IN THE CIRCUIT COURT OF THE EIGHTEENTH JUDICIAL CIRCUIT, IN AND FOR BREVARD COUNTY, FLORIDA

CASE NO. 91-7249-CF-A

STATE OF FLORIDA,

Plaintiff,

v.

MARK DEAN SCHWAB,

Defendant
_____/

CAPITAL CASE
EXECUTION SCHEDULED
JULY 1, 2008
6:00 P.M.

SUCCESSIVE MOTION TO VACATE SENTENCE OR STAY EXECUTION

Mark Dean Schwab, by undersigned counsel, files this motion to vacate his sentence of death pursuant to Fla. R. Crim. P. 3.851, or stay execution. This is a successive motion filed under Rule 3.851(c)(2). A warrant has been signed and execution is scheduled for the week of June 30th, 2008.

The defendant was convicted of first degree murder and capital sexual battery after a nonjury trial and sentenced to death on July 1, 1992. The judgment and sentence were affirmed on direct appeal to the Florida Supreme Court. *Schwab v. State*, 636 So.2d 3 (Fla. 1994) cert. denied 513 U.S. 950, 115 S.Ct. 364 (1994). Thereafter, Schwab filed an original motion for postconviction relief, the denial of which was affirmed in *Schwab v. State*, 814 So.2d 402 (Fla. 2002). The denial of Schwab's federal petition for a writ of habeas corpus was affirmed in *Schwab v. Crosby*, 451 F.3d 1308 (2006) cert. denied 127 S.Ct. 1126 (Mem), 166 L.Ed.2d 897. The State previously filed a memorandum on July 26, 2007 titled "The Issues Raised in Prior Proceedings," which accurately quotes the appellate courts' description of the issues which were raised on direct appeal, in state postconviction proceedings and on federal review, and their disposition. Mr. Schwab filed a successive motion to vacate on August 15, 2007. In it he raised two issues challenging the constitutionality of Florida's lethal injection procedure and raising the claim that newly discovered mitigation evidence of neurological brain damage made his sentence of death unreliable. The postconviction court denied relief. On November 1,

2007, the Florida Supreme Court affirmed the denial of all relief. *Schwab v. State*, No. SC07-1603 (November 1, 2007). On November 9, 2007, Mr. Schwab filed another motion for post-conviction relief based on newly discovered evidence regarding mitigation and a claim addressing Florida's method of execution. Relief was denied on January 24th, 2008, by the Florida Supreme Court. Prior to the ruling, however, the United States Supreme Court granted Mr. Schwab a stay of execution on November 15th, 2007.

This motion is predicated on the recent United States Supreme Court decision in *Baze v. Rees* and the evidence supporting the claims that Florida's procedures for carrying out executions by lethal injection create a "substantial risk of serious harm". *Baze v. Rees*, Slip Op. at 10-11 (Opinion of Roberts, C.J.) The witness information is furnished on a witness list which is being filed simultaneously with this motion. These witnesses will be available to testify under oath. The relief sought is an order vacating the sentence of death, or a stay of execution, or such other relief as this Court may deem appropriate.

CLAIM I

THE UNITED STATES SUPREME COURT'S DECISION IN *BAZE V. REES* SUPERCEEDED THE STANDARD OF REVIEW RELIED UPON BY FLORIDA COURTS IN REJECECTING EVIDENCE THAT CLEARLY REVEALS THAT FLORIDA'S LETHAL INJECTION EXECUTION PROCEDURES CREATES A SUBSTANTIAL RISK OF SERIOUS HARM AND THUS VIOLATES THE EIGHTH AND FOURTEENTH AMENDMENTS AND CORRESPONDING PROVISIONS OF THE FLORIDA CONSTITUTION.

I. The *Baze* Decision

On April 16, 2008, the United States Supreme Court issued its plurality opinion in *Baze v. Rees*, No. 07-5439, (April 16, 2008). The Supreme Court in *Baze* attempted to define the standard applicable to method of execution cases. Due to the nature of the *Baze* opinion, no clear standard was affirmatively adopted by a majority of the Court. In fact, four standards emerged from the various opinions with only two having at least three justices joining. In an opinion by Chief Justice Roberts, joined by Justices Kennedy and Alito, the three members of the Court proposed that the proper standard should be a "substantial risk of serious harm". *Baze v. Rees*, Slip Op. at 10-11 (Opinion of Roberts,

C.J.)(hereinafter "*Baze* decision"). Further, this three-justice opinion requires an additional showing by a "condemned prisoner" for a stay of execution of a comparison between the challenged execution procedures and "known and available alternatives". *Id.* at 22. Three other Justices, Breyer, Ginsburg and Souter, proposed a standard that requires a showing of an "untoward, readily avoidable risk of inflicting severe and unnecessary pain". *Baze v. Rees*, Slip Op. at 11 (Ginsburg, J., dissenting); *Id.*, at 1 (Breyer, J., concurring).

