IN THE UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MISSOURI
WESTERN DIVISION

MICHAEL TAYLOR,	)	
	)	
Plaintiff,	)	
	)	Case No.
vs.	)	05-4173-CV-S-FJG
	)	
LARRY CRAWFORD, et al.,	)	
	)	JUNE 5, 2006

TRANSCRIPT OF TESTIMONY OF JOHN DOE NO. 1

On Monday, June 5, 2006, the above-entitled cause came on before the Honorable Fernando J. Gaitan, Jr., U.S. District Judge, sitting in Kansas City, Missouri.

APPEARANCES

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JOHN DOE NO. 1

MONDAY, JUNE 5, 2006

THE COURT: I think one of the things we want to do before we get started, Mr. Pritchett, I need for you to state for the record that the individual who is present today representing themselves to be John Doe No. 1 is in fact that person who has been held out during the course of this litigation to be John Doe No. 1.

MR. PRITCHETT: I will, Judge. The person here today representing himself as John Doe 1 is the person we have represented throughout this litigation as being John Doe 1, the physician that is present during executions in Missouri.

THE COURT: All right.

MS. ANDERS: I'd just like to note for the record that I cannot see the doctor behind the screen and I cannot tell whether he is consulting any documents, papers, anything else, and I cannot observe his demeanor. And plaintiff did not have any notice that that would be the case.

THE COURT: I think it was implied, Ms. -- what is your name?

MS. ANDERS: Anders, Ginger Anders.

THE COURT: Ms. Anders. It was implied in the order. I'm sorry you didn't catch that implication.

And I'll say this, if the witness is referring to

documents, you may be free to ask him if he is referring to documents and what documents they are. Okay?

MS. ANDERS: Thank you.

THE COURT: Rhonda, do you want to swear this witness in and we'll get started.

JOHN DOE NO. 1, called as a witness on behalf of the Plaintiff, being first duly sworn, testified:

MS. ANDERS: Before we start, has there been a ruling on the protective order?

THE COURT: I'll rule on that at the end of this.

MS. ANDERS: Thank you. And I'd also like to note for the record that plaintiff would respectfully reiterate --

THE REPORTER: I can't hear you.

THE COURT: There is a microphone on the desk, or you can step up to the podium to do your examination.

That isn't working? We have been having microphone problems.

MS. ANDERS: So once more I will reiterate plaintiff's objections to both the substantive and the duration limitations on the deposition.

THE COURT: I guess if you reiterate, I reiterate. How's that?

MS. ANDERS: Fair enough.

DIRECT EXAMINATION BY MS. ANDERS:

Q Doctor, my name is Ginger Anders and I represent plaintiff Michael Taylor in this litigation and I'm here to depose you today. So first I just wanted to establish a few standard groundrules for the deposition. Have you ever been deposed before?

A Many times.

Q So you're probably familiar with this. What types of cases have you been deposed in?

A Criminal.

Q What types of criminal cases?

A [redacted] I was testifying in numerous cases, death cases, murder cases. Federal cases.

Q Any other types of cases?

A Malpractice cases as an expert witness, plaintiff, defendant -- not as plaintiff, but as a defendant on malpractice as an expert witness many times.

Q Okay. So you will be familiar with these instructions I'm sure.

A Yes.

Q But just to go over them once more, if you could speak up for the court reporter, she can't see if you nod or gesture or anything like that. Is that okay?

A That's fair.

Q And just tell me if you didn't understand a question. If I may say something that isn't quite clear, please tell

me and I'll try to rephrase. Okay? Do you understand that?

A Yes, I understand.

Q Okay, thanks. And please tell us if you need a break. The only thing about that is I ask that if you to need a break and a question is pending, that you answer the question first and then we can take a break.

A Great.

Q And if you could also please answer my questions before consulting with your attorney. You are certainly allowed to consult with your attorney, but if there is a question pending please wait until you have answered it first.

A Great.

Q Okay. And I'd just like to say for the record that I'm not here to try to discover your identity. I'm here to ask you questions about the execution procedure and your role in it, and most likely there will be a protective order that covers parts or all of this deposition so it won't be publicly available.

So if you could please list for me every document that you have reviewed in preparation for this deposition.

A In preparation in the last 24 hours, or the last thirty years?

Q For this deposition in particular.

A I met with Mr. Pritchett yesterday to discuss some of the previous documents that we had and I reviewed them for about an hour last night and that's all.
Q So you reviewed the documents in the possession of the state and the Attorney General's Office?
A Yes.
Q Did you review any of plaintiff's filings in this case?
A If they were with my documents, yes. But I do not specifically remember any of those.
Q Okay. Thank you. I'd like to introduce a couple of exhibits right now.
THE COURTROOM DEPUTY: Have they already been marked?
MS. ANDERS: They have not been marked.
THE COURT: The court reporter will not be handling the late marking of your exhibits. That's what the courtroom deputy is here for.
MS. ANDERS: Okay.
THE COURTROOM DEPUTY: Is this No. 1?
MS. ANDERS: Yes, Exhibits 1, 2 and 3.
MR. PRITCHETT: Which order will they be in? The first set, No. 1 --
MS. ANDERS: The first set will be Exhibit No. 1. The supplemental interrogatory answers will be Exhibit

No. 2. And the answers to the court's order, Document 148, the court's interrogatories, that will be Exhibit No. 3.

THE COURT: Rhonda, why don't you take them to the witness.

THE COURTROOM DEPUTY: All of them, or --

THE COURT: Yes.

THE COURTROOM DEPUTY: It will take me a minute to mark all of these.

THE COURT: Well, they need to be marked if they're going to be exhibits.

MS. ANDERS: Would you like a copy, Your Honor?

THE COURT: If you have an extra one, yes. If you don't, don't worry about it.

MS. ANDERS: I do.

THE COURT: Thank you.

MR. PRITCHETT: Judge, if we get into questions such as where did you graduate from school or what year or specifically what -- when you received certain certifications, pending your ruling I have asked the witness to be generic in responses to those questions and say to give a range of years or perhaps a general locality as to what schools he may have attended.

THE COURT: I'll address those when we come to them. Okay.

MS. ANDERS: Okay.

Q (By Ms. Anders) So, Doctor, you have just been handed three documents. Have you seen these before?
A Yes.
Q And are these your answers to plaintiff's and the court's interrogatories?
A Yes.
Q Did you prepare these answers?
A With Mr. Pritchett, yes.
Q Did you review them before they were submitted?
A I think I did.
Q Okay. I'm going to be asking you some questions about some of your answers and I also probably will assume your familiarity with some of the answers, so if I ask you about a particular answer and you don't immediately remember it, please just let me know and I can point you to the relevant answer so you can refresh your recollection.

