide what amounts to band aids on the written protocol so as to salvage any questionable and arguably notably deficient procedures employed in the Clark execution. Thus, Biros' reliance on the Clark procedures must be viewed within the requisite contextual framework of the modern, current protocol as it is supported by both written changes to Ohio's protocol and, perhaps more importantly, the unwritten customs and practices, or unwritten procedures, that currently add depth and support to the written procedures. *See Nooner v. Norris*, Nos. 5:06CV00110 SWW & 5:07CV00173 SWW, 2008 WL 3211290, at *12 (E.D. Ark. Aug. 5, 2008) (recognizing evolution of protocol in concluding that "[t]he Court finds that the evidence presented regarding lethal injection executions that occurred in the past fails to demonstrate that Arkansas' current protocol exposes Plaintiffs to an objectively intolerable risk of pain").

This Court recognizes that the *Baze* plurality relied essentially on the written protocol involved in that litigation. That opinion expressly references "the written protocol's requirement that members of the IV team must have at least one year of professional experience" and "[practice] sessions, required by the written protocol," as well as referring to various other safeguards set forth in the written protocol. *Baze*, 128 S. Ct. at 1533-534. That Ohio significantly supplements its written procedures with the State's unwritten protocol does not offend the Constitution. In *Richardson v. Johnson*, 248 F.3d 1139, 2001 WL 85895 (5th Cir. 2001) (unpublished table decision), for example, the Fifth Circuit Court of Appeals addressed whether a state's lack of written guidelines and protocols to administer execution by lethal injection violates the Eighth Amendment. *Id.* at *4. The Fifth Circuit concluded that it did not,

not only because of a failure of expert testimony regarding what procedures the state followed, but also because there was no showing by the experts "how the lack of written procedures results in extreme pain and suffering." *Id.* There has been a similar lack of evidence in the instant case to draw a link between the existence of unwritten practices and policies and a failure or risk of failure of the execution process. Thus, Biros' argument that the written protocols are inadequate and omit key details of the process fails to persuade because the unwritten custom and practice inform the overall execution protocol.

There is an argument to be made that Ohio's execution protocol is composed of two parts, the unwritten custom and practice and the written policies and procedures, and that because both can be disregarded at whim, the State essentially has no set protocol. Two points need be made in relation to this argument.

First, there is no indication that any portion of the unwritten protocol that salvages Defendants' case today will be ignored. Many of the witnesses, such as Haviland, portrayed the execution protocol as something they inherited–a set of piecemeal practices and policies cobbled together over time on an ad hoc basis to address either problems that arose or issues that came to the attention of motivated actors within the system such as Voorhies who sought to regularize and improve the execution process. This characterization extends as well to the written protocol, although arguably to a lesser degree, given that so many components of the execution process have been kept off-book for whatever reason or reasons (perhaps even for the poor reasons of avoiding litigation altogether or, as suggested at the hearing, of avoiding perceived statute of limitations concerns). But, importantly, regardless of the degree of knowledge or motivation to act that a witness displayed, no one expressed any inclination to undo the progress that has been

made.[12]

Second, there is no evidentiary basis for concluding that those parts of the written protocol related to the preparation for administering and the actual administration of drugs would be disregarded. Collins, for example, testified that a warden asked him for permission to deviate from the written execution policy regarding when an inmate's visitors would be allowed access to the condemned. Collins granted the warden permission to deviate from the written protocol and the warden did so, permitting late-arriving individuals time with an inmate despite their having arrived at SOCF technically too late for visitation. This is a laudable deviation viewed from the standpoint of simple humanity. It also suggests that despite testimony that the written protocol stands as the law, deviation at the election of the state actors involved in the system is possible.

The next obvious question is how far this deviation extends. Could, for example, the warden request and the director approve deviation from the written policy of using sodium thiopental? Such an irrational deviation is unlikely but theoretically possible if the scope of the ability to depart from the written policies and procedures is truly unlimited. This illustrative deviation would naturally be problematic from a constitutional standpoint, but there is no basis on this record for concluding by inference or otherwise that such deviations from the core execution procedures is likely or even possible. Moreover, concluding that deviation from the

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[12] Of course, the unwritten custom and practice could be incorporated into the written protocol. Defendants' own expert witness, Dr. Dershwitz, responded to questioning related to whether all essential steps of a protocol needed to be in writing by stating that Ohio could insert a few additional steps into its written protocol to make the protocol "more secure." This same reasoning could be applied to the essential unwritten customs and practices that are so important to today's decision.

core execution procedures is likely would require an impermissible drawing of an unwarranted inference upon an inference: first, that deviation from *any* provision of the written protocol is possible, and second, that the actors involved would or are likely to deviate from the substantive core procedures. Accordingly, absent evidence to the contrary, this Court cannot conclude that the remote, theoretical *possibility* of deviation from the core procedures presents a *likely* substantial risk of substantive harm.

