IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF OKLAHOMA

RICHARD GLOSSIP, et al.,	)	
	)	
Plaintiffs,	)	
	)	
-vs-	)	Case No. CIV-14-0665-F
	)	
RANDY CHANDLER, et al.,	)	
	)	
Defendants.	)	

ORDER ON THIRD MOTION FOR PRELIMINARY INJUNCTION

I. Introduction

Plaintiff Donald Grant is scheduled for execution by lethal injection at the Oklahoma State Penitentiary on January 27, 2022, less than two weeks from now. Plaintiff Gilbert Postelle is scheduled for execution about three weeks after that. Based substantially on their contentions with respect to the execution of John Grant on October 28, 2021, Donald Grant and Gilbert Postelle have filed a motion for a preliminary injunction, seeking an order enjoining their executions pending the full trial on the merits. The motion has been fully briefed. *See* doc. nos. 551 (herein: Motion), 564 and 573. By agreement of counsel (doc. nos. 561 and 563) the motion was heard four days ago, on January 10, 2022. Having heard the parties' presentations in a nearly ten-hour hearing, the court now makes its ruling on that motion.

For the reasons set forth below, the motion will be denied.

II. The Preliminary Injunction Standard

To obtain a preliminary injunction, the movant bears the burden of establishing four factors: "(1) a likelihood of success on the merits; (2) a likelihood that the moving party will suffer irreparable harm if the injunction is not granted; (3) the balance of equities is in the moving party's favor; and (4) the preliminary injunction

is in the public interest." Republican Party of N. M. v. King, 741 F.3d 1089, 1092 (10th Cir. 2013). Where a movant fails to establish a likelihood of success on the merits, it is unnecessary to address the remaining requirements for a preliminary injunction. Warner v. Gross, 776 F.3d 721, 736 (10th Cir. 2015).

III. The Substantive Standards

Time being what it is, the court will not encumber this order with an extended treatment of the substantive standards–commonly called Glossip first prong and Glossip second prong–governing this motion. With one exception, discussed below, those matters are thoroughly covered in the court's orders of August 11 and October 12, 2021[1] and in the Order and Judgment entered by the Court of Appeals on November 12, 2021,[2] all of which are based almost entirely on the Supreme Court's trilogy of lethal injection cases, Baze v. Rees, 553 U.S. 35 (2008), Glossip v. Gross, 576 U.S. 863 (2015), and Bucklew v. Precythe, 139 S.Ct. 1112, 1124 (2019).

One elaboration on these decisions may be appropriate. When the Court, in Baze, discussed the concept of pain so severe that it would be cruel within the meaning of the Eighth Amendment, it noted that "[s]ome risk of pain is inherent in any method of execution." Baze, at 47. The Court then spoke of pain so severe that it amounted to a punishment "superadded" to the sentence of death. *Id.* at 48. And in the Order and Judgment two months ago in Jones v. Crow, the Court of Appeals summarized this aspect of the Glossip test by stating that to "succeed on an Eighth Amendment claim, a prisoner must show that the state has crossed the line by cruelly superadding pain to the death sentence." Order and Judgment, at 13 (quoting from

[1] Reported at 2021 WL 3561229 and 2021 WL 4760383, respectively.

[2] Jones v. Crow, No. 21-6139, 2021 WL 5277462 (10th Cir. Nov. 12, 2021) (herein: Order and Judgment).

Bucklew). In Bucklew, the court illustrated its discussion of painfully cruel executions by discussing execution by hanging, which the Court, at 1125, described as a "traditionally accepted method of execution." The court cited the fact that "[m]any and perhaps most hangings were evidently painful for the condemned person because they caused death slowly." *Id.* at 1124.