The Standards announced in *Baze* squarely conflict with the standard relied upon by the Florida Supreme Court in the January 24th, 2008, opinion in which it reviewed Mr. Schwab's claim under an "inherent cruelty" standard. In fact, the United States Supreme Court explicitly rejected the "unnecessary risk" standard also announced by the Florida Supreme Court. The Chief Justice's opinion is perhaps the one to be adopted by the lower courts. This opinion explains the standard which should be applied by the lower courts:

> Our cases recognize that subjecting individuals to a risk of future harm-not simply actually inflicting pain-can qualify as cruel and unusual punishment. To establish that such exposure violates the Eighth Amendment, however, the conditions presenting the risk must be "sure or very likely to cause serious illness and needless suffering," and give rise to "sufficiently imminent dangers." … We have explained that to prevail on such a claim there must be a "substantial risk of serious harm," an "objectively intolerable risk of harm" that prevents prison officials from pleading that they were "subjectively blameless for purposes of the Eighth Amendment.

Baze v. Rees, Slip Op. at 10-11 (Opinion of Roberts, C.J.)

Additionally, the United States Supreme Court now requires an additional evidentiary showing for Mr. Schwab in order to obtain a stay of execution. The Supreme Court now requires that Mr. Schwab proffer alternatives that effectively address a substantial risk of serious harm. Further, the Court stated that "the alternative procedure must be feasible, readily implemented, and in fact significantly reduce a substantial risk of severe pain." *Baze v. Rees,* Slip Op. at 13.

Based on Florida's prior experience with lethal injection and documentary evidence concerning the Florida Department of Corrections' current training program, as discussed below, Florida's lethal injection execution procedures create a substantial risk of serious harm.

II. Florida Department of Corrections Execution Training

On December 13, 2006, the execution of Angel Diaz created concerns whether Florida's lethal injection protocols were being adequately implemented by the Florida Department of Corrections. As a result, then Governor Jeb Bush created the Governor's Commission on the Administration of Lethal Injection to review the method in which the lethal injection protocols are administered by the Department of Corrections ("DOC") and to make findings and recommendations as to how administration of the procedures and protocols can be revised. As found by the Governor's Commission on Administration of Lethal Injection ("GCALI") in its final report, inadequate training was a major contributing factor leading to the events of the Diaz execution. To reduce the risk of these events recurring, GCALI determined that better and proper training of the DOC execution team was required. (exhibit 3) The DOC, pursuant to the newly revised protocols of May, 2007, conducted several training sessions for the execution team. These initial training sessions included both the DOC execution team members and observers from the Florida Department of Law Enforcement ("FDLE")(exhibit 4).

As previously noted before this Court, Mr. Schwab obtained the services of Janine Arvizu, a certified quality auditor, to review the protocols and session notes. After a review of the notes taken during the mock executions, it was determined that two of the five July 2007 mock executions resulted in failed exercises.[1] This was an error rate of 40%. This continued level of training would result in a probability of eight failed "exercises" for every twenty practice executions and sixteen failed exercises for every forty practice executions. This is shown in exhibit 14, Table 1a.

As a result of the *Lightbourne* litigation, the DOC revised their protocols which were effective August 1, 2007. The execution process remained the same except for the inclusion of an extra step to "assess consciousness" just prior to the injection of the second chemical. Using these revised protocols, the DOC conducted seven mock executions. (exhibit 4) Again, based on these training session notes, it was determined that two of the seven August 2007 mock executions resulted in failed exercises. This is a

[1] The definition of a "failed exercise" for the purposes of this analysis has several key aspects. First, a failure does not encompass an exercise where the error or errors would result in "some risk of pain", *Baze*, at 8, or an "isolated mishap". *Id.* at 11. A failed exercise would encompass a substantial error where an Eighth Amendment violation would be presented or where the error shows objective evidence that the achievement of significant learning objectives were not obtained.

29% error rate. This continued level of training would result in a probability of six failed exercises for every twenty practice executions and twelve failed exercises for every forty practice executions. These August training notes were not addressed in Mr. Schwab's prior motion for relief. This is shown in exhibit 14,Table 1b.

Combining July and August, there were twelve trials in which four were failed exercises. This is a 33% error rate with a probability of seven failed exercises for every twenty practice executions and thirteen failed exercises for every forty practice executions. This combined analysis is shown in exhibit 14, Table 1c.

On May 27th, 2008, Mr. Schwab filed a renewed records request for the DOC training session notes for the period between September, 2007, to the present. This Court granted the motion and the DOC records were received on June 16, 2008. These records indicate that between September, 2007 and May, 2008, the DOC conducted thirty training exercises. Again, after review of these records, Ms. Arvizu found significant training failures. (exhibit 8). The records indicated that nine of the thirty exercises were failures resulting in an error rate of 30%.

III. Prior Florida Executions

Objectively, the data from the DOC training sessions and data obtained from Florida's prior twenty lethal injection executions are relevant to show a substantial risk of harm. In *Baze*, the Court distinguished between two types of error:

> In terms of our present Eighth Amendment analysis, such a situation-unlike an "innocent misadventure," -would demonstrate an "objectively intolerable risk of harm" that officials may not ignore. In other words, ***an isolated mishap alone does not give rise to an Eighth Amendment violation***, precisely because such an event, while regrettable, does not suggest cruelty, or that the procedure at issue gives rise to a "substantial risk of serious harm."

Baze, Slip Op. at 11-12 (citations omitted, emphasis added).

This objective analysis based on the data discussed *infra* establish that these errors are not "isolated" mishaps but, instead, reoccurring errors in both training and past executions.