Also in need of discussion are Biros' arguments regarding Ohio's asserted lack of attention to discovering and monitoring the physical and mental health of the execution team members generally and the mental health issues surrounding Team Member # 18 specifically. This was not an issue the *Baze* plurality addressed. Biros argues that the State's failure to inquire into and monitor health issues presents an objectively intolerable risk, but the evidence does not support this argument. The contention that a risk of an unknown health issue creates a substantial risk of pain is speculative. It is also not borne out by the record before this Court. Nor does the evidence support in any way a conclusion that the mental health or physical health issues of Team Member # 18 ever negatively affected or are likely to affect his ability to perform the tasks with which he is charged in a competent manner. There was conflicting evidence before the Court as to whether Team Member # 18 has a bipolar disorder, but no dispute that he has dealt with depression for which he takes medication. As Kerns testified, simply having such a condition or conditions does not mean that someone like Team Member # 18 cannot perform the tasks associated with the execution process fully and effectively. There has been no expert testimony to that effect, and this Court declines Biros' implicit invitation to predicate unconstitutionality based on the attempted bootstrapping of a condition with an unsupported

stigma into a substantial risk of serious harm. In other words, Biros has not brought this Court evidence but only a request to draw an unreasonable inference based on layperson (mis)perceptions about depression and bipolar disorder.

This is not to say that the physical or mental health of an execution team member can never give rise to an issue that informs the constitutionality of Ohio's process. That, ultimately, is Biros' best argument in this regard–not his specific argument targeting Team Member # 18, but his general argument that an inmate may never know of a medical issue if the execution team itself does not know of the issue, which points to a need for inquiry and monitoring. A medical team member who is detached from reality should not be on the team, much less administering the three drugs, and perhaps predicating membership on the team on a voluntary waiver of access to medical records or periodic health screening of team members or both would be worthwhile practices to adopt. The test today is not whether Ohio subscribes to the best practices, however, but whether the practices the State has implemented create a risk violative of the Eighth Amendment.

Undetected medical issues, whether physical or mental, only matter in this constitutional context if they risk an Eighth Amendment violation. To be more specific, then, the issues only matter if they result in the flawed administration of the drug protocol, especially sodium thiopental. The evidence indicates that if that drug has not taken effect as planned, then an inmate will experience significant and potentially undetectable pain. But the evidence indicates, with even Dr. Heath agreeing, that if a proper dose of sodium thiopental has been delivered, it will result in sufficient unconsciousness so as to prevent the infliction of serious pain. The risk of faulty administration of the first drug followed by pushing the second and third drugs–in the

words of the *Baze* plurality–"is already attenuated, given the steps [Ohio] has taken to ensure the proper administration of the first drug." *Baze*, 128 S. Ct. at 1536.

Ohio has a system of redundancies in place in which no actor is left alone without observation. One medical team member mixes the drugs while watched by at least one additional state actor. Two medical team members are present in the holding cell while establishing heparin locks. The warden and the team leader together check for sufficient inmate unconsciousness and IV infiltration in the death chamber. One medical team member pushes the drugs while another medical team member is present in the equipment room, in addition to the narrator and other individuals. In short, there are specific safeguards in addition to the general observations of team members by one another and by the warden that protect against a team member underperforming in a manner that creates a likely risk of serious harm. These protections guard against one unchecked individual deviating from permissible procedures as a result of medical issues. And although the protections may not be foolproof, none could be; there is always the risk of human error whether caused by inadvertence, misfeasance, or medical issues. What is important is that the risk is acceptably mitigated here so as to not rise to a constitutionally impermissible level. The redundant safeguards built into the Ohio protocol also speak to Ohio's lack of a systemic mechanism for monitoring the anesthetic depth of an inmate. The *Baze* plurality stressed this point in regard to the Kentucky protocol's lack of employing much of the same monitoring equipment discussed during this Court's five-day hearing: "a Bispectral Index (BIS) monitor, blood pressure cuff, or EKG to verify that a prisoner has achieved sufficient unconsciousness before injecting the final two drugs." *Baze*, 128 S. Ct. at 1536. The plurality explained:

> At the outset, it is important to reemphasize that a proper dose of thiopental obviates the concern that a prisoner will not be sufficiently sedated. All the experts who testified at trial agreed on this point. The risks of failing to adopt additional monitoring procedures are thus even more "remote" and attenuated than the risks posed by the alleged inadequacies of Kentucky's procedures designed to ensure the delivery of thiopental. See *Hamilton v. Jones*, 472 F.3d 814, 817 (C.A.10 2007) *(per curiam)* ; *Taylor v. Crawford*, 487 F.3d 1072, 1084 (C.A.8 2007).
>
> But more than this, Kentucky's expert testified that a blood pressure cuff would have no utility in assessing the level of the prisoner's unconsciousness following the introduction of sodium thiopental, which depresses circulation. App. 578. Furthermore, the medical community has yet to endorse the use of a BIS monitor, which measures brain function, as an indication of anesthetic awareness. American Society of Anesthesiologists, Practice Advisory for Intraoperative Awareness and Brain Function Monitoring, 104 Anesthesiology 847, 855 (Apr. 2006); see *Brown v. Beck*, 445 F.3d 752, 754-755 (C.A. 4 2006) (Michael, J., dissenting). The asserted need for a professional anesthesiologist to interpret the BIS monitor readings is nothing more than an argument against the entire procedure, given that both Kentucky law, see Ky.Rev.Stat. Ann. § 431.220(3), and the American Society of Anesthesiologists' own ethical guidelines, see Brief for American Society of Anesthesiologists as *Amicus Curiae* 2-3, prohibit anesthesiologists from participating in capital punishment. Nor is it pertinent that the use of a blood pressure cuff and EKG is "the standard of care in surgery requiring anesthesia," as the dissent points out. *Post*, at 1570. Petitioners have not shown that these supplementary procedures, drawn from a different context, are necessary to avoid a substantial risk of suffering.

Baze, 128 S. Ct. at 1536. This analysis also resolves the issue for Ohio's protocol.

The Court reaches this conclusion as a result of crediting the portions of the relevant testimony of Dr. Dershwitz over that of Dr. Heath. Dr. Heath testified that the three-drug protocol can be a humane method of execution provided a sufficient amount of sodium thiopental is properly administered to the inmate. Although Dr. Heath disagreed with the *Baze* plurality that a lay individual's observation of the IV site was satisfactory, even he conceded that this was the conclusion the plurality reached. Similarly, he disagreed with the plurality's conclusions regarding use of a blood pressure cuff. Dr. Heath asserted that the *Baze* plurality's

view was predicated on the proper delivery of a sufficient amount of sodium thiopental. He emphasized that the plurality did not understand that if there had not been a proper delivery–if the inmate had been inadequately anesthetized–then the inmate's blood pressure would be high and the cuff would be useful.

The opposing expert witness, Dr. Dershwitz, agreed that Ohio's dose of sodium thiopental if properly administered is sufficient for the purposes of the execution. He discussed his computer modeling and the effect of such a dose on the average individual to support his conclusion. Dr. Dershwitz also testified that a layperson can assess consciousness, which he explained is different than assessing the depth of unconsciousness. Although he discussed use of a BIS monitor favorably and noted that North Carolina uses such a monitor, Dr. Dershwitz did not describe the monitor as necessary to avoid risk of pain here. He did dispute, however, the contention that a blood pressure cuff would be of value in this context because changes in an inmate's blood pressure would not inform the determination of consciousness. Moreover, Dr. Dershwitz pointed out that the consciousness check by the warden was not the only data used to decide whether to proceed with the administration of the second drug; the feel of the syringe by the medical team member pushing the drugs through the IV line and signs of infiltration, when taken as a whole, target consciousness as well. Dr. Dershwitz concluded that if the sodium thiopental is administered as provided for in the Ohio protocol, then there is a miniscule chance of pain to the inmate. Dr. Dershwitz also testified that he believes that every medical professional who reviews or has reviewed the lethal injection protocols for inmates or States would agree.