But, oddly enough, one thing that is not quite clear from the three Supreme Court cases is whether this court's reckoning of the degree of pain required to qualify as "cruel" within the meaning of the Eighth Amendment is to be determined *exclusively* on a comparative basis, the comparison being with the prisoner's proposed alternative method, or whether, as a threshold matter, the pain to be inflicted under the challenged protocol must be shown to be severe on an absolute scale before the comparison is even triggered. Fifteen months ago, in a fairly pointed statement respecting the denial of certiorari in a case arising from the Ohio execution protocol litigation, Justice Sotomayor, citing Glossip and Bucklew, maintained that those cases make it "clear that the proper inquiry is comparative, not categorical." Henness v. DeWine, ___ U.S. ___, 141 S.Ct. 7 (Oct. 5, 2020). Justice Sotomayor's view of the matter may be correct, because the majority in Bucklew placed considerable emphasis on the comparative aspect of the Baze-Glossip analysis. Nevertheless, the Sixth Circuit's decision in the Ohio case may be instructive in assessing the issue of the severity of the pain to be inflicted by the State's proposed method of execution, regardless of whether the issue is to be evaluated categorically or comparatively.

The Sixth Circuit decision with which Justice Sotomayor took issue when her colleagues denied certiorari was handed down in December of 2019, with en banc rehearing denied a few weeks after that, all of which was less than a year after the Supreme Court's decision in Bucklew. The Sixth Circuit, with the benefit of all three of the relevant Supreme Court decisions, noted the discussion, in Bucklew, of the pain inflicted by hanging and commented that:

> Despite that risk of pain, despite indeed the near certainty of that pain, hangings have been considered constitutional for as long as the United States have been united. All of this puts Henness's claims about risks of pain in context. Yes, he points to the risks of chest tightness and chest pain. But that pales in comparison to the pain associated with hanging. And yes, he points to the risks of sensations of drowning and suffocation. But that looks a lot like the risks of pain associated with hanging, and indeed may present fewer risks in the typical lethal-injection case.

In re Ohio Execution Protocol Litigation, 946 F.3d 287, 290 (6th Cir. 2019), *cert. denied sub nom.* Henness v. DeWine, 141 S. Ct. 7 (2020).

The court concluded by saying that "the fact that midazolam may not prevent an inmate from experiencing pain is irrelevant to whether the pain the inmate might experience is unconstitutional. Without evidence showing that a person deeply sedated by a 500 milligram dose of midazolam is still sure or very likely to experience an unconstitutionally high level of pain, Henness has not met his burden on this prong, and the district court clearly erred in concluding otherwise." *Id.*

What can safely be said, because the Supreme Court has said it, is that the pain must be severe. The court concludes that even if Justice Sotomayor is correct, any determination of the permissibility of the Chart D protocol under the Eighth Amendment should be informed, in part, by the Supreme Court's repeated references to methods of execution which have historically been understood to be cruel and to those which have historically not been so understood. On the evidence before the court with respect to the present motion, there is no need to reach a conclusion as to whether the pain associated with hanging is an Eighth Amendment benchmark, but the Supreme Court's persistent references to historical methods of execution are not irrelevant. Those references are part of the context, provided by the Supreme Court, in which this court evaluates the efficacy of midazolam generally and, in particular, the implications of the events that unfolded during the execution of John Grant, all as discussed below.

Aside from the foregoing, the relevant passages from the authorities discussed in the decisions cited above will be discussed as needed.

IV. Findings of Fact: Glossip First Prong

A. The John Grant execution.

Much of the testimony at the hearing focused on the execution of John Grant on October 28 and the execution of Bigler Jobe Stouffer a few weeks later on December 9. Those executions will be discussed in detail. The main difference between the Grant execution and the Stouffer execution is that Grant consumed significant quantities of Mr. Pibb and potato chips until very shortly before the restraint team arrived to take him from his cell to the execution chamber. The result of that for Grant was that, soon after the first drug was pushed into the IV line, and as he lay unconscious, restrained in a supine position on the gurney, Grant's gastric contents flowed toward his head and out of his mouth. Combined with that was the fact that–also because he was unconscious and lying supine–Grant's airway was obstructed by his tongue, causing him to noticeably struggle to breathe while, at essentially the same time, regurgitating. The important point here is that all of this occurred while Grant was unconscious and insensate to pain as a result of the administration of a massive dose of midazolam.