A Okay.
Q So I'd like you to take me step-by-step through the process by which you mix thiopental solution for an execution.
A Okay. What, where --

Q Just start at the beginning, assuming, since I have no medical background I need a pretty basic explanation.
A Last year, ten years ago, thirty years ago?
Q The general process you have used for recent

executions and just how you'd instruct somebody if they were going to do an execution in the near future.

A Oh, well, we were discussing this because pentothal currently comes in a container that allows only the container to be inserted into itself and mixed with a specific volume. In order to demonstrate this to the court we tried to locate the specific container. There is not a single hospital, surgery center, or ambulance literally in the state that still carries pentothal.

So what we were using is a formulary dose that was provided by the drug company to allow the hospital to bill individually to patients rather than using the large multi-dose vial. It's not designed to be removed from its container. So currently I have devised a method to mix the pentothal with an improvised technique that allows me to insert sufficient pentothal into one syringe so that a nonmedical person can inject it in the dark.

Q And could you take me step-by-step through that, your improvised process?

A I'd have to see the containers because I cannot at the present time remember whether they have glass or -- they are actually just two straight-walled glass bottles. One has powder in the bottom, one has liquid in the bottom, and they are designed to lock together and mix. So I have to stick a needle through this plastic and inject my own

diluents which I know will give me no more than 50 cc's for the final product, which is what I'm aiming for for the final injection.

We have encountered problems trying to mix more than three or four grams using this method, mainly because of an inert substance possibly put in by the manufacturer to prevent mis-mixing, which I know several drug companies will do. So right now the last time I saw and talked to the Director on each of these occasions saying we either need to change what we say we're dosing or we will have to go back to the original five-gram bottle that was available when we instituted this procedure. So right now we're still improvising. And he's also having me researching an alternate drug if it comes to that.

Pentothal was chosen originally by the engineer that designed the machine because it is a long-standing drug. Every physician was familiar with it. It was available all over the United States and it was not going to be recalled off the market for any reason so it was going to be available for a long time. All the drugs were chosen on that criteria rather than some exotic -- and again, it was done by an engineer, not by medical personnel. We simply went along with its choices because it made sense.

Q Okay. So let me step back for one moment, because I

don't have very much background in this. In previous executions when you are preparing a dose of five grams of thiopental, how did you accomplish that? How did you mix it?

A The thiopentothal five-gram bottle is about the size of a Coke bottle and it was designed for the anesthesiologist to arrive at work in the morning, fill this Coke bottle with five grams of pentothal and use 200 to 500 milligrams per patient for every anesthetic that she gave that day. At the end of the day she could put it in the refrigerator with her name and label and use it the next day.

The hospital didn't like this because it allowed for poor control. Left the drug out and so the hospitals have gone to this 500-milligram unit dose bottle so they can bill patients individually. And so they sign out a specific drug to a specific patient and there's no extra left over. And that's basically what -- the economics of the medical use.

Q I'm sorry, I'm having a little bit of trouble following. So did -- have you given five grams of thiopental, prepared five grams for an execution since the vial size was reduced to 500 milligrams?

A No. And we only used five grams because that's the size of the bottle. Because the DEA requires a separate

disposal log of any drug not used and we would have to create disposal records of drugs we didn't use, so we simply use the five grams because that's how it was supplied.

Q I see.

A If it had been a four-gram bottle we would have been using four grams. The original protocol called for one gram, and from my experience doing surgery inside prison facilities, I was quite aware that one gram in chronic drug addicts was an insufficient dose to ensure that they would be sedated. So -- but a two-gram dose would cover 99 percent of all drug addicts and inmates. So we arrived -- initially with the injection machine I specified that it had to be changed to two grams because the one gram could be insufficient in some cases.

Q Okay. Thank you. I'm just going to introduce another exhibit now.

Have you seen this before, Doctor, this document?

A This is a page taken from the log that was kept by the prison.

Q Is this -- this reports the chemicals that are used and disposed and their amounts in each execution; is that correct?

A It's, I would have to say, an approximation, yes. It's the -- the only thing that is significant on this as

far as I'm concerned is the amount of pentothal that is used or disposed of. Potassium and pancuronium are not a controlled substance. The DEA does not care what we do with it, but they do want to see if we have a record of pentothal used and pentothal disposed, and that's all it's for.

Q I see. Thank you. If you could turn -- this has two pages on it, right?

A Yes.

Q If you could turn to what is the back page, the lower page, and if you would just look with me at the entry that's dated 3/16. It says Stanley Hall on it.

A Yes.

Q And there does it say -- how much does it record under the amount column for sodium pentothal?

A It says five grams.

Q And under the vial column?

A It says ten.

Q So I guess I'm still having trouble following. So five grams were given to Stanley Hall; is that correct?

A It shows to be that five grams were taken out of the cabinet. Whether we were able to give him the full five grams or not, this record is not supposed to show that. This is more of an inventory for the prison to keep track of drugs.

Q I see. So you're saying that the five grams may have been checked out --
A It was checked out, and I noticed when I finally saw these records is that sometimes it would show different amounts because after we tried to deal with it, I'm sure what happened on this instance is we took ten bottles, we opened them. I was unable to mix this. We show that we gave the five grams because we have no provision for showing that we disposed of three and gave two, or disposed of two and gave three, because this has not been set up that way. We either show we used it all or disposed of it all.
Q I see. So even though there is no indication on this form that any particular amount of pentothal was disposed of, you're saying that you may have actually used less than five grams in that --
A Yes, we may have injected less. We are still way over the amount required to accomplish what our objectives are.
Q Do you remember how much you may have given during the Stanley Hall execution?
A I don't remember specifically that, no.
Q Do you have any -- can you speculate as to how much, based on your experience in these executions?
A Well, I need to back up a little bit. When I was involved in the initial executions when the death penalty

was instituted, we were still looking at cyanide and when the lethal injection came along, [redacted] I advised [redacted] that the doses, the rate of administration was too slow with using the injection machine. Therefore, we quickly converted to hand injection like they've always used in Texas simply because the machine cannot account for differences in flow, differences in IVs, rates of administration. All of the problems with lethal injection have nothing to do with the drugs. They have to do with the quality of the IV, its location and how fast the drugs are given. If you have a poor IV, you're going to get a poor result. All of the bad results are from poor IVs, not wrong doses of drugs.

When given two grams, 20 milligrams or so of pancuronium and 100 milliequivalents of potassium, 100 percent of people will die from those injections.

Q Okay. And just for the sake of completeness, could you look at the entry under the one we were just talking about, which is 4/26. It says Donald Jones. Do you see that one?

A Yes.

Q And that also says that five grams were checked out of sodium pentothal?

A Yes.