Florida's prior lethal injection execution data were collected in order to focus on three major areas of concern 1) technical issues, 2) duration issues, and 3) myoclonic observation issues. Specifically, the data set to be included involved the executions by lethal injection conducted in Florida between 2000 and 2006.

a. Florida Technical Issues

Investigation reports conducted by the medical examiner provided the basis for the data. The only data available were for seventeen of the twenty lethal injection executions conducted during this time period. These reports were reviewed for technical anomalies which included 1) irregular IV placements, along with evidence of iatrogenic manipulation,[2] 2) surgical incisions for IV access, 3) recent multiple needle puncture marks indicating failure to gain IV access at the initial site, and 4) one instance indicating subcutaneous IV insertion. Out of the seventeen executions for which data were available, six post-execution investigative reports found technical anomalies, or in probability terms, a 35% error rate with an expected total of fourteen technical anomalies after Florida executes forty individuals by lethal injection. This is shown in exhibit 14, Table 2.

The existence of past technical anomalies and the high probability (or certainty) of their occurrence in the future implicate deviations in the execution mechanics and show that due to inadequate training, the execution team is routinely incapable of finding proper IV access without several attempts. While the argument can be made that such problems occur in a clinical setting, the fact that the DOC fails 35% of the time indicates a high level of failure due to inadequate training.

Under a *Baze* analysis, these data establish that Florida is "subjecting individuals to a risk of future harm". *Id.* at 10. The *Baze* decision discussed in great length this issue of proper IV placement, the issue that lead to the events of the Diaz execution. *Baze*, Slip Op. at 15. The *Baze* Court discussed Kentucky's training procedure in this area:

> Moreover, these IV team members, along with the rest of the execution team, participate in at least 10 practice sessions per year. These sessions, required by the written protocol, encompass a complete walk-through of the execution procedures, ***including the siting of IV catheters into volunteers.***

Baze, Slip Op. at 16 (record citation omitted, emphasis added).

Kentucky trains the IV team by siting the lines into a person. Florida does not, even though improper IV placement was major cause of the problems during the Diaz execution. Florida's substandard training of the technical team members responsible for

[2] "Iatrogenic" is defined as being "induced inadvertently by a physician or surgeon or by medical treatment." MERRIAM-WEBSTER MEDICAL DICTIONARY (2005 Ed.).

gaining IV access create conditions that present a risk of harm which is "sure or very likely to cause serious illness and needless suffering," and give rise to "sufficiently imminent dangers." *Id.* at 10-11.

b. Florida Duration Issues

Relevant to the *Baze* standard is the amount of time that elapses from the start of the lethal injection chemical sequence until death. Evidence about the mechanics of lethal injection and the pharmacological and pharmacokinetic properties of the chemicals was obtained from the *Lightbourne* record through the testimony of the state's expert Dr. Dershwitz. (exhibit 1)

Based on this evidence, the normal duration of an execution by lethal injection should last no more than eleven minutes. Compared to the duration of prior executions in Florida, ten out of nineteen, or 53%, of Florida's lethal injection executions exceeded this time parameter. Further, this trend will continue and after twenty more executions (for a total of forty), there is a statistical certainty that twenty-one executions will exceed the constitutional duration limit. The mean duration for these executions is 13.8 minutes. (exhibit 11) This is illustrated in exhibit 14, Table 3a.

Applying a *t* test, where the null hypothesis is true, shows that 83% of Florida's future executions will take longer than the eleven minute parameter established through Dr. Dershwitz's testimony. These findings show that 34% of future executions will take between 13.79 and 20.12 minutes and 16% of future executions will take more than 20.12 minutes. Finally, the top 25% of Florida's future executions will take more seventeen minutes. (exhibit 11) Exhibit 14, Table 3b shows the *t* test and results.

These data are relevant to a *Baze* analysis in several respects. First, the execution duration parameter is based on the scientific testimony of Dr. Dershwitz. The foundation of this testimony is the pharmacokinetic and pharmacological properties of the three drugs used in Florida and the weight and volume of their administration. According to this testimony, an execution should take no longer than eleven minutes. Clearly, this is not the case in Florida since a majority of past executions exceeded this parameter. This means that these drugs are being "maladministered" as understood by the *Baze* Court. It is more probable than not that this error rate is due to the improper administration of the chemicals because of the 35% technical error rate, an error that featured prominently

during the Diaz execution. Since there is a statistical correlation between the training session error rates and past lethal injection error rates, there is no doubt that these errors will continue.

Second, the *Baze* Court also recognized the notion of "needless suffering" as part of the Court's Eighth Amendment jurisprudence. *See id.* at 10-11. The touchstone of "needless suffering" is the mechanics of a particular method of execution, *See id.* at 8, which were established by Dr. Dershwitz. Thus the high duration error rate in past executions objectively shows a "substantial risk" of "unnecessary suffering".

Third, the choice by Florida to use a large dose of sodium pentathol, as opposed to the smaller doses used by other states, appears to prolong an execution rather than hasten death.[3] This is again supported by the testimony of Dr. Dershwitz concerning the pharmacokinetic properties of sodium pentothal which slow the circulatory and respiratory systems.[4] This leads to a troubling conclusion concerning the "proper administration of the first drug". *Baze*, Slip. Op. at 5. Since there are no clinical studies with this amount of sodium pentothal, the definition of a "proper administration" can only be based on the pharmacokinetic properties of the first drug. This, however, creates a conflict: either the testimony of Dr. Dershwitz is wrong or the drug is being improperly administered. In other words, "we know not what we do", or we know what to do but cannot do it right.

c. Florida Myoclonic or Other Observable Movements

The last area of concern involves witness observations during past lethal injections of certain involuntary movements, termed myoclonus, by the prisoner. This term as used here includes spasms, convulsions or other involuntary movements witnessed during the injection of the lethal chemicals. For the prior twenty lethal injection executions in Florida, seven, or 35%, had observable myoclonic events. (exhibit 11) This is shown in exhibit 14, Table 4.