Given the foregoing testimony, this Court concludes that there is no reasoned basis to

depart from the non-distinguishable analysis of the *Baze* plurality, which rejects the arguments Biros advances. This Court notes, however, that it does credit the testimony of Dr. Heath that the *Baze* plurality's analysis of the utility of a blood pressure cuff does appear not to value the potential use of the cuff in inadequate delivery situations. This proposition speaks to the added value that a cuff might add, however, but it does not prove dispositive of the constitutional issue in light of the numerous other safeguards Ohio utilizes.

The Court would be remiss if it did not address an additional assumption underlying Biros' case. His expert, Dr. Heath, testified as to a laundry list of possible problems: a bad batch of drugs, improper mixing, deliberate diversion of drugs, error in delivery of drugs, error in labeling or selecting syringes, leakage in tubing, leakage in the catheter, infiltration, and vein rupture. Most of these potential issues are inherent in any lethal injection process, yet Dr. Heath testified that there could be a humane lethal injection method. His solution to some but not all of these problems would be to require the individual administering the drugs to be located at the inmate's side during the execution, as opposed to the warden and team leader. There is indeed a risk of harm arising from Dr. Heath's "what if" scenarios, but there are not conditions presenting a risk that is *sure* or *very likely* to cause serious or needless suffering. *See Baze*, 128 S. Ct. at 1531. Therefore, there is no substantial risk of serious harm, or an objectively intolerable risk of harm, here, even if there are conditions that suggest a need for modifications to address risks falling just short of constitutional magnitude.

There is no doubt that Ohio's procedures for conducting executions by lethal injection present an inherent risk of error. Every nuanced human endeavor presents a risk of error, and as the *Baze* plurality recognized, this can result in what has been rather innocuously described as an

"innocent misadventure." *Baze*, 128 S. Ct. at 1531 (citing *Louisiana ex rel. Francis v. Resweber*, 329 U.S. 459, 471 (1947) (plurality decision)). There is also no doubt that Ohio's protocol alleviates the likelihood of some of these risks while falling short of practices that could further minimize the risks associated with the administration of drugs and the taking of a life. But the inquiry is not whether there are risks of errors that could result in pain; any rational person would have to concede that there are. Rather, the standard is whether the protocol presents risks that are sure or very likely to cause needless suffering. *Id.* The *Baze* plurality recognized these concerns, explaining that "[s]imply because an execution method may result in pain, either by accident or as an inescapable consequence of death, does not establish the sort of 'objectively intolerable risk of harm' that qualifies as cruel and unusual." *Id.* Thus, absent such an objectively intolerable risk of harm, or a substantial risk of serious harm, the protocol passes constitutional concerns even with the natural risks that unavoidably arise. Based on the arguments and evidence before this Court, the Court cannot say that Biros has demonstrated a strong likelihood of success under the standard advanced by the *Baze* plurality.

This is not to say that Biros can never prevail under the plurality standard. He might produce additional evidence at the subsequent trial on the merits, or Ohio may depart from the unwritten custom and practice that props up its teetering written procedures that alone might likely fall. A new warden who elects to abandon the custom and practice that has grown around the written protocol would risk enabling an inmate to assert a new challenge directed to what would be the new (old) protocol and would arguably undercut today's conclusions as to an inmate's likelihood of success on the merits of a § 1983 claim of the sort advanced here. But such speculation targets another day under changed circumstances, and today, under present

conditions, Biros is not likely to succeed on the merits proceeding under the plurality's standard.

The Court also concludes that Biros has failed to demonstrate a strong likelihood of success if the plurality encompassed the specific implementation discussed by Justice Alito. Writing in a separate concurrence, Justice Alito explained that because the constitutionality of the death penalty was not before the high court, the assumption is that the death penalty is constitutional. *Baze*, 128 S. Ct. 1520, 1538 (Alito, J., concurring). He explained that there is also "the assumption that lethal injection is a constitutional means of execution," a proposition that Biros does not dispute. *Id.* (citing *Gregg v. Georgia*, 428 U.S. 153, 175 (1976) (joint opinion of Stewart, Powell, and Stevens, JJ.). Justice Alito then summarized the ethics rules of medical professionals, physicians and nurses alike, before concluding that

> [o]bjections to features of a lethal injection protocol must be considered against the backdrop of the ethics rules of medical professionals and related practical constraints. Assuming, as previously discussed, that lethal injection is not unconstitutional *per se,* it follows that a suggested modification of a lethal injection protocol cannot be regarded as "feasible" or "readily" available if the modification would require participation–either in carrying out the execution or in training those who carry out the execution–by persons whose professional ethics rules or traditions impede their participation.