Q And then the vials column, could you describe what you

see there?
A I see a 10 and I notice now it's marked out. I would never have seen this once the execution was completed, but I know now that someone initialed and wrote in that eight had been used because apparently they checked the inventory and based on their inventory, so we may have taken ten out and put two back is the only thing I can speculate on that.
Q And do you remember how much sodium pentothal you actually prepared for that execution?
A It could not have been over four grams, but whoever wrote that in the log, and I can assure you that is not my writing, said that I gave five grams. But again, I don't know who wrote that in this log.
Q I see. Thank you. And then on the first page of this log, I guess the top page, for 5/17/05, Vernon Brown, would your testimony be the same, that five grams was checked out but that's not necessarily how much --
A It shows five -- ten vials were checked out and ten vials confirmed at inventory, so for some reason the ten vials were either used or disposed of in this case.
Q I see. But do you remember whether you injected five grams or not, or prepared five grams?
A Specifically in this instance, no, I do not remember.
Q But based on your previous testimony, do you think it would have been less than five grams?

A It could have been less than five grams. My objective though is still trying to -- again, the amount is not nearly so important as the speed, route, concentration, body weight, body fat. There are many, many other factors. Pre-medication. All of these have much -- as much or more effect as this total dose does.
Q I see. Thank you. So then if you could just take me down to the next entry. I guess it's the entry after the next one. 5/30 or 6/30.
A Yes.
Q So if you could just explain to me here. It looks to me it says five grams under the amount and then under vials it says six.
A That shows six, yes.
Q So that means that six vials were taken out?
A Six vials were confirmed at inventory.
Q And what dose is six vials?
A Under this system -- again, we have had several different drugs. We have had different doses of pancuronium. We definitely have had different concentrations of potassium. So I don't know at what point -- I'm dealing with what I see at the time and what I'm required to mix to get this to work. So whether that was a different manufacturer or whether we still had the 500 milligram -- it's my best recollection we had a similar

type of 500 milligram vial to work with at that time.

Q I see. And that's a pretty standard vial size; is that correct?

A Until we get a different size, yes.

Q Okay.

A Right now nobody is using it, so I don't know if we're going to have this available, but we are going to make attempts to get that or some other size that we can work with.

Q Okay. So if you could just -- if we could just go back to the Gray execution which we have been talking about in this case as an execution in which you prepared five grams of thiopental.

A Which date was that?

Q That was on 10/26/05. That's the second to the last entry in the chemical log. I was just going to ask you a few questions about it.

A Yes.

Q Are you aware that your counsel represented to this court on May 17th that five grams of thiopental had been prepared and given for each execution, including Mr. Gray's?

A He may have.

Q Assuming that he made that representation, was that accurate?

A By seeing this log, it probably was not accurate.
Q Do you have any idea why he may have made that representation at the time?
A I can give you a very good reason.
Q What is that?
A Well, when I was requested to come back and get involved with the execution process, my main objective was and I was charged by the Director, they had had a very difficult execution in which the inmate took approximately 25, 30 minutes to expire which caused a flurry in the press and embarrassment to the prison. And my job as a surgeon was to ensure that they had an adequate IV.

Secondarily, I was also involved in adjusting the doses and keeping -- making sure that these personnel were able to give the doses rapidly in the dark by nonmedical personnel. So my objectives were to keep the syringes consistent, the labeling consistent, and the timing consistent, which is very, very important.

And in that process I was more concentrating on how and why the drugs work, because we really had nothing to go by. If you go back in the history of executions, the hangman had to refer to a chart for size of rope, length of drop, weight of inmate to determine whether a hanging was accomplished. So since there was no other source, and I was the only physician involved in any executions, I think

it fell to me to determine if we were doing an adequate job.

So under this protocol that I devised for nonmedical people to do the injecting, we would inject the first syringe of pentothal and the inmate would be unconscious in 15 seconds with no cardiovascular depression.

He would then give the pancuronium, which requires the heart to still be beating and it has to circulate for at least one minute, which is the time a nonmedical person has to change syringes. As this circulates, it paralyzes all voluntary muscles. If you give it too quick or your timing is off, you're not going to get the right effect.

Then the two vials, the two ampules of -- or two syringes of potassium chloride were sufficient for a person under 300 pounds to stop cardiac activity. Otherwise, you have to wait 15 minutes for cardiac activity. But the person will be paralyzed in 15 seconds as the dose goes in and the effective heart beat will stop within 15 seconds. We wait another minute or two so all electrical activity is stopped so no one will question.

So my concern is to follow that type of schedule, so I am -- and I'm quite aware in other jurisdictions that they would -- they can't get the five gram and they have

also used two grams, and I knew and was figuring at that point in time that a five-gram dose might be criticized as being excessive. I knew it wasn't, but again this being reviewed by nonmedical personnel who would look for any reason to criticize. So I was totally comfortable with -- especially when we're dealing with this difficult drug, to say -- and by 10/26 I said get out five, I'll give 2.5, and again observed that within 15 seconds the patient was -- the inmate was unconscious, and there was absolutely no change in the timing.

My main objection is, my obligation to the director is, he is able to go out and does not have to explain to the press why did this happen, why didn't this happen. As long as protocol is followed, death has occurred within two to three minutes 100 percent of the time and the witnesses are totally unaware even when and how the injections are given. There is no reaction. There's no grimacing. There's no writhing. There's no pain. There's no feeling whatsoever. It is a very calm procedure. And that's what I'm trying to maintain.

Q Okay. Let me just unpack a few things in that answer. Let me just go back for my benefit. So I think you testified that the DOC requested that you come back after a particular execution; is that correct?

A Yes.

Q And what was the reason for that?
A The inmate was a drug addict and they could not get an IV line in. They finally put the needle in his thumb, and you cannot give these drugs through the thumb and get the result you expect, so it was a prolonged execution which caused a lot of embarrassment and it should not have happened.
Q Do you remember which execution that was?
A I do not. I was not there.
Q About what year was that?
A At least ten years ago, possibly.
Q And I think you also stated that you devised the current procedure as it has to do in the past ten years or so since your participation?
A Again, I was the only physician available anywhere to ask about how and what. No one has any experience with this drug and currently no one has experience with these drugs anymore simply because other drugs are currently being used, so I have to be the authority, I guess. [redacted]
Q I see. So you came up with the current procedure?
A Yes, I did.
Q Did you consult anybody in the course of doing that?
A I just said no one else knows anything about this.

Q Okay. Thank you. And so when you devised the procedure, I think you said that your goal was to have death occur quickly and very --

A Painlessly. With no apparent suffering that the public can observe, which they will make the most of.

Q I see. Thank you.