Based on the evidence contained in *Lightbourne*, these events should not occur during executions by lethal injections. These data show that 35% of Florida's prior

[3] This issue is fully developed in part III, *infra*.
[4] See exhibit 6. It should be noted that when discussing the pharmacokinetics of the three drugs, the sodium pentothal reaction time is measured from the start of administration as opposed to the completion of administration for the other two drugs. *See Baze*, at 6.

executions include either complications due to the pharmacological properties of the chemicals or inadequate training of the DOC execution team.

Under a *Baze* analysis, myoclonic observations are relevant for several reasons. First, the propriety of using pancuronuim bromide was debated by the *Baze* litigants. The *Baze* Court found its use proper:

> ***First, it prevents involuntary physical movements during unconsciousness that may accompany the injection of potassium chloride.*** 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, hastening death. Kentucky's decision to include the drug does not offend the Eighth Amendment.

Baze, Slip Op. at 19 (record cite omitted, emphasis added).

While the *Baze* Court found the state's interest compelling, Florida's myoclonic error rate disputes this finding.

Second, the myoclonosis observation is evidence that the DOC is not properly administering the chemicals. If properly administered, the pancuronium bromide should prevent involuntary physical movements according to the testimony of Dr. Dershwitz. Since his testimony is the only definition of "proper administration" on the record, then it is clear that Florida has not met this standard 35% of the time in the past.

Third, this again raises the issue of the "proper administration" of sodium pentothal. The large dose of sodium pentothal greatly reduces the rate of circulation. Based on the data, this dose inhibits the progress and efficacy of the pancuronium bromide. This would result in a failures to prevent involuntary movements and hasten death.

d. Florida Combined Data

Taken together, the data presented above reveals that 40% of Florida's prior lethal injection executions had at least two shared areas of concern implicating the Eighth Amendment. Six executions had at least two anomalies. Two executions had all three present (one of which was the execution of Angel Diaz). These results rebut any argument that the errors are "isolated" since 40% of Florida executions show two or more errors. (exhibit 11) This is shown in exhibit 14, Table 5.

The combined Florida data is relevant to a *Baze* analysis. The proportion of anomalies that occurred during the reported training period discussed above was 33%.

The proportion of executions with two or more anomalies that occurred was 40%. Based on the evidence presented with this motion (see exhibit 11), one of Mr. Schwab's experts calculated whether the difference between these two proportions is statistically significant.

This expert found that it is reasonable to assume (in this case with 98% certainty) that the number of anomalies that will occur in actual executions will be not be significantly lower or higher in the future real executions than the 33% that was observed in the training exercises. (see attachment 11) Based on the data analysis, the expert's conclusion is that there is a significant (and thus legally relevant) relationship between the DOC training error rate and the combined error rate for past executions. *Id.*

Thus, under a *Baze* analysis, Florida's current procedure for executions by lethal injection creates a "substantial risk of serious harm" by providing data that proves an "objectively intolerable risk of harm."[5] Florida's prior lethal injection procedures created a substantial risk of serious harm that culminated in the events of the Diaz execution. Based on the above objective analysis, it is clear that the DOC has not significantly reduced this risk. As the *Baze* Court stated: "subjecting individuals to a risk of future harm-not simply actually inflicting pain-can qualify as cruel and unusual punishment." *Id.* at 10. This is the situation in Florida.

e. The Additional Consciousness Assesment

The only major difference for this analysis between the May 2007 protocols and the August 2007 protocols is the addition of a consciousness assessment between the injection of the first and second chemicals. The Florida Supreme Court relied upon this added step heavily in its *Lightbourne* opinion.

However, under a "step error analysis" this addition does not decrease the error rate. As with any process, each step of a process is dependent upon the prior step being successfully completed. The number of steps and the accuracy at each step are relational in determining the risk of error in any process. Thus there is a statistical relationship at every step of the process and the more steps there are, a cumulative risk of error based on the number of steps. From a statistical point of view, this only increases the level of risk.

[5] It should be noted that in statistics terminology, a "significant relationship" supports evidence for hypothesis. "Proves" is a legal term applying this evidence.

Under the assumption that there are twenty-five steps from insertion of a periphery IV access line up to, but not including, the injection of the second drug (with no consciousness assessment), the probability of success per step can be calculated using three different accuracy values of .95, .97, and .99. When the DOC adds a single step to the process, this statistical example shows a reduction in the probability of success.

Number of Steps	95% accuracy	97% accuracy	99% accuracy
26	26%	45%	77%
25	28%	47%	78%

A similar example is shown from the data in section III(a)(2) below with the analysis of Ohio's error rates. After the execution of Joseph Clark (#21) on May 2, 2006, that featured problems with gaining and maintaining IV access, Ohio added additional steps to assess the IV lines after the first and second chemicals were injected. Instead of lowering the error rates, they increased. For all Ohio executions up to Joseph Clark, there was a technical error rate of 45%, a duration error rate of 50% and a myoclonic error rate of 14%. The executions after the additional steps were added had a technical error rate of 60%, a duration error rate of 80% and myoclonic error rate of 20%.