Id. at 1540. This analysis undercuts Dr. Heath's testimony urging involvement of medical professionals and undercutting the execution team members whom he asserts the medical professionals should replace. As discussed more fully below, there is no credited evidence that such involvement is likely even if it is possible. All that need be said at this juncture is that under Justice Alito's analysis, Biros fails to present a feasible plan for involving medical professionals of the sort Dr. Heath endorses.

Nor can Biros meet Justice Alito's requirement that well-established scientific consensus

supports the inmate's positions on modification of Ohio's protocol. *Id.* Biros' reliance on essentially Dr. Heath does not evade Justice Alito's admonition that "public policy on the death penalty . . . cannot be dictated by the testimony of an expert or two or by judicial findings of fact based on such testimony." *Id.* at 1541-542. The Court recognizes that this proposition cuts both ways, applying to inmates and States alike, while remaining cognizant that the ultimate burden of proof is on Biros.

Having concluded that Biros has failed to demonstrate a strong likelihood of success on the merits under the rationale supported by Chief Justice Roberts, Justice Kennedy, and Justice Alito, as well as under the parameters set forth by Justice Alito separately, the Court now turns to whether Biros is likely to succeed in light of the opinion of Justice Stevens.

In a departure from his peers, Justice Stevens stated that although he has reached the conclusion that the imposition of the death penalty is patently excessive and cruel and unusual punishment in violation of the Eighth Amendment, *Baze*, 128 S. Ct. 1520, 1551 (Stevens, J., concurring in judgment), he would not depart from precedent on that basis and therefore regarded Kentucky's protocol as constitutional under *both* the plurality's standard and under the Ginsburg-Breyer-Souter standard. *Id.* at 1552. This analysis essentially adds nothing to the issue of what standard Biros must satisfy.

Perhaps the least in need of extended discussion are the separate opinions of Justice Scalia and Justice Thomas. Both individuals concurred in judgment, but joined only one another's opinions. Justice Scalia's text addressed concerns raised by Justice Stevens regarding the propriety of the death penalty as a criminal penalty, as opposed to opining on the applicable standard to be employed in evaluating the implementation of that penalty. *Baze*, 128 S. Ct. 1520,

1552 (Scalia, J., concurring in judgment). Justice Thomas' opinion addressed the latter concern directly, stating that he was writing separately because he "cannot subscribe to the plurality opinion's formulation of the governing standard." *Baze*, 128 S. Ct. 1520, 1556 (Thomas, J., concurring in judgment). Justice Thomas explained:

> As I understand it, [the plurality] opinion would hold that a method of execution violates the Eighth Amendment if it poses a substantial risk of severe pain that could be significantly reduced by adopting readily available alternative procedures. This standard–along with petitioners' proposed "unnecessary risk" standard and the dissent's "untoward risk" standard–find no support in the original understanding of the Cruel and Unusual Punishments Clause or in our previous method-of-execution cases; casts constitutional doubt on long-accepted methods of execution; and injects the Court into matters it has no institutional capacity to resolve.

Id. (citations omitted). Thus, Justice Thomas concluded, "in my view, a method of execution violates the Eighth Amendment only if it is deliberately designed to inflict pain." *Id.* Although rejecting any standard that required courts to weigh the advantages and disadvantages of different execution methods or procedures, Justice Thomas allowed that "[t]o the extent that there is any comparative element to the inquiry, it should be limited to whether the challenged method inherently inflicts significantly more pain than traditional modes of execution such as hanging and the firing squad." *Id.* at 1563.