So I think you also said that it has been a relatively -- strike that. I'm sorry. I think you testified that since the vial size of thiopental has changed to 500 milligrams it has been consistent that you haven't mixed five grams and haven't -- and five grams hasn't been injected; is that correct?

A The total dose to me was insignificant. My focus was on the objective of making it -- and if you look at the times of injection and time of -- the amount -- the timing of the injections and the time that death occurred, there is no visible difference in any of these. You cannot tell from the dose given.

Q I see.

A There's no way to tell.

Q Sure. Could you look, please, at your answers to the first set of interrogatories. It's on page 24. This is Interrogatory No. 63.

A Page 24.

Q Your answer there is at the bottom of the page. And

could you just read that answer for me.
A "John Doe 1 states that this entry means that 2.5 grams of sodium pentothal was prepared and administered at this execution. John Doe 1 adds that he/she did not initially recall having prepared a smaller dose of sodium pentothal than usual at this execution. John Doe 1 states upon further thought and review of the drug log that he/she recalls that he/she prepared a smaller dose because it comes to his/her attention that other jurisdictions considered a dose of sodium pentothal as large as five grams to be larger than necessary and John Doe 1, based on his/her medical judgment concluded 2.5 grams of sodium pentothal was more than adequate."
Q So you stated here that you initially did not recall that you prepared a smaller dose; is that correct?
A Yes.
Q Was that accurate at the time that this was written?
A Yes.
Q Okay. Do you have any idea why you might not have recalled initially that you prepared a smaller dose, given that it was relatively consistent that you prepared a smaller dose than five grams?
A I can save you a whole lot of time and offer my apologies to the court, but last night I was trying to pay my cable bill and I had two hours. I realized I had copied

my account number by dropping one digit and transposing two. In surgery, that's not important. But I am dyslexic and so I can recall in the operating room specific facts and details of operation and function perfectly, but in terms of copying one line to another or trying to simply copy a phone number or account number I will sometimes transpose numbers even when I'm staring at the two numbers. So it's not unusual for me to make mistakes.

But in the operating room where I have no notes, no letters, just my mental files which are extensive, this -- and I am capable of doing 20 to 25 operations a day when I go on these medical missions, without any errors. But I am dyslexic and that is the reason why there are inconsistencies in my testimony. That's why there are inconsistencies in what I call drugs. I can make these mistakes, but it's not medically crucial in the type of work I do as a surgeon.

Q Okay. Thank you. I'm just trying to get it all straight for --

A Well, I may contradict myself again.

Q I understand. We all do sometimes. So looking at this answer again, it states that you prepared only 2.5 grams because it had come to your attention that other jurisdictions considered a dose of sodium pentothal as large as five grams to be larger than necessary and based

on your medical judgment you concluded that 2.5 grams was more than adequate. Is that correct?

A All other jurisdictions use two grams, period.

Q And what is the source on which you base that?

A Direct communication with states involved in executions.

Q Have you communicated with California?

A Yes.

Q I think California uses five, or used, but I could be wrong on that.

A No. I just talked to them a month ago when they had this fiasco.

Q If I could just ask what you meant by necessary in this answer, when you said larger than necessary.

A It's adequate, but excessive dose has no bad effects. I mean, I could possibly give as much as ten grams, that would really be over-kill but it would not really -- the drug was chosen because it doesn't cause cardiac vascular depression so it means you can give a lot of it and your heart will still beat fine. So that's why this drug was given because the muscle relaxant requires heart beat and blood pressure to be effective. If you gave a drug that had a chance of stopping the heart beating, of course you expect that at an execution, but then you could not give the muscle relaxant and the other drugs because they

require a heart beat to circulate and be effective.
Q When you said 2.5 grams was adequate, you mean adequate to cause unconsciousness?
A One gram will cause 90 percent of the population to be unconscious. The extra gram is for that small percentage of drug addicts that had excessive drug use, they produce enzymes in the liver that allows them to metabolize pentothal at a much more rapid rate.

The problem with all of these drugs is if you give the dose and you do not get the effect you need, you cannot simply add more drug to get the dose. You must repeat the entire dose. So if you had chosen a two-gram dose just theoretically, and you gave it and a person did not become unconscious, rather than giving another 500 milligrams, most likely you would have to give another full two-gram dose. So we have -- I had to adjust the doses to guarantee that we would not have to redose anybody. So that's as much a reason why these numbers were chosen.
Q I see. I'm sorry. And if you gave two grams initially why would you then have to give another full two grams after that?
A That's the way all drugs work. You can't simply add more to it to get what you want. You must repeat the entire dose because the body -- as far as the body is concerned, that drug is completely gone. If that person,

you gave him two grams and he's awake, there is no pentothal circulating in his body, so you must give another full two grams or more if you want an effect. You can't simply add to the dose you have given. It doesn't accumulate.

Q I see. And then do you recall that in interrogatory answer submitted on May 25th, these were in response to the court's interrogatories, you stated that you had prepared only 2.5 grams because you had difficulty dissolving more than 2.5 grams?

A Upon seeing the drug log and inventory, yeah, then I did remember. But I have a lot of other things I'm involved with and busy with and doing out of the country long periods of time. So, yes. And one of the problems with being dyslexic is you have to be confident in what you're doing at the time, so I was fairly confident that I had mixed five grams. Then when I saw the drug log and the inventory, obviously that is when I made the change. But at that point in time I could remember the details of what was involved in that and how I had to try to mix it. But for the most part I would have answered five grams had I not seen the log and the inventory and realized they were inventory of what was left.

Q Okay. Thank you. So just going back to the Gray execution once again. So you encountered a problem during

the mixing process.
A As soon as they went to the ten vials, yes. I go to the execution chamber and we're on a time frame. I have minutes to get the drugs ready, minutes to ensure a perfect IV. There's no time to call the drug company at midnight, the Director or nursing staff to change. I am required to deal with what I am given and make it come out right and make this -- make it happen I guess is best way to say it. And since, when I analyzed what I was dealing with, I had more than enough to make everything happen according to what they were expecting to happen so there was no reason to break protocol or call a delay or call the Director or something because he was counting on me to keep my end -- do my part and there was nothing in there that I saw that I couldn't do it. I was able to modify what I was given and he was totally unaware that there was any change in dosage, because the timing was exactly the same. And he's almost to the point of counting on this predictability and the reliability of our method.
Q So how much pentothal did you set out to mix for the Gray execution?
A Independently I don't remember. All I have is this log of the person that says it came back in inventory. And again, to me, that was not as important as the fact that I had enough to effect a loss of consciousness in 15 seconds,

and in fact I do remember when we used only the 2.5 -- and that is my handwriting that shows five vials and 2.5 -- the inmate was unconscious in 15 seconds and we didn't change the order of rotation, size of the syringes or the guards that are actually doing the injections.