Four of the witnesses who testified at the hearing on this motion gave their eyewitness accounts of the John Grant execution. Two of those witnesses, Julie Gardner and Meghan LeFrancois, are employed by the office of the Federal Public Defender for the Western District of Oklahoma. Also testifying as an eyewitness to the Grant execution were Dr. Ervin Yen and Department of Corrections Director of Operations Justin Farris, both of whom were called by the defendants. Dr. Yen and Mr. Farris also testified, as eyewitnesses, about the execution of Bigler Stouffer on

December 9, 2021. The Grant execution was also addressed in the testimony of Dr. Joseph Cohen, a forensic pathologist, who did not witness the Grant execution but performed an autopsy on Grant.[3]

Grant was served a meal at 5:13 p.m. on October 27, 2021, the day before he was executed. He was executed at approximately 4:00 p.m. on the 28th. Grant was still "drinking soda" and eating at 10:15 p.m. on October 27 (Farris).[4] Tr. 181. At 3:15 p.m. on October 28, just before he was taken to the execution room, Mr. Grant was eating chips and drinking soda (Mr. Pibb Xtra). The Grant execution began shortly after 4:00 p.m. The curtain was raised at 4:07 p.m. At 4:10 p.m., Dr. Yen could see something other than saline solution flowing through the IV tube. Grant appeared to be unconscious 30-45 seconds after the midazolam appeared to flow (Yen). Shortly after that, Dr. Yen saw what he described as a "rocking boat" motion, indicative of an obstructed airway. In the "rocking boat" motion, the belly rises as the chest goes down. Tr. 230.[5] The explanation for this is that if an individual is conscious, he will breathe normally, but if he is unconscious "you can't do anything about that obstructed airway." Tr. 231. This was the case with Grant.

Dr. Yen did not consider these movements, or any other movements by Grant after the midazolam began to take effect, to be purposeful movement.[6] After the

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[3] Neither side challenged the qualifications, or otherwise challenged the admissibility of the proposed expert testimony, of any experts called by the opposing parties. Time being what it is, and because this is a non-jury matter, the court discouraged Daubert challenges.

[4] As to factual matters which are at least arguably contested, the court will indicate, for instance with (Yen) or (Gardner), the testimony credited and relied upon by the court. As to those matters, the court is unpersuaded by contrary testimony from other witnesses.

[5] The "Tr." References are to the transcript of the January 10 hearing, doc. no. 585.

[6] Although Grant's movements during the execution process were not movements which might commonly be encountered with an anesthetized patient in the operating room (mainly because standard clinical practice is to have the patient arrive in the OR with an empty stomach), it should

onset of the rocking boat motions, Grant coughed 10 to 20 times. His head came off the table when he coughed. He coughed for 15 to 30 seconds. After the coughing episode, a clear fluid emerged from Grant's mouth, followed by an amber fluid. This was not the violent heaving that is typical of vomiting (Yen). Instead, this was regurgitation–which Dr. Yen described as more passive than vomiting–such as might be expected when a person who has a significant amount of food and fluid in his stomach is strapped down supine on a gurney, and injected with a drug which quickly produces unconsciousness.

With respect to the observations by other witnesses that Grant appeared to be "gasping for air," Dr. Yen explained that Grant "was not moving air in or out." Tr. 233. Although this led to the combination, disturbing to some witnesses, of regurgitation and gasping, this was the regurgitation and gasping of an unconscious man (Yen).

At about the six minute mark after the curtain was raised, a woman came out to clean Grant's face, then, at about the seven minute mark, a man came into the execution room, turned Grant's head straight and left (Gardner). Immediately after that man left the room, an announcement was made that Grant was unconscious (Gardner). The trip into the execution room by the man who turned Grant's head straight and wiped vomit from Grant at about the seven minute mark was the same event Dr. Yen observed when he assumed that all the man at the gurney was doing was wiping vomit from Grant when, in fact, he (a doctor) also conducted a consciousness check, as credibly described by Farris. The consciousness check consisted of a sternum rub and the doctor raising Grant's eyelids (Farris). Tr. 189-90. The doctor concluded that Grant was unconscious, which he indicated (per agreed

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be noted that, under general anesthesia, it is common for the patient to move. This can consist of coughing, arms moving, head and shoulder movements, and leg movements, as well as chest and stomach movements (Yen). Tr. 220-21.

upon procedure) with a knock on the door. At that point, the second drug was started, after which there was no more movement.