Biros does not argue that Ohio's method of execution by lethal injection was designed to deliberately inflict pain. Nor could he successfully raise such an argument based on the evidence before this Court. This Court finds that none of the state actors involved in Ohio's execution system displayed any evidence whatsoever of an inclination to inflict pain deliberately. To the contrary, the Court was impressed by many of the witnesses' genuine concern for fulfilling the imposition of the criminal penalty at issue with professionalism and humanity. Voorhies in

particular impressed this Court with his concern for the inmate and his notable dedication to improving the process; he is a credit to the Ohio Department of Rehabilitation and Correction. But even those witnesses who displayed less explicit concern–those who arguably presented the protocol as something that has arisen and exists external to and essentially untouched by their efforts–nonetheless displayed an apparent genuine concern for avoiding the infliction of pain, even if they took a less active role in acting to ensure pain avoidance. Justice Thomas asserted that "[t]he evil the Eighth Amendment targets is intentional infliction of gratuitous pain, and that is the standard our method-of-execution cases have explicitly or implicitly invoked." *Id.* at 1560. There is no evidence here that Ohio's lethal injection procedures were designed for the deliberate infliction of pain. There is also no evidence that the procedures are implemented in such a way so as to deliberately inflict pain. And, to the extent it could be relevant, there is no evidence that the protocol inflicts more pain than hanging or the firing squad, to cite Justice Thomas' examples. Thus, the evidence does not present a strong likelihood of Biros prevailing under the standard advocated by Justice Thomas and joined by Justice Scalia. The existence of Ohio's unwritten procedures and practices when coupled with the written procedures and practices together present a lethal injection protocol "designed to eliminate pain rather than to inflict it." *Id.* at 1563.

This leaves the opinion of Justice Breyer. Agreeing with the standard set forth by Justice Ginsburg in her dissent, which Justice Souter joined, Justice Breyer concurred in judgment and described the "relevant question" as "whether the method creates an untoward, readily avoidable risk of inflicting severe and unnecessary suffering." *Baze*, 128 S. Ct. 1520, 1563 (Breyer, J., concurring in judgment) (citing *Baze*, 128 S. Ct. 1520, 1572 (Ginsburg, J., dissenting)). He

identified as interrelated relevant factors the degree of risk presented by the method of execution, the magnitude of pain involved, and the availability of alternatives, while emphasizing "that the legal merits of the kind of claim presented must inevitably turn not so much upon the wording of an intermediate standard of review as upon facts and evidence." *Id.* at 1563.

Similar to the deliberate-infliction-of-pain standard, there is arguably also no need for extended discussion as to whether Biros has demonstrated a strong likelihood of prevailing under the "untoward risk" standard shared explicitly only by Justices Breyer, Ginsburg, and Souter. Six other members of the United States Supreme Court have indicated views either adopting or recognizing as possibly correct a more stringent standard. Chief Justice Roberts, Justice Kennedy, and Justice Alito all assert a stronger standard, and Justice Scalia joins Justice Thomas in adhering to an even more difficult standard to satisfy. Justice Stevens traveled a middle ground in his separate opinion, concluding that Kentucky's protocol was constitutional under *both* the plurality's standard and under the Ginsburg-Breyer-Souter standard–without identifying which standard he credits as the correct interpretation of precedent. *See id.* at 1552 (Stevens, J., concurring in judgment).

Assuming that the "untoward risk" standard can somehow be considered as having any theoretical modicum of practical vitality (despite it potentially gathering at best support by four justices and being outright rejected by five justices), this Court concludes that Biros has not shown a strong likelihood of prevailing under the standard. Just as Justice Breyer found in regard to Kentucky's protocol, the evidence presented here fails to overcome the conclusion that the three-drug protocol itself does not pose a significant and unnecessary risk of inflicting severe pain. *See Baze*, 128 S. Ct. at 1563-566; *see also Workman*, 486 F.3d 896 (upholding

Tennessee's three-drug protocol). Nor does Biros' argument that Ohio can and should use better trained personnel distinguish the instant case from Justice Breyer's analysis on that issue. *Baze*, 128 S. Ct. at 1566. The Court recognizes that Dr. Heath testified that Ohio doctors and nurses would be willing to step forward if called upon to assist in the State's execution process, even at theoretical risk to their professional certifications. But the Court cannot credit this speculative testimony to the extent that Biros would like, given that Dr. Heath was not qualified to render an opinion on the beliefs of medical practitioners in Ohio and did not conduct any form of study or polling as to the willingness of such professionals to become involved in executions. In effect, Biros through Dr. Heath asks this Court to trust his expert on this issue without a basis for doing so. This the Court will not do.