Q And do you remember about how long you had to mix the drugs?

A We have about a ten-minute window to make a decision.

Q Was that the case with the Gray execution as well?

A It's always.

Q Okay.

A We arrive approximately an hour before. We have to prepare the central line tray, get all these drugs from their different locked sources, get all the tubing arranged, the EKG monitoring, the IV tubing, mix all the different solutions and flushes, so while we're not rushed or stressed we definitely don't waste any time. Because we arrive, we have experience, everybody knows what to do. They get the job done. And for that reason I am the one that always mixes the pentothal because it's very difficult for someone who is not used to this to accomplish it.

Q Sure. So you took about ten minutes during the Gray execution. At the end of that ten minutes were the 2.5 grams fully dissolved?

A Yes.

Q And on what do you base that?
A I would not have proceeded had it not. I would have modified, added more solution, transfer it to another container, do whatever was required. Had I had to switch to two syringes, then there would be a problem with the timing. Then I would have notified someone and said, hey, we're going to have a problem, it's going to take twice as long to inject the first drug. I made the decision that I could have sufficient in the same syringe, the timing of the execution would be exactly the same, and for the people doing the injecting, I didn't have to change their understanding of what they had to do, that they had to do this one -- the people who do the injections are nonmedical and they're in the dark so they have a small flashlight that they're able to quickly identify the syringes, make the appropriate connections and injections, disconnect, clamp the tube, and changing the number of syringes or the order of syringes was an unnecessary risk.
Q I see. So did you consider using two syringes?
A No, because I was able to get 2.5 in one syringe.
Q So you didn't consider it an option to fill two syringes each with --
A I could have done whatever was needed, but had I changed to two syringes, then I would notify somebody that this is going to be different. There was going to be a

delay, because we have to add an extra syringe to the process. Since I was able to get 2.5 -- and I knew two grams was more than adequate. Actually had I gone down to one gram I would have notified somebody. But as long as I was within the 2 to 2.5 range and I could get it all in one syringe, they didn't want to be bothered, because as far as they were concerned this was going to go as smoothly as it always had.

Q So you didn't want to add another syringe because it would increase the amount of time to do all the injections?

A It would confuse the nonmedical people giving the injections. These are nonmedical people. They're either guards, wardens, whatever, whoever they designate to do the injecting. That's the first time probably in their life they have picked up a syringe, and it's a Luralock twist connector and then they have a separate clamp where they have to clamp and unclamp the tubing, so it's a little stressful for them to be doing this and still have to do these manipulations. I mean, I can do it in my sleep, but for them it's a job. So I had to keep it -- my objective there was keeping it consistent so nonmedical personnel could understand what they were doing and it wasn't any different than they had seen it done before or they had done it before. That was my priority.

Q I see. And so for the Gray execution, how many cc's

of thiopental solution did you end up with?
A I think I wound up with 40 cc's, from memory, 40 cc's of 2.5 grams. Again, speed and route is as equally important as a lot of other things. So if you have 2.5 and you can get it in 40 cc's -- again, there's no way to know what the final result is going to be, so I had 2.5 in 40. It made no sense to add another 10 cc's of nothing when I had it all dissolved in a 40 cc syringe, which basically again is one dose, and save time on injecting.
Q It's my understanding that the syringe holds 60 cc's; is that correct?
A Actually it holds 70, but some are marked 50, some are marked 60, so therein lies the confusion of whether we use a 50 or 60 or 70 cc syringe. I could put 70 cc's in all of these syringes, but the markings go either to 50 or 60.
Q I see. And you didn't consider dissolving more thiopental and additional --
A No, because we had more than enough. And by this time I was more than -- after several other experiences and also dealing with other states and communicating with them, and also realizing their responding outside pressures, I was entirely comfortable that anything over two grams was more than enough for any execution, provided that the inmate did not weigh over 300 pounds.
Q Sure. And just so that I'm clear, is there also a

flush solution with Heparin in each syringe?
A I do that simply because it guarantees that there will be one minute between the injection, so part of that has to do with getting a rhythm for the individuals giving the injections and it allows the other one to flush and circulate sufficiency to have an effect.
Q I'm sorry. I am having trouble following. You say it guarantees one minute between injections. What do you mean?
A It takes a minute to clamp, unclamp, grab another syringe, reclamp, unclamp and start injecting. So, yeah, then they inject a flush and then after they flush they clamp, unclamp, unhook the syringe, then grab another syringe of the next drug and then start injecting that, so you can't -- if you rush, you can do it in two and a half minutes. If you take it slowly, you can do it in about three minutes. So there's so many physical clampings and unclampings that it takes a set amount of time to do the injection. I take that into consideration when I prepare the solution.
Q So you're aiming for about one minute --
A They can inject a syringe in 30 seconds and it takes them 30 seconds to reconnect another syringe after they've flushed.
Q I see. And I'm still having trouble following. I'm

sorry. I think there are six syringes total?
A Just an approximation.
Q Okay. So if there's six syringes total, I'm sorry, so is it about two syringes per minute, is that right, to get it done in three minutes?
A The guards understand this. They just simply pick up the next syringe and give either half or the entire amount, and it takes about three minutes because the time of death, as you see from the logs, occurs at three to five minutes that we announce and that's the time when electrical activity is completely ceased so we have stopped injecting for at least two minutes at that time.
Q I see. And which syringes do they give half of?
A One of the flush.
Q Is there just one flush syringe?
A Two flush.
Q Okay. Thank you.
A They are colored differently. We added a coloring agent so they are easy to identify in the dark. We use a methylene blue solution so they are a bright blue color even in the darkened room where we're working so they can easily identify them. Even though they're labeled, they are also a different color so they know which syringe they're injecting even if they can't see the labels.
Q I see. And there isn't any methylene blue in the

nonflush syringes?
A All the flush is blue so they can immediately identify them in the dark.
Q And the methylene blue goes in the flush solution with Heparin; is that right?
A Yes. The Heparin is probably redundant simply because the newer catheters we receive are Heparinized catheters and probably wouldn't clot for a twelve-hour period if we absolutely gave nothing through them. So it's just an extra safety factor. We don't want anything to go wrong, so I have prepared for every possible failure in the way I mix the drugs.
Q Sure. And when you put the -- some of the flush solution with Heparin into the syringes that also has some of the chemical in them, does the flush solution at that point already have some of the methylene fluid in it, or do you add it later?
A No, the flush solution only goes in after we have mixed the other ones so there's no cross-over.
Q I'm sorry.
A Only the flush solution is blue. All the other drugs -- the pentothal it yellow. The pancuronium and potassium are clear. So they can easily identify the yellow from the blue from the clear. And the two clear are separated by a blue syringe in between so they can't