At about the time the announcement of unconsciousness was made, Grant was breathing, although his "cheek fluttered," his mouth opened and then his "chest settled" (Gardner). Tr. 19. The last round of drugs was pushed at approximately the 8 or 8 1/2 minute mark (LeFrancois). At approximately the 12 minute mark in the execution process, Grant was pronounced dead (Gardner). Grant "was probably dead well before" the 11 minute[7] mark (Yen).

Grant probably died of asphyxiation (Yen and Cohen). On autopsy, Dr. Cohen observed several petechial hemorrhages in the surface lining under the upper and lower eyelids. Although Dr. Cohen acknowledged that "hemorrhages in eyes are overall nonspecific findings in autopsies," he also testified that eyelid hemorrhages are consistent with asphyxia death. Tr. 45. It is "more likely than not" that eye hemorrhages will be present in "some, not many" deaths by asphyxiation. Tr. 46. Dr. Cohen's testimony with respect to the possibility that Grant died by asphyxiation is consistent with Dr. Yen's testimony that Grant probably died of asphyxiation. By Dr. Yen's account, Grant's oxygen saturation went from 98 or 99% to 81% about one minute after the midazolam was pushed. On the question of whether the process of asphyxiation started before or after Grant lost consciousness, Dr. Yen concluded that the process of asphyxiation started after Grant lost consciousness, testifying that "if you're conscious, you're going to breathe." Tr. 259. A conscious person would be "able to open up their airway." Tr. 259-60. As explained by Dr. Yen, with the injection of an anesthetic agent, "you lose the tone in your tongue, it

[7] The 11 minute mark as noted by Dr. Yen was probably the same as, or very close to, the 12 minute mark as noted by Ms. Gardner, because Dr. Yen was keeping track of time from the point at which the midazolam was pushed, whereas Ms. Gardner was keeping track of time from the point at which the curtain was raised.

drops back in the back of your throat." Tr. 263. The tongue will then obstruct the airway, a consequence of unconsciousness which, in clinical practice, would be dealt with by any number of interventions, up to and including endotracheal intubation.

Dr. Cohen concluded that it was "more likely than not" that Grant experienced conscious pain and suffering. Tr. 63. The persuasive value of this conclusion by Dr. Cohen is questionable when viewed in the light of the fact that Dr. Cohen did not observe the Grant execution, has no experience with midazolam, and did not review the declaration of Dr. Yen. The fact that Dr. Cohen did not directly address Dr. Yen's conclusions, and the findings and reasoning underlying those conclusions, substantially undermines the persuasive value of Dr. Cohen's testimony on the issue of whether Grant experienced conscious pain and suffering (which, the court will carefully note, is not necessarily an *unconstitutional* level of conscious pain and suffering in an execution context). The difference between Dr. Cohen's conclusions and Dr. Yen's conclusions is brought into high relief by the fact that their main area of agreement is on the fact that Grant probably died of asphyxia, while their main area of disagreement is as to whether Grant experienced conscious pain and suffering before he died of asphyxia. On this issue, Dr. Yen's well-supported conclusion, based on his decades of experience with midazolam and his personal observation of the Grant and Stouffer executions, is more persuasive.

Based on all of the eyewitnesses' accounts of the execution of John Grant, there is little doubt that, as he lay strapped down supine on the gurney, his airway was obstructed not long after the midazolam was pushed. On that score it is noteworthy that the report of Dr. Michael Weinberger, an expert for plaintiffs, incorporates (apparently with approval) a chart describing a continuum of interventions required with respect to a patient's airway when the patient is placed under sedation. If the patient is under minimal sedation, the airway is "unaffected." If the patient is under moderate sedation, "no intervention [is] required." If the patient is under deep

sedation, "intervention may be required." If the patient is under general anesthesia, "intervention [is] often required." Expert Opinion of Dr. Michael L. Weinberger, Plaintiffs' Exhibit 2, at 30. This is entirely consistent with Dr. Yen's observations (and conclusions) with respect to Grant's breathing difficulties while he lay unconscious and insensate to pain on the gurney. If the airway is obstructed, in Dr. Weinberger's words, "there's going to be motion, possibly motion of the abdomen or chest without actual air movement." Tr. 177.