These data support the hypothesis that Ohio did not adequately assess the problems illustrated by the Clark execution including such factors as the IV cannulae size and type, the adequacy of the pre-execution medical exam or the adequacy of the IV team training. Instead, Ohio opted to add an additional step that most probably relied upon inadequate factors, such as inadequately trained IV team members, to correct the problem.

There is no evidence that the Florida DOC currently trains for assessing consciousness in a manner that would significantly impact the statistical relationship between the current DOC error rate and the prior execution error rate. Furthermore, the high DOC training error rate supports the hypothesis that the success of this extra step to reduce errors still relies upon poorly training personnel. As such, Florida will fare no better than Ohio in this regard.

III. Comparative Analysis

Relevant to this issue is a comparative analysis mandated by the *Baze* Court's plurality opinion, see *Baze*, Slip Op. at 22, and that any comparison by this court is a finding of fact rather than a conclusion of law.

a. Ohio and Lethal Injection

Florida and Ohio use similar methods for execution by lethal injection.[6] Like Florida, Ohio has also experienced recent problems with lethal injection executions.[7] Problems with IV access were well documented, leading to revisions in Ohio's protocols. Errors still occurred, however, during attempts to gain IV access during subsequent executions. The Ohio data included all information available for the twenty-six executions by lethal injection from 1999 to 2007.

1.Ohio Technical Issues

Technical issues for Ohio were gathered from data contained in the execution logs prepared by the Ohio Department of Rehabilitation and Correction (DRC). This information was corroborated from other sources. Out of the twenty-five executions for which data was available, twelve executions had technical anomalies resulting in a 48% error rate. Using a probability formulation, there will be an expected total of twenty-four technical anomalies after Ohio executes fifty individuals by lethal injection. This is shown in exhibit 14, Table 6.

Ohio's recent history of lethal injection executions was plagued by technical errors. Ohio's DRC recognized this issue in June, 2006, and attempted to address problems with gaining proper IV access after the execution of Joseph Clark (#21). As shown by the data, however, these problems continue to persist (executions 22,25,26).

2. Ohio Duration Issues

Ohio execution duration issue data were collected from the execution logs created by the DRC and pertained to the time from the start of the chemical injection process to the time that death was pronounced. The expected execution duration was again calculated from the affidavits and testimony of Dr. Dershwitz pertaining to an injection of

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[6] See fn.9.

[7] For example, on May 2, 2006, the execution of Joseph Clark took an "unprecedented amount of time" to effectuate death. Due to a failure to gain proper IV access, Clark's execution lasted fifty-three minutes.

two grams of thiopental sodium and 100 milliequivalents of potassium chloride.

This analysis shows that the period from 1999 to May of 2006, Ohio's mean execution time was 8.6 minutes.[8] Using the data provided by Dr. Dershwitz with a +/- time of one minute, the mean is 2.6 minutes above the expected execution duration. Also, during this period, ten out of twenty of Ohio's lethal injection executions exceeded the time parameter. This is a 50% execution duration error rate with an expected twenty-five executions having duration errors after Ohio conducts a total of fifty executions. This is shown in exhibit 14, Table 7a.

During the period from July 2006 to 2007, Ohio conducted five executions.[9] Four of these five executions exceeded the execution duration resulting in an 80% error rate. This is shown in exhibit 1, Table 7b. One can reasonably conclude from this and the data in Table 6 that Ohio's revised protocols did not prevent error but instead increased its occurrence.[10]

Combining the data during this period (from Table 7a and Table 7b), finds that fourteen executions by lethal injection out of the twenty-five, or 56%, for which data was available, exceeded the established time parameters.

3. Ohio Myoclonic or Other Observable Movements

Myoclonic data for Ohio were collected from witness observations during executions by lethal injection. For the twenty-six executions by lethal injection in Ohio, only four had reported evidence of myoclonic movements, a 15% error rate with an expected eight executions having observable myoclonic events during the injection sequence out of fifty executions in Ohio. This is shown in exhibit 14, Table 8.

4. Ohio Combined Data

The combined data presented above reveals that like Florida, 40% of Ohio's prior lethal injection executions had at least two shared areas of concern implicating the Eighth Amendment. Seven executions had at least two anomalies. Three executions had all

[8] The analysis of the Ohio data was divided because the chemical injection procedure was changed after the Joseph Clark execution. Beginning with the Rocky Barton execution in July, 2006, two separate sixty second saline flushes and assessments were added in lieu of the previous 20mL saline flush. No other significant changes were made.

[9] The longer time for this flush and assessment replacement was added into the execution duration originally calculated from Dr. Dershwitz's testimony and sworn statements.

[10] *See* section II(e) above for a complete discussion.

three present (one of which was the execution of Joseph Clark). This is shown in exhibit 14, Table 9.

b. Georgia and Lethal Injection

Georgia has also experienced problems with lethal injection executions since the state first used this method back in 2001. Like Florida and Ohio, Georgia uses the same three chemicals has had persistent problems with gaining proper IV access.[11]

Data collection for Georgia was done using information gathered primarily from the *Alderman v. Donald* proceedings, a federal §1983 challenge in the United States District Court for the Northern District of Georgia which concluded in May of 2008.[12] These data included all information available from Georgia lethal injection executions from 2001 to 2007 during which time seventeen executions by lethal injection were conducted.