get mixed up.
Q And when you add flush solution to -- I'm sorry. Let me step back. I think you said earlier, just a bit earlier that you add some flush solution with Heparin to the syringes containing each of the chemicals; is that correct?
A No.
Q I'm sorry. I think you said a little bit earlier that you improvised a method for dissolving the thiopental. Could you explain that to me again?
A Well, it depends on what they hand me, what kind of corks, what kind of needles, what kind of glass bottles they're in. I could dump it in an ashtray and pour water in it and suck it in a syringe, that would be one way to do it, but I'm trying to do it in a sterile fashion and medical fashion. So I'm able to put a needle around the plastic stoppers and inject solution into the powder and then aspirate it through that same 50 cc syringe. I'm able to do that five times on five separate bottles without spilling too much and getting assured that I have 2.5 grams in my final solution after I have shaken up those five vials.
Q I see. And maybe if you state it more simply for me, because I'm still not getting it. So you start out with the syringe and a bottle. And is the thiopental powder in the bottle or in the syringe?

A The thiopental is in bottle, but it's not a bottle in the sense -- it's a straight cylinder tube with a plastic cork that is designed to lock on to another plastic cork that contains water. As the two mix, then it goes out the other end and there's a needle built into the system, so if they use their system we would be required to break the needle off of either five or ten bottles and then connect these broken needles individually into our injection system and inject each of those individually, it would -- we would have 250 -- it would take five to ten minutes for these people to inject that as it's prepared, which is three times longer than our entire process takes. It's unacceptable.

Q So what you're just describing was the way that you'd have to do it if you used --

A Five bottles into --

Q I'm sorry. Let me step back for a minute. What you just described was what you'd have to do if you mix the stuff in a way that --

A The mixing is --

Q I'm sorry. Just for the sake of the record, if you could just wait until I'm finished.

A Yes.

Q Sorry. So the thiopental mixing process that you just described where you have to break the needles off, that's

what you would have to do if you used the mixing process that the manufacturers intend in their packaging?
A Yes. They contain each about 100 milliliters of solution, so the total injection would be five or ten times 100. If we injected five grams or 2.5 it would be five individual injections. The problem is this broken needle is about one-fourth the size of our tubing. It does not have a locking mechanism so if you inject forcibly you can actually blow the connections apart. It just is totally nonacceptable for nonmedical personnel to deal with a drug designed for an anesthesiologist on a busy schedule.
Q Okay. So what technique have you developed to avoid that situation?
A As far as the inmate -- as far as the guards doing the injection, they can't tell there's any difference because they still walk in and there are six syringes the same color in the same block as it's always been, and there's more than adequate drug to accomplish our goal.
Q Right. So how do you mix the thiopental then to avoid the situation you were just describing where you have to break the needles?
A I simply use one of the 50 cc syringes and go to each individual bottle and I start with about 30 cc's in the syringe and inject it into each bottle, shake it until it's dissolved, withdraw it in the syringe, then inject that

same solution into the next bottle, and do this five times. So it's a little labor-intensive but it can be done.

Q I see. And how many cc's do you end up with total then?

A In that case, 40 cc's, but I wasn't going to change and say oh, I mean to add five because somebody might come and look at this later and think I made a mistake. I knew what I was doing.

Q So you put 30 cc's --

A 40.

Q I'm sorry.

A 40 was in the record there.

Q I'm sorry.

A I may have started with 30, but by the time you add all the chemicals you may get to 40, so you have to allow for the chemicals being dissolved in your solution as you go through the process.

Q Okay. I understand. Thank you. That makes it clear for me.

So you also prepared a 2.5 gram dose for Michael Taylor's scheduled execution; is that correct?

A Yes, I think that's what it says.

Q That's just on the log, the entry, 2/1/06.

A Yes.

Q Do you recall stating in an interrogatory answer, this is in your responses to the court's interrogatories, it's number 5 on page 6, do you remember stating that you used 2.5 grams for Mr. Taylor because you were aware that 2.5 grams had been adequate in Mr. Gray's execution?
A I was aware that two grams has been adequate all over the country.
Q Okay. Let's just look at your answer for --
A I know that's what my answer was. Yes, that was the best answer I could give at the time.
Q So when you said that the 2.5 was adequate for Mr. Gray, on what did you base -- what facts or experience did you base your judgment that it was adequate?
A Complete loss of consciousness in 15 seconds after the injection started.
Q Did you monitor Mr. Gray's anesthetic depth during the execution?
A I monitor -- the only thing that can be monitored is facial expression, and you can judge when the effect of the drug is accomplished, and that can be seen from across a room through a window. And when that effect occurs then I know the inmate is unconscious. And there's absolutely no difference in any of these injections. Again, because the tubing is eight, nine feet long, by the time the 15 seconds I know that inmate may have only gotten 500 milligrams of

injection. That's the other reason we use -- allow premedication is because a calm, relaxed individual requires a lot less drug than an agitated individual. And as a physician I am there to make sure this man is in a calm state and that he has an IV injected -- inserted completely painlessly that will not fail during the course of the procedure.

MS. ANDERS: I'm sorry. Would you read that answer back for me?

A I can't.

(The prior answer read back by the reporter.)

Q (By Ms. Anders) So you said that you can see that -- an inmate's facial expression from where you stand?

A Yes. That's the only thing any anesthesiologist uses in the course of inducing a person when pentothal was still used, was you simply start injecting, look at the face, and again, it's difficult to describe, but I can tell instantly when the pentothal has taken effect. And in medical practice the instant the pentothal has taken effect they gave absolutely no more because then they move on to the actual anesthesia which has to be started before the pentothal wears off.

In our case, we're just worried about when he reaches that point, because there is a phenomena with pentothal where if it's given to some agitated individuals

they can in fact have a seizure or, you know, they'll say this isn't working because they're agitated. And there is an effect of pentothal that will cause agitation or seizures.

So once that facial expression change has occurred, we know we're out of the danger zone and that this agitation or seizure will not occur.

Q And just so I'm clear, do you stand in the execution room? Do you stand behind the two John Does who are injecting the drugs?

A Yes. In case they have a question, problem, I am there to give advice. I'm not there to inject. But I can see the side of the inmate's face and that's all sufficient. He goes from looking toward witnesses to looking around the room to a completely relaxed facial expression.

Q Okay. Thank you. Just to go back to the mixing the thiopental. I think you briefly stated before why you thought you might have had trouble mixing the thiopental. Could you explain for me why again why you think that might be?