If, contrary to the court's findings (which are compelled by persuasive evidence), Grant did experience conscious pain and suffering as he was executed, the interval within which he would have experienced pain and suffering would have been very short–less (probably quite a bit less) than five minutes. To be sure, the "pain and suffering" would have been more than negligible, mainly because, being strapped down in a supine position, Grant would have had no way to stop or otherwise alleviate the combined effect of simultaneously regurgitating and struggling to breathe. But the court concludes that pain and suffering of that duration and magnitude, if it occurred at all, falls short of the severity required, for Eighth Amendment purposes, by the Supreme Court's lethal injection trilogy.

B. The Bigler Stouffer execution.

As has been noted, Stouffer was executed at 10:00 a.m. on December 9, 2021. In the execution chamber, Stouffer was accompanied by a chaplain. The chaplain said prayers and anointed Stouffer's head with oil.

After the curtain between the execution chamber and the viewing room was raised, Stouffer made a statement. He did not say or do anything after that (Yen). Beginning shortly after the midazolam was pushed, Stouffer gave no sign of consciousness (Yen). He did not move and his eyes were closed. When the midazolam was pushed, Stouffer was talking, but his words soon became slurred and soon "he

was asleep" (Farris). Tr. 195. Dr. Yen's persuasively-supported conclusion is that Stouffer became unconscious quickly after the execution began.

Dr. Yen did observe the consciousness check performed on Stouffer. A person, presumably a doctor, put both hands on Stouffer's chest and touched at least one of Stouffer's eyeballs. As described by Farris, the consciousness check consisted of calling Stouffer's name, a sternum rub, shaking Stouffer and possibly a check of Stouffer's pupils. Tr. 195. Within thirty to sixty seconds after Stouffer was declared unconscious, Dr. Yen "could see that his belly stopped moving." Tr. 248. Stouffer was declared dead at 10:16 a.m.

Dr. Yen concluded, on the basis of his observation of Stouffer and his extensive professional experience with midazolam, that Stouffer was unconscious 30-45 seconds after the midazolam was administered. The Stouffer execution was uneventful; it went in all respects as planned. The Stouffer execution entailed no physical pain other than the minor and unavoidable pain incident to the insertion of the IV catheters.

C. The efficacy of midazolam when used per Chart D.

The lethal injection protocol at issue is the procedure prescribed in the document entitled *Execution of Inmates Sentenced to Death*, OP-040301, adopted by the Oklahoma Department of Corrections with an effective date of February 20, 2020. Doc. no. 388-1. The lethal injection drug combination at issue is the combination specified in Chart D of the protocol, which calls for the intravenous injection of a total of 500 milligrams of midazolam, followed by 100 milligrams of vecuronium bromide and 240 milligrams of potassium chloride. In Baze, it was uncontested that administration of pancuronium bromide (a drug with effects similar to the vecuronium bromide specified in Chart D) and potassium chloride to a sensate prisoner would pose a "substantial, constitutionally unacceptable risk of suffocation" from

the pancuronium bromide and "pain from the injection of potassium chloride." Baze, 553 U.S. at 53.

In the case at bar, plaintiffs' central contention is that the use of midazolam as the first drug in the three-drug sequence exposes the prisoner to that constitutionally unacceptable risk. The specific risk cited in the Third Amended Complaint is the risk that the prisoner will be sensate when the vecuronium bromide is pushed. Doc. no. 325, at 22, ¶ 62-63 ("the prisoner will experience conscious asphyxiation from the" vecuronium bromide). The present motion amounts to a *de facto* amendment of the Third Amended Complaint to add a contention, based on the Grant execution, that Grant's vomiting and difficulty breathing, even before the vecuronium bromide was pushed, provide an additional basis for a conclusion that the use of midazolam presents a constitutionally unacceptable risk of severe pain. Motion, at 4-5, 10.

i. The possible limitations of midazolam.

Movants' central contentions as to the unreliability of midazolam when used, per Chart D, to render the prisoner insensate to pain, are (i) that midazolam has a "ceiling effect" which may keep even a massive dose from having the intended effect, and (ii) that the effects of midazolam are, in any event, so variable that it cannot be counted on to render the prisoner insensate. Plaintiffs' witness on these issues was Dr. Michael Weinberger.