[11] Since 2000, Georgia has adopted three different lethal injection protocols. The original execution protocols became effective in May of 2000 with revisions in September of 2002 and June of 2007. Georgia's chemical weights are different in some respects to Florida and Ohio. First, similar to Ohio, Georgia uses two grams of thiopental sodium. Next, Georgia uses only 50 mg of pancuronium bromide compared to the 100 mg used by Florida and Ohio. Lastly, where Florida uses 240 milliequivalents of potassium chloride and Ohio relies on a lower amount of 100 milliequivalents of potassium chloride, Georgia utilizes 120 milliequivalents of potassium chloride. Like Florida and Ohio, Georgia injects saline after the administration of the first two drugs. Ohio and Georgia, unlike Florida, also ends the chemical sequence with an injection of saline.

Also different is the injection delivery process, specifically, the syringe volumes used for the injection sequence. Florida utilizes eight total volume 60cc (ml) syringes. Syringes 1 and 2 inject the sodium pentothal. Syringe 3 is a saline solution. Syringes 4 and 5 inject the pancuronium bromide. Syringe 6 is again saline. Finally syringes 7 and 8 inject the potassium chloride. In Ohio, syringes 1 and 2 each inject a volume of 40cc of sodium pentothal. Syringe 3 is a 20cc of saline flush. Syringes 4 and 5 each inject a volume of 25cc of pancuronium bromide. Syringe 6 is another 20cc of saline flush. Syringe 7 is a 50cc injection of the potassium chloride. Finally, syringe 8 is a 20cc saline flush. Georgia uses seven total volume 60cc syringes. Syringes 1 and 1a each inject the sodium pentothal. Syringe 2 (the third in the sequence), is a 60cc saline flush. Syringe 3 delivers the pancuronium bromide. Syringe 4 is another saline flush. Syringe 5 is the potassium chloride. Finally, syringe 6 (the seventh in the sequence) is a saline flush.

It should be noted that the Georgia 2002 and 2007 protocols are similar with respect to the injection process. The original 2000 protocols appear to be different. They also are vague as to the volumes used for each chmical. However, based on testimony given in the *State v. Nance* hearings held on April 30th and July 30th, 2002, the injection process appears the same.

For example, during the execution of Jose High in November of 2001, the medical technicians had difficulty establishing IVs in both his arms. While IV access was established in High's left hand, the technicians were unable to establish an IV line in the right arms, hand or foot. As a result, technicians had to perform the much more complicated procedure of establishing a central line in his neck. Jose High's execution, however, was not a solitary occurance. In fact, Georgia's first four lethal injection executions all had problems with establishing proper IV access.

[12] *Alderman v. Donald,* Case No. 1:07-CV-1474-BBM (N.D. Atlanta).

1. Georgia Technical Issues

Technical issues for Georgia were gathered from data contained in the medical examiner reports and the execution logs maintained by the Georgia Department of Corrections (GDOC). Technical issues data were available for all seventeen executions in this area in which thirteen had technical anomalies resulting in a 76% error rate with an expected total of 30 technical anomalies after Georgia executes forty individuals by lethal injection. This is shown in exhibit 14, Table 10.

This is a substantial error rate that appears to have gone unrecognized and thus uncorrected. The reason why Georgia has such a high technical error rate, even though the IV team consists of two nurses, is most likely a result of the training schedule which does not require periodic sessions.[13]

Further supporting this data are the initial reports about the June 6, 2008, execution of Curtis Osborne. According to press accounts, the IV team took thirty-five minutes to find a suitable vein. This is consistent with Georgia's high technical error rate (76%) and our probability calculation for future executions.

2. Georgia Duration Issues

Georgia execution duration data were collected from the execution logs maintained by the GDOC. The relevant Georgia information pertained to the start of the chemical injection process to the time that death was pronounced. The expected execution duration was calculated from the affidavits and testimony of Dr. Dershwitz specific to the chemical weight and volume used in Georgia.

Data was available for fifteen of the seventeen executions conducted from 2001 to 2007. Georgia's mean execution time was 10.3 minutes. Based on the evidence provided by Dr. Dershwitz, the expected execution duration in Georgia is nine minutes. Using the same +/- one minute as before, the longest execution duration should be ten minutes. While the mean duration was only .3 above the expected duration, 33% of Georgia executions, or five out of fifteen, still exceeded the duration time parameter with an expected thirteen executions having duration errors after Georgia executes forty individuals. This is shown in exhibit 14, Table 11.

[13] According to the testimony in *Alderman*, even though the protocols require only one nurse on the IV team, Georgia in practice uses two. Order and Opinion, *Alderman v. Donald*, Case No. 1:07-CV-1474-BBM, at 5.

Georgia's duration error rate is lower than that for Florida which may be due to the significantly lower amount of sodium pentothal. For the difference between Georgia and Ohio, it appears that the difference may involve the chemical volume being injected. While Georgia's injection process should take no more than seven minutes to complete, Ohio should take no more than four minutes. This is a difference of three minutes whereas the difference between the two means is only 1.7 minutes.