A Some companies, because of their suspecting that somebody will try to mix the wrong dose or give the wrong dose, I know that certain drugs -- this drug is mixed with two containers so you cannot mix it any other way

theoretically, but also some medications have an inert compound in or a secondary compound to prevent improper dose. The case in point being some cough medicines that have a small amount of epicate (phonetic spelling) that if you take too much cough medicine you will get enough epicate to cause vomiting. But if you take the right dose, you get the right amount of cough medicine but not enough epicate to cause vomiting. So there are many things in drugs that are used by the industry, and I suspect there was possibly an inert compound added to prevent improper mixing of these drugs.

Again, I am aware now that all of the pentothal we have has expired so I have no clue who is going to supply it, if we can get the next pentothal, if we have another execution. So I will have to review this with the Director to find out what is available or what he thinks we should do about changing it if we can no longer get this pentothal. I'm hoping we can still get it at least in one form or another.

Q You mean you might not be able to get thiopental at all?

A It's always going to be available somewhere. It may be more difficult or it may come in these doses that is very difficult for us to manage, but pentothal is like aspirin, it's never going to go away because it's part of a

compound of drug that is -- well, I can tell you all barbiturates, and it's a member of the barbiturate family of controlled drugs, and there's nothing in it that can cause heart attack, lung cancer, like these newer cosmetic -- newer drugs that are coming out that have these horrible side effects. Pentothal is not going to be taken off the market, so there's no reason for it to be removed from the market. It just may be more difficult to find.

Q I see. And just to go back to your earlier answer for a minute. Are there any other things you can think of that might account for the trouble mixing the total five grams?

A They may have a special compound in their solution which I can't get out of the bottle that allows for more rapid dissolution. Whether I use a saline or water solution should make no difference on this, but they may have a compound in their solution that allows it to dissolve more easily, but I can't get theirs out of the bottle without actually breaking glass.

Q I see. And did you ever consider the possibility that the thiopental might be defective?

A No. It's a compound. It's like salt. There's -- or sugar. It's a chemical. There's nothing -- it deteriorates after it's been mixed, but there is nothing in pentothal that can out-date as long as it's in powder.

Q I see. So it's pretty stable?

A Very.
Q Is it stable even if, say, air gets to it or something like that?
A Yes. It's just what it becomes -- in the liquid form it does lose some potency, and again, it would be after a week or two, because I know they would mix -- they would usually mix it at the hospital the first of the week and use it all week with no problems, and if there were any left they would simply mix a new bottle the next week. So it loses potency when it's in liquid solution. And when it's over that long period of time in a multi-dose vial after it's been open for a week, there's a possibility -- you are more worried about contamination of the solution rather than deterioration of the product.
Q I see. And I think you also said that you might consider using other drugs if you can't get thiopental. What other drugs might you consider?
A Well, the most common use, the reason pentothal is no longer available is because everyone -- [redacted] they use Diprovan now as their No. 1 drug for inductions and even some anesthesia. Diprovan though requires a continuous infusion. In other words, it has been to be given constantly. It looks like milk hanging in a bottle. It looks like milk in the IV tubing as it's going into the

individual. The milk runs in their arm. The instant that milk disappears from the IV the individual getting it will sit up and walk out of the room with no side effects. It's instant recovery. The anesthesiologists love it, but we can't use it.

Q Is that primarily an induction agent?

A That's the No. 1 induction agent today.

Q So it's not used -- is it used for maintaining anesthesia too?

A Only in short cases. They would use it for my cases because I can do most operations in ten minutes, but for most surgeons they would use other agents.

Q Are there any other drugs you can think of?

A [redacted] really, no. It's still going to be down to a barbiturate. If not pentothal, one of its other anologs which have a slower onset and a longer duration. But the pentothal we're using has the most rapid onset of all, but it's also metabolized quicker. We're talking 15 to 20 minutes as opposed to the long-acting ones that may last up to an hour, like sleeping pills. The barbiturates that are used for sleeping last six to eight hours, but they take longer to take effect and some of them can't be given IV. Pentothal can be given IV.

Q So pentothal is preferable because it takes effect

more quickly?
A Yes. It's the fastest, but it isn't good in an oral form. If you took it by mouth, it would -- I think it has no effect. It's eaten up by the acid in the stomach so it has no effect if given orally, so it has to be given IV.
Q Okay. Thank you. I'd just like to look at another one of your interrogatory answers now. It's in the third set which are the court's interrogatories. It's No. 5 -- the answer on 22 begins on page 5.
A Page 5?
Q The top of page 5.
A Rate of infusion is at the top of the page?
Q Yes, that's correct. So you said, "The rate of infusion and concentration of the dose ensured that 2.5 grams was more than sufficient to make the offender unconscious." So just because I don't have any medical training or anything, could you define rate of infusion for me?
A The speed with which the drug is given. So if I dilute it in a larger volume the same amount of drug, it takes longer to give it. The speed that the drug is given has a significant effect on its -- the way it reacts in the body. If you give it in an IV in the arm, because a lot of these drugs are concentrated, they will induce spasm. So what you think you're giving might be leaking around the

needle, may be slowly getting up the arm, so you can't give it as fast. And the problem compounds itself because the slower you give it the more the body metabolizes it, so it's not a one-to-one ratio. So if you give it in 30 seconds you get one result, but if you give it over two minutes, the result is completely different. At some point eventually they're all going to be the same, but the speed with which the individual goes to sleep directly affects how fast -- is affected by how fast the drug is given.

Q Okay. And what is the rate of infusion for an execution?

A Because of the length of the tubing and the size of the syringe you can only inject it -- you can't inject it any faster than a certain rate. The big heavy syringes just don't allow you to go any faster. So if they push harder, it doesn't go any faster. You can go maybe slower, but the tubing and the syringe act as a monitor to the way the injection is given. If they try hard, they can do it in 15 seconds. If they do it slow, it takes 20 seconds. So the size of the syringe, the length of the tubing has a serious -- an effect on the speed of this injection, the way I've got it set up.

The size of the needle at the other end is going to have equally an effect because that's what happened in the case of Ohio, Texas, other states where they have these

bad results. They have a small needle in the arm so no matter how hard you push that 50 cc syringe it's going to take you three minutes to give the drug and you will not get the effect you expect. You'll get an agitated inmate who is agitated.

Q So if you had to put a number on the rate of infusion, just if you were going to do calculations here --

A 30 seconds.

Q Okay. So the rate of infusion is 30 seconds?

A I would estimate, yes.

Q Okay. And what was the concentration of the thiopental solution for Mr. Gray?

A In his case we had 2.5 in 40 cc's I think, if I'm thinking of the right one.

Q Yeah, those figures sound right to me.

I'm sorry. Just because I can't see, are you doing a calculation or --

A Oh, no. I'm waiting for the next question.

Q I'm sorry. So you're saying the concentration would be 2.5?