Dr. Weinberger is affiliated with Columbia University and is Medical Director of the Pain Center at New York Presbyterian Hospital. He is board-certified in internal medicine, anesthesiology, pain medicine and palliative care. Dr. Weinberger is not (and has not been, for some time) in active practice as an anesthesiologist. He has not placed a patient under general anesthesia since approximately 1998. Dr. Weinberger has used midazolam in his practice as an anesthesiologist, the most re-

cent such instance also being in approximately 1998. Dr. Weinberger has used midazolam in palliative medicine (most recently about ten years ago). His present familiarity with the use of midazolam is derived from consulting situations.

Most of Dr. Weinberger's work in this case has consisted of his review of literature he considered to be relevant, together with his preparation of a report based on that review. The major difference between Dr. Weinberger and Dr. Yen, in terms of the impact of their testimony in this case, is that very little of Dr. Weinberger's testimony about the effects of midazolam was based on his personal clinical experience, and even less on any recent clinical experience. And none of Dr. Weinberger's testimony was based on first-hand observation of the effects of midazolam when used for execution by lethal injection as specified in Chart D.

Variability

Referring to the FDA-approved label for midazolam, Dr. Weinberger pointed out that individual response to midazolam is variable. This observation is consistent with the testimony of defendants' experts, Dr. Yen and Dr. Joseph Antognini.

When used as per the FDA-approved label, a clinical dose of midazolam for use with a 200-pound man would be 30-60 mg for the induction of anesthesia.

As for variability, all witnesses who addressed the issue of variability agreed with the unexceptional proposition that the effect of any given drug can and will vary from one individual to the next. The question in the case at bar is whether the variability of the effect of midazolam, when used as specified in Chart D, exposes the prisoner to a "substantial risk" that "is sure or very likely to cause serious illness and needless suffering."

In support of his testimony on the subject of variability, Dr. Weinberger cited an article from the *British Journal of Anesthesiology*. The title of the article is "Effect of Different Kinds of Premedication on the Induction Properties of Midazolam." Plaintiffs' Exhibit 54. That article does indeed address variability in the effect of

midazolam. It is noteworthy, however, that the authors of the article also stated that they "agree with Dundee and Gamble (1981): at least 0.30 mg kg^{-1} i.v. should be administered to induce clinically acceptable anesthesia." This is in the context of using midazolam as a surgical anesthetic. Plaintiffs' Exhibit 54, at p. 510.

This is consistent with an observation in another scholarly article among plaintiffs' exhibits: "Adequate doses of midazolam can reliably produce loss of consciousness." Plaintiffs' Exhibit 51, "Comparative Evaluation of Intravenous Agents for Rapid Sequence Induction—Thiopental, Ketamine, and Midazolam," at 279. Finally, on the subject of variability, there is little question, even on the basis of the testimony of Dr. Weinberger (and the sources relied upon by him) that the potential for variability in the effect of midazolam decreases with higher doses. *See, e.g.*, Plaintiffs' Exhibit 57, an article entitled "Midazolam: Pharmacology and Uses." That article tells us that:

> Midazolam may be used intravenously for the induction of anesthesia (table 2). Induction is accomplished when there is unresponsiveness to command and loss of the eyelash reflex. As an induction drug, midazolam produces sleep and amnesia but it does not have a great analgesic effect. Midazolam is not as rapid acting as thiopental; at approximately equipotent (loss of unconsciousness) doses, thiopental abolishes the eyelash reflex 50-100% faster than midazolam. Also, in comparison to thiopental, the response to a given dose of midazolam is more variable. *However, at higher doses of each drug, this variability greatly is reduced*.

Plaintiffs' Exhibit 57, at p. 317 (emphasis added).

Dr. Antognini concurs with this assessment, testifying that, with anesthetic agents, the variability occurs in the lower dosage range. Tr. 273.

According to one article (published in 2002) relied upon by Dr. Weinberger, variability in the response to midazolam "may be attributed to genetically determined variations in the GABA-receptors making some individuals relatively less

sensitive." Plaintiffs' Exhibit 71, p. 259. This, again, is an unexceptional proposition. The very same article tells us, on the first page, that: "where the goal is deep sedation, midazolam by continuous subcutaneous infusion is often the drug of choice." *Id.* p. 256.