Nor will the Court accept the blanket proposition that only select categories of individuals can constitutionally perform the medical functions associated with an execution. There can always be better qualified individuals to perform medical tasks of the sort involved in the execution process, regardless of any individual's certification or title. But the Constitution does not require that the best or almost-best trained and qualified individuals perform these tasks. Rather, the Constitution as interpreted under the untoward risk standard only requires that those individuals performing the execution procedures be competent enough to avoid presenting a readily avoidable risk of severe pain. Ohio's reliance on intermediate EMTs–Team Member # 17 and Team Member # 18–and a phlebotomist–Team Member # 9, whom the facts indicates the State sent for cautionary, additional training despite no apparent evidence of any deficiency on her part–satisfies this standard, even if the State could or arguably should exceed the baseline of training and credentialing to which it adheres.

This Court must note one additional fact regarding Justice Breyer and the plurality opinion in *Baze*. Despite adhering to a different standard than the plurality, Justice Breyer explained that in addressing whether "Kentucky should require more thorough testing as to unconsciousness," he concluded that he "must agree with the plurality and Justice Stevens" that "[t]he record provides too little reason to believe that such measures, if adopted in Kentucky, would make a significant difference." *Id.* at 1566. This Court agrees and extends Justice Breyer's rationale to the largely analogous record in this case; Ohio's protocol taken as a whole is close enough to Kentucky's protocol to avoid presenting sufficient grounds to conclude that it poses a risk of unnecessary suffering. There is no basis for concluding that the absence of monitoring devices, especially those that monitor brain wave activity as described in the testimony of Dr. Heath and Dr. Dershwitz, or the lack of brushing an apparently unconscious inmate's eyelashes create an untoward risk presenting unconstitutionality.

This is not to say, of course, that Ohio should nonetheless ignore considering employing such devices and practices as additional precautions against errors that all parties involved in this litigation seek to avoid. Building prophylactic measures, even redundancies, into the system of execution–including *additional* active practices (*e.g.*, monitors, or the use of ammonia tablets as nasal stimulus as discussed by Justice Ginsburg in *Baze*) as opposed to relying passively on signs of distress (*e.g.*, the inmate screaming)–only serves common sense even if not necessarily constitutionally compelled. The question is whether the machines or practices employed would be of much if any substantive benefit, as noted above in the plurality opinion discussion of monitoring mechanisms. But incorporating many if not all of the readily available safeguards discussed at the five-day hearing and in the death penalty literature would no doubt promote the

humane nature of the execution process even if they were of only an incremental value, if not ensure constitutionality. Even Justice Ginsburg, writing in dissent and joined by Justice Souter, did not assert in *Baze* that Kentucky's protocol was unconstitutional, but instead implicitly left open the possibility that she could endorse a system of execution that included sufficient safeguards:

> Kentucky's protocol lacks basic safeguards used by other States to confirm that an inmate is unconscious before injection of the second and third drugs. I would vacate and remand with instructions to consider whether Kentucky's omission of those safeguards poses an untoward, readily avoidable risk of inflicting severe and unnecessary pain.

Baze, 128 S. Ct. 1520, 1567 (Ginsburg, J., dissenting). Ohio's protocol already incorporates many of the practices that Justice Ginsburg describes in her dissent and in fact appears to exceed practices employed by Kentucky in several respects. The addition of more safeguards could in fact bolster the Ohio protocol's credibility and effectiveness, both actual and perceived, and would not concede the inadequacy of the current protocol under the *Baze* plurality. *See Baze*, 128 S. Ct. at 1537 (explaining that "an inmate cannot succeed on an Eighth Amendment claim simply by showing one more step the State could take as a failsafe for other, independently adequate measures").

The analysis presented in this section mandates the conclusion that Biros has failed to demonstrate a strong likelihood of success on the merits of his § 1983 claim under *any* standard set forth by *any* opinion in *Baze*. This is not to say that Ohio's execution protocol is without problems. In fact, the protocol, even propped up by unwritten custom and practice of vital importance, comes notably close in some respects to failing under at least one or more of the standards discussed above. Today's limited inquiry does not equate a close chance at succeeding

with a strong likelihood of success, however, which means that this Court must conclude that the first factor in its injunctive relief inquiry weighs against continuing Biros' preliminary injunction.

The end result of this failure on the first factor is the unavailability of a continued stay. The *Baze* plurality expressly addressed the issue of whether an inmate could obtain a stay absent demonstrating a likelihood of success on the merits. The plurality opinion explained:

> A stay of execution may not be granted on grounds such as those asserted here unless the condemned prisoner establishes that the State's lethal injection protocol creates a demonstrated risk of severe pain. He must show that the risk is substantial when compared to the known and available alternatives. A State with a lethal injection protocol substantially similar to the protocol we uphold today would not create a risk that meets this standard.