A I'm dyslexic. I cannot figure those things out. I can't. I have to rely on the nurse. When I say give me the first med, she hands me the syringe.

Q I'm sorry. So when you were mixing the drugs for Mr. Gray and you said that the rate of infusion and the

concentration made it -- made the 2.5 grams sufficient, is that a calculation that you would do at the time?

A No, no, that's just judgment. As long as I have 2.5 grams, whether I had it in 30 or 60, the priority was whether it was in one syringe or two. So once I had 2.5 grams and I knew from previous mixing that I could possibly do it so I started with the smaller amount so when I was finished I had 2.5 grams in 40 cc's rather than 50 or 60 cc's. And to my understanding of what our objective was, that was better than just adding more inert solution to the mix to dilute the drug.

When we're giving it through a central line, a fast-flowing central vessel, the concentration is not a problem. It's only when you're giving it through a peripheral IV does the concentration affect the rate of infusion.

Q I see. So the concentration can affect the rate of infusion?

A If you're not using a central line, yes.

Q Does the concentration make it slower?

A Yes, because it will put -- it will -- the solution becomes thicker, and also it puts a spasm in the vessel that prevents it from flowing -- it has to flow through the vessels to a major vessel before it has any effect, and that can take a number of seconds, whereas when it's in a

central line, our central line is positioned inches from the heart so the minute that injection is in it's immediately in the heart and distributed to the entire body.

Q I see. So when you said that the rate of infusion and concentration were more than sufficient -- I'm sorry. The rate of infusion and the concentration of the dose ensured that the 2.5 grams was more than sufficient, you're relying on your medical judgment?

A Yes.

Q Were there any other factors that you considered in considering whether the thiopental was sufficient?

A No, because I knew we were dealing with a central line and it was going to be given rapidly so I didn't have to worry about diluting it up to a larger amount. I mean, you eliminate all of those calculations by using a large core central line catheter and you're not going to have to worry about extravasation, leakage, any of those factors. Or pain of injection. The inmate has no inkling that these drugs are being injected. Absolutely no sensation other than he gets sleepy.

Q I see. And for the next execution that occurs, assuming that you participate, what dose of thiopental do you think you'll prepare?

A I will recommend 2.5 if we have to deal with the same

equipment that we're dealing with. If we get another supplier that supplies us one-gram bottles in premixed or mixable in 25 cc's each, then I will recommend to the Director we use the two-gram, which is a more convenient way of mixing.

It's only when we step outside the parameter of 2 to 2.5 in one 50 cc syringe is there a serious change occurring as far as I'm concerned, or that I would have to discuss this with the Director who relies on my judgment to make this happen.

Q Okay. So just to go back for a minute, you said that if you found a supplier who supplied it in one-gram bottles you would recommend two grams; is that what you said?

A Yes.

Q So a total of two-gram dose?

A That would be more consistent with national standards as opposed to using three bottles and a three-gram dose. But again, that's just -- as long as you're over two grams you're going to have 100 percent unconsciousness after 15 seconds. It's only -- the one-gram dose is only insufficient when you have a serious drug addict or obesity over 300 pounds.

Q I see. So for a normal inmate you could give one gram?

A For most -- for everybody sitting in this room I

could give you 500 milligrams and everybody would be unconscious. 500 is enough. That's why the new doses come in 500-gram bottles. That's -- the standard dose is 500.

Q When you say that 500 is enough, it's enough to render somebody unconscious; is that what you mean?

A In order to proceed with an anesthetic. This is not the execution setting. This is giving you an anesthetic. If you receive 500 milligrams of IV pentothal, you would be asleep and unconscious, but still breathing.

Q Would you be unconscious to the point where somebody could perform surgery on you?

A No, it's not an anesthetic. It's a sedative. It has no anesthesia properties. Surgery takes a long time and it wears off almost within minutes, so you wouldn't even have time to get ready to do surgery.

Q I see. So you wouldn't use thiopental alone if you were doing surgery?

A Never. It's not an anesthetic. It's a sedative.

Q But for an execution --

A It's a sedative.

Q Would a five-gram dose be sufficient for an execution?

A One gram would probably be sufficient if he wasn't a serious drug addict or a certain amount of body fat. But we're not in a position to change once we have started, so my recommendation to the Director was to -- and the

recommendation of other states, is to go two-gram minimum to ensure they're going to get the 99th percentile, and if every state agrees that they're over three, 400 pounds they are going to have to go to three grams.

Q Would one gram be sufficient for you to do a quick surgery on somebody?

A No, never; it never works.

Q So would the person wake up?

A If I cut him, yes. They're not -- it has no anesthesia. It's a sedative.

Q I see. So --

A Anesthesia is what keeps you from feeling pain. Pentothal is just a sedation like a sleeping pill. If I operated on you when you were asleep, you would wake up immediately.

Q Okay. So the thiopental would put you to sleep and then if you felt something painful you would then wake up?

A If I -- at a certain point in time you would respond. Again it depends on the level. When you go through the stages of induction, which is what we're dealing with with pentothal, you go through them, but you don't immediately wake up. You must go back through the stages that got you through that stage, if that makes sense. In other words, you can't go to a level of total unconsciousness to immediately wake up and talking. You have to come back

through grogginess and the other stages that you went through going to that. Diprovan avoids all that, and that's why some people stopped using pentothal and went to Diprovan because you immediately wake up after the drug is stopped with no side effects and no residual.

Q So when you give thiopental for an execution, is the goal total unconsciousness?

A The goal is to render the inmate unconscious so the paralysis agent can be given and then the drug given to stop the heart beat. Again, you're arguing how many grains of powder do you put in a bullet if we were using a firing squad. The amount of powder in the bullet has very little affect on the effect of the bullet.

Q I see. So if you use pentothal to induce total unconsciousness because it's not an anesthetic, then somebody could still wake up if you --

A Given sufficient time, it's reversible, yes.

Q Okay.

A In 15 minutes he would probably wake up.

Q Okay. Let me step back. I think you said that thiopental has no anesthetic properties?

A That's correct.

Q So then if somebody is put to sleep with thiopental, then they might -- then if you cut them, they'd wake up?

A Depending on how much pentothal they had and how long

you waited after the injection. But still that point has nothing to do with executions.

Q And why is that?

A We don't inflict any pain ever.

Q I see.

A It's all done through a central line. They can't feel anything.

Q When you say that, could you just sort of explain that to me?

A If you were injecting through the arm they might theoretically feel the potassium if they were not paralyzed, but by using a central line -- all the complications of lethal injection have to do with how the IV is put in, not with the drugs.

Q So when potassium is injected into the femoral vein, it doesn't hurt?

A Absolutely not.