Taking the information to be gleaned from Dr. Weinberger's search of the literature at face value, there is substantial evidence that midazolam can have varying effects on different individuals. As relevant to this case, the most that can be said about the possibility of variability in the effect of midazolam (although this is important) is that the consciousness check is an important step in the Chart D execution process. There is, quite understandably, no evidence as to the degree of variability to which midazolam may be subject when a massive dose of 500 milligrams of it is injected into a patient (or prisoner).

Ceiling effect

The "ceiling effect" is the tendency of the incremental effect of a drug to decrease with increasing dosage.

As for any ceiling effect which may occur with high dosage use of midazolam, the evidence before the court is inconclusive. On one hand, there is no question about the fact that certain drugs are subject to a ceiling effect. On the other hand, the massive dose of midazolam called for by Chart D of the Oklahoma protocol is several times higher than any dosage which might be used in clinical practice. There is no evidence before the court as to the dosage level at which a ceiling effect might set in with midazolam, and, more to the point here, there is no evidence before the court suggesting that a ceiling effect with midazolam could set in at a level lower than the dosage required to render the prisoner insensate to pain. A good example of this is Plaintiffs' Exhibit 67, which discusses the ceiling effect, but does not say at what dosage the ceiling effect occurs. Likewise, Plaintiffs' Exhibit 48 does address the ceiling effect, but presents no data showing that midazolam itself has a

ceiling effect or at what dosage a ceiling effect might occur. The reason that the possible ceiling effect accompanying administration of a massive dose of midazolam has not been studied is that there has been no clinical or ethical reason to give a massive dose of midazolam to a patient (Antognini). The testimony from the experts, pro and con, with respect to the possibility of a ceiling effect with respect to a massive dose of midazolam is, thus, unavoidably speculative, although, in describing the effects of benzodiazepines on GABA-receptors, Dr. Antognini acknowledged that a ceiling effect is theoretically possible. But the court is well-satisfied that midazolam will reliably render a prisoner insensate to pain at a dosage well below a dosage at which a ceiling effect would be anything other than a theoretical possibility.

ii. The performance of midazolam as used per Chart D.

As the Supreme Court observed *in this case* more than six years ago, "numerous courts have concluded that the use of midazolam as the first drug in a three-drug protocol is likely to render an inmate insensate to pain that might result from administration of the paralytic agent and potassium chloride." Glossip, at 881.

Midazolam is an FDA-approved anesthetic induction agent. The FDA-approved label for midazolam tells us that "[w]hen midazolam is given intravenous[ly] as an anesthetic induction agent, induction of anesthesia occurs in approximately 1.5 minutes when narcotic premedication has been administered and in 2 to 2.5 minutes without narcotic premedication or other sedative premedication." Plaintiffs' Exhibit 47, at Bates 3666.[8] The label informs practitioners about dosage as follows:

> *Unpremedicated Patients:* In the absence of premedication, an average adult under the age of 55 years will usually require an initial dose of 0.3 to 0.35 mg/kg for induction, administered over 20 to 30 seconds

[8] Dr. Yen's testimony was consistent with this timing. Tr. 219. And he would expect a 500 milligram dose to take effect "[t]remendously faster." *Id.*

> and allowing 2 minutes for effect. *If needed to complete induction, increments of approximately 25% of the patient's initial dose may be used*; induction may instead be completed with inhalational anesthetics. In resistant cases, up to 0.6 mg/kg total dose may be used for induction, but such larger doses may prolong recovery.
>
> Unpremedicated patients over the age of 55 years usually require less midazolam for induction; an initial dose of 0.3 mg/kg is recommended. Unpremedicated patients with severe systemic disease or other debilitation usually require less midazolam for induction. An initial dose of 0.2 to 0.25 mg/kg will usually suffice; in some cases, as little as 0.15 mg/kg may suffice.

Plaintiffs' Exhibit 47, Bates 3676 (internal emphasis added). These dosages are, of course, far below the "dosage" specified in Chart D.