As noted in section III(b)(2), recent Georgia executions after Baze support the data and conclusions concerning the duration error rate. According to initital press reports, on May 6, 2008, William Earl Lynd's execution took seventeen minutes and the June 4th execution of Curtis Osborne took fourteen minutes. Both executions were above the calculated duration parameter and above Georgia's mean execution duration of 10.3 minutes. While the term "proof" is not a statistical term, it can be said that these reports support the conclusion concerning Georgia's duration error rate.

3. Georgia Myoclonic or Other Observable Movements

For the seventeen total executions in Georgia by lethal injection, only four had recorded instances of myoclonosis. This is an error rate of 24% for an expected total of ten myoclonic errors after forty executions. This is shown in exhibit 14, Table 12.

4. Georgia Combined Data

The combined data presented above reveals that 35% of Georgia's prior lethal injection executions had at least two shared areas of concern implicating the Eighth Amendment. Four executions had at least two anomalies. Two executions had all three present. This is shown in exhibit 14, Table 13.

The combined results for Florida, Ohio and Georgia show a technical issue error rate of 43%, a duration issue error rate of 55%, and a myoclonic issue error rate of 24%. In addition, the combined data show that 39% of the executions had the presence of two or more anomalies.

	Florida	Ohio	Georgia	Florida,Ohio,Georgia
Technical Errors	35%	48%	76%	53%
Duration Errors	53%	56%	33%	49%
Myoclonic Errors	35%	15%	24%	24%
Two or More Errors	40%	40%	35%	38%

c. Mean Duration Comparison

As noted in *section II* above, a comparison between Florida, Ohio and Georgia is relevant to a *Baze* analysis where some conclusions can be made about the pharmacokinetics of these chemicals which have never been studied before in these amounts. Most relevant is the sodium pentothal that seems to impact the duration of an execution with the assumption, or hypothesis, that Florida uses 5grams of sodium pentothal to hasten the death of an individual.

Florida uses five grams of sodium pentothal and 100 milligrams of pancuronium bromide. The mean execution duration is 13.8 minutes. Next, Ohio uses 2 grams of sodium pentothal and 100 milligrams of pancuronium bromide. Ohio's most recent five executions under the new protocols had a mean execution duration of 10.4 minutes. The prior twenty executions in Ohio had a mean of 8.6 minutes. Georgia, which uses 2grams of sodium pentothal and 50 milligrams of pancuronium bromide, has a mean execution duration time of 10.3 minutes.

The data does not support Florida's hypothesis that more sodium pentothal hastens death. In fact the data is contrary to the hypothesis. The difference between the Florida mean and the Georgia mean is 3.5 minutes. The difference between the Florida mean and the Ohio mean under Ohio's newest protocols is 3.4 minutes. The difference between the Florida mean and the Ohio mean under the prior protocols is 5.2 minutes.

d. The Netherlands

Discussed during both *Lightbourne* and *Baze* was the Netherlands and its experience with euthanasia and physician assisted suicide ("EAS"). (see exhbit 5) The comparison is relevant because both practices are designed to end life and both profess to do so in a humane manner. The Dutch study found that in EAS cases, there was a technical issue error rate of 5%, a duration issue error rate of 7%, and a myoclonic issue error rate of 4%. As noted above, Florida lethal injection executions have a technical issue error rate of 35%, a duration issue error rate of 53%, and a myoclonic issue error rate of 35%. Ohio lethal injection executions have a technical issue error rate of 48%, a duration issue error rate of 56%, and a myoclonic issue error rate of 15%. Georgia lethal injection executions have a technical issue error rate of 76%, a duration issue error rate of 33%, and a myoclonic issue error rate of 24%.While Dutch EAS practices are done in a

clinical setting, the difference between the EAS practices, Florida, Ohio and Georgia lethal injection executions are substantial.

	Florida	Ohio	Georgia	Netherlands
Technical Errors	35%	48%	76%	5%
Duration Errors	53%	56%	33%	7%
Myoclonic Errors	35%	15%	24%	4%

IV. Comparative Analysis of the Florida and Kentucky Protocols

A comparative review of the Florida and Kentucky protocols finds that they are not substantially similar. Based on a facial review of the protocols, Ms. Arvizu concluded that Florida's protocols were deficient in many important respects:

> Despite the fact that the Florida procedure has the potential to function as a better means of controlling and ensuring the acceptability of an execution, its potential is unrealized. It suffers from a number of serious deficiencies and inconsistencies (as identified in my letter to your attention, dated August 14, 2007) that render it ineffective in achieving its goal of controlling the execution process to achieve an acceptable result.
>
> In contrast, despite the fact that the Kentucky protocol provides relatively little detail, it addresses issues that have the potential to cause critical failure of the execution process, but that are not addressed in the Florida procedure.

See exhibit 8.

In her report, Ms. Arvizu identifies several examples where the Florida protocols fail to meet the standards approved by the *Baze* Court. *Id*.