Baze, 128 S. Ct. at 1537. *See also Workman*, 486 F.3d at 906. Here, Biros has failed to show a strong likelihood of proving that Ohio's protocol creates a demonstrated risk of severe pain that is substantial when compared to a known and available alternative.

C. Irreparable injury, substantial harm to others, and the public interest

The Sixth Circuit has explained that in regard to the issue of whether injunctive relief should stay an execution date, "the absence of any meaningful chance of success on the merits suffices to resolve this matter." *Workman*, 486 F.3d at 911. Because this Court has concluded that the first factor weighs against a continued preliminary injunction, the Court need not and does not discuss the remaining factors.

D. All Writs Act

In his original motion for a preliminary injunction, Biros argued in the alternative that

even if he did not prevail on his request for injunctive relief, he was nonetheless entitled to a stay of execution based on the All Writs Act. This Court previously declined to address that argument because Biros had obtained a preliminary injunction, mooting his alternative theory for a stay.

On appeal, the Sixth Circuit did not discuss application of the All Writs Act, and it does not appear to this Court that the parties asserted arguments concerning the All Writs Act before the court of appeals. The Sixth Circuit's July 8, 2008 remand to this Court was for a narrow purpose–in the language of the court of appeals, "to address the issue of whether the preliminary injunction issued on December 21, 2006, should be vacated in light of the *Baze* decision" (Doc. # 278, at 1-2)–and this specific remand did not mention the All Writs Act. Accordingly, this Court recognizes that the limited remand was for the particularized purpose of determining whether the preliminary injunction staying an execution date for Biros should continue in light of *Baze* and did not include instructions to revisit the potential application of the All Writs Act. Moreover, to the extent that the Court could have possibly been able to revisit the parties' prior arguments in that regard, the parties' recent briefing and five days of testimony and argument to the Court did not once address the All Writs Act, indicating Biros' apparent abandonment of that argument.

III. Conclusion

The Sixth Circuit charged this Court with the task of determining whether Biros is entitled to a continued stay of execution. Having entertained argument and five days of testimony, this Court must conclude, based on the evidence before the Court and the applicable law, that Biros is not entitled to a continued stay of execution because he has failed to

demonstrate a strong likelihood of success on the merits of his claims. The Court therefore **VACATES** the preliminary injunction staying Biros' execution.

This is not to say that Biros or any of the various plaintiffs involved in this litigation are incapable of ultimately prevailing in this litigation. Ohio's method of execution by lethal injection is a system replete with inherent flaws that raise profound concerns and present unnecessary risks, even if it appears unlikely that Biros will demonstrate that those risks rise to the level of violating the United States Constitution. Thus, although the fact that the evidence at this stage of the litigation does not present a likelihood of Biros prevailing on his claim of a constitutional violation proves dispositive of his request for a continued stay of execution, it does not foreclose the possibility that additional evidence will indeed prove that the problems with Ohio's policies and practices rise to the level of constitutional error.

Today's decision therefore neither holds that Ohio's method of execution by lethal injection is constitutional nor unconstitutional. Rather, today's decision reflects only that at this juncture, Biros has not met his burden of persuading this Court that he is substantially likely to prove unconstitutionality. It would wholly confound this Court and no doubt many if not most of the people of the State of Ohio, however, if Defendants regarded today's interlocutory decision as a wholesale endorsement of Ohio's protocol, practices, and policies, both written and unwritten, and then did nothing to improve them. Such a misconstrued legal victory for Defendants would be Pyrrhic given that Defendants are charged with carrying out humane and constitutional executions and not with simply prevailing in litigation.

Director Collins appears to recognize as much, given that he testified that the ultimate goal is for Ohio to be as humane as possible and as professional as possible in carrying out its

lawful executions. These are indisputably correct goals. But Collins also testified that he believes Ohio's procedures are as humane and the best they can be right now, and he is incorrect. Thus, despite Defendants' victory on the narrow issue of injunctive relief today, the aspirations of the State would suggest that the question should not be simply what *must* be done under compulsion by the Constitution, but also what *should* be done to meet the professed laudable goals of the State of Ohio.

IT IS SO ORDERED.

/s/ Gregory L. Frost
GREGORY L. FROST
UNITED STATES DISTRICT JUDGE