A scholarly source relied upon by Dr. Weinberger, Plaintiffs' Exhibit 72, tells us flatly that "midazolam is the benzodiazepine of choice for induction of anesthesia." Plaintiffs' Exhibit 72, at p. 842. In fairness, it should be noted that the testimony before the court establishes with reasonable clarity that midazolam is no longer the anesthetic induction agent of choice where deep anesthesia is desired. That is not because midazolam is incapable of producing deep anesthesia; the reason is that if a dose of midazolam sufficient to induce deep anesthesia is used, the patient's recovery time will be considerably longer than the recovery time typically experienced with other anesthesia induction agents. In a clinical practice in which it is desirable (or perhaps required) to get the patient out of the hospital or surgery center within a few hours, the fact that high doses of midazolam take a considerable amount of time to wear off would, alone, be sufficient to make other anesthetic induction agents preferable (Yen, Antognini).

Midazolam can be used to decrease anxiety, to induce amnesia, and to induce general anesthesia (Yen, Antognini). In Dr. Yen's practice, the use of midazolam to induce general anesthesia is rare, and he has not recently used midazolam for that

purpose. The reason for that is that the amount of midazolam he would need to administer to induce general anesthesia "would keep the patient very very sleepy afterwards." Tr. 215. Or, as Dr. Antognini put it, a dose of midazolam high enough to induce general anesthesia "would last too long." Tr. 275.

Midazolam is a reliable drug for use as intended in Chart D. It may be relied upon to render the prisoner insensate quickly, to the end that, shortly after the midazolam is pushed, the prisoner will not sense intentional or unintentional stimuli. The evidence falls far short of establishing that the use of midazolam and the other two Chart D drugs in the executions of Donald Grant and Gilbert Postelle will be "*sure or very likely* to cause serious illness and needless suffering." Glossip, 877 (quoting from Baze, emphasis in original).

These movants have failed to demonstrate a likelihood of success on the merits with respect to Glossip's first prong. It is, consequently, unnecessary for the court to consider the other three prerequisites to preliminary injunctive relief. Warner v. Gross, 776 F.3d at 736.

V. Glossip Second Prong

Two credible experts disagreed as to whether execution by firing squad would be less painful than execution as provided in the Chart D protocol. Dr. James Williams, called by plaintiffs, opined that execution by firing squad would be less painful. Dr. Yen disagreed. It is not necessary for the court to resolve that disagreement between these two experts. That is because the comparison of a "known and available alternative,'" Bucklew, 1125 (quoting from Glossip at 878) to execution per Chart D is a live issue only if the prisoner has carried his burden of proof on Glossip's first prong. These movants have failed to do so. And antecedent to that inquiry is the fact that Donald Grant and Gilbert Postelle, having previously refused to designate an alternative method for their execution, are foreclosed from satisfying Glossip's second prong. *See*, Glossip v. Chandler, 2021 WL 4760383, at *6-8 (W.D.

Okla. Oct. 12, 2021) (denying Rule 59 motion); and Jones v. Crow, No. 21-6139, 2021 WL 5277462, at *6, n. 11 (10th Cir. Nov. 12, 2021) (separate view of Tymkovich, C.J.). Their change of position as to an alternative method of execution came too late.

VI. Conclusions of Law

The court's understanding of the substantive standards governing this motion is stated at length in its August and October orders, as set forth in Part II, above. It is sufficient to say here that a prisoner who challenges the state's method of execution must show that the state's method presents "a substantial risk of severe pain." Bucklew, at 1125. A method of execution that presents a "substantial risk" is one that "is *sure or very likely* to cause serious illness and needless suffering." Glossip, 877 (quoting from Baze, emphasis in original). Messrs. Grant and Postelle have not made that showing. They have not shown that, in the words of the Supreme Court, it is "sure or very likely" that their executions will entail physical pain more severe than that attendant to the insertion of the IV catheters.

VII. Conclusion

For the foregoing reasons, the Emergency Motion for Preliminary Injunction, doc. no. 551, is **DENIED**.

IT IS SO ORDERED this 14th day of January, 2022.

STEPHEN P. FRIOT
UNITED STATES DISTRICT JUDGE

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