Furthermore, the recently received DOC training session notes also show that the Florida protocols are not substantially similar to the Kentucky Protocols. She states in her report:

> The problems identified through review of Florida's training records are more readily apparent in comparison to the relevant provisions of the Kentucky protocol. Florida's training records document the nature and scope of the contingencies that have been addressed during training. The substantive contingencies that have been addressed during training are largely limited to blocked lines. During practice exercises, Florida has not addressed some of the contingencies that have been experienced in past Florida executions or that have the potential to compromise the execution process (e.g., execution duration of >12 minutes, or an inability to site the IV lines within more than an hour); requirements for addressing these serious contingencies are explicitly addressed in the Kentucky protocols.
>
> Based on the recently received training records, Florida has not provided training to address an inmate's known medical problems. In contrast, the Kentucky protocol is designed to ensure that the inmate's recent, and potentially changing

> medical and psychiatric condition is well documented in advance of the execution.

See exhibit 8.

V. Alternatives for Florida

Under *Baze*, in order for Mr. Schwab to obtain a stay of execution, he must proffer alternatives that "effectively address" a substantial risk of harm. *Id.* at 13. These "alternative procedures" must be "feasible, readily implemented, and in fact significantly reduce a severe risk of pain". *Id.* Mr. Schwab proffers two alternative procedures that must be introduced in order to effectively address the substantial risk of serious harm that the current protocols present.

a. An Effective Training Program

Mr. Schwab has consistently argued that the current DOC training program is inadequate. In fact, Mr. Schwab in his original records request sought to obtain any documentation that showed that such a program exists. The effective training program that Mr. Schwab submits is necessary is an instructional system design that includes references to learning objectives, instructor materials, training materials, records of training delivered, and objective evidence of any achievement of learning objectives.

As outlined in her initial report of August 14, 2007, Ms. Arvizu observed "There is no indication that team members (presumably identified as STM-#) received training designed specifically to address learning objectives that were developed in consideration of their responsibilities." (exhibit 12) Ms. Arvizu outlined some aspects of a proper training system in this report:

> [The DOC Protocol] requires that training be sufficient to ensure that all personnel are prepared to carry out their roles. In order for any party to make a determination that delivery of a given training curriculum has been effective in this manner, the training should include objective evidence of which individuals achieved which learning objectives. This requirement is typically satisfied through a written examination or practical demonstration of skills. The available records provided no indication that the training in question was either designed to meet specific learning objectives (cognitive, affective, or psychomotor), or that individuals demonstrated satisfactory achievement through anything other than attendance.

Exhibit 12 at 5.

In addition her review of the trainings records which were provided revealed an issue that creates a substantial risk of serious harm:

> According to training records provided, none of the medical team members have received training in the recently revised and approved procedure since it was released on July 31, 2007. Such training would be a necessary prerequisite to certifying the department's capability.

Exhibit 12 at 5.

As a result, Ms. Arvizu concluded:

> The number and nature of quality deficiencies and inconsistencies identified in the reviewed materials lead me to conclude that the department has not demonstrated that they have put in place the systems and controls necessary to ensure that they can predictably and reliably perform executions by lethal injection in accordance with their own objectives.

Id.

After reviewing additional records from the DOC, Ms. Arvizu repeated her earlier conclusions concerning the adequacy of the DOC training program. Specific issues concerning inadequate training concerning the effects of the chemicals were found throughout the records. Finally, on April 1, 2008, Ms. Arvizu prepared another report for a similar lethal injection claim. Her conclusion was:

> Based on my earlier review of the DOC procedure and available training records, I concluded that the department did not have the systems and controls necessary to ensure that they can predictably and reliably perform executions by lethal injection in accordance with their own objectives. Based on my review of these additional records, my conclusion has not been altered. If I am able to obtain and review copies of additional requested materials about the department's training program, I will provide additional or revised comments and conclusions, as appropriate.

Exhibit 9 at 4.

Implementing such a procedure, a procedure contemplated by the Governor's Commission on Administration of Lethal Injection is feasible since such a program is standard in all industries. In fact, it is very likely that the DOC uses such a model in other areas of its operations. Since such a training program is the standard industry model, implementation would not require a major revision to the current program but, instead, the inclusion of several important elements into the existing procedure. Finally, it is undisputed that proper training, a training that is up to standard, would significantly reduce the substantial risk of pain now present under the current DOC program.

b. A Reduction in the Amount of Sodium Pentothal

Based on the data presented, there is credible evidence that the current amount of sodium pentothal used by the DOC poses a substantial risk of serious harm. As noted by the *Baze* court, Kentucky uses three grams of the sodium pentothal equivalent during the execution process. The state has argued that since Florida uses a much higher dose, then it more than meets the standard announced in *Baze*. In fact, the opposite is true. This conclusion is based on the data for execution duration and myoclonic observations. First, Florida's mean execution duration is substantially greater than that for Ohio and Georgia. Second, Florida's myoclonic error rate is greater than that for Ohio and Georgia. Thus, the only plausible conclusion is that the sodium pentothal is unnecessarily delaying death and inhibiting the pancuronium bromide from reaching the target area in order to arrest involuntary convulsions.

Reducing the amount of sodium pentothal injected during an execution would substantially reduce the execution duration and myoclonic error rate and thus significantly reduce the substantial risk of pain. This reduction is both feasible and can be readily implemented since the DOC currently relies upon this drug during the execution procedure.

VI. Conclusion

Based on the above stated grounds, Mr. Schwab respectfully requests that this Court grant this motion.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing Motion to Vacate Sentence and Stay Execution has been furnished by E-mail, Fax and United States Mail, first class postage prepaid, to all counsel of record on June 20, 2008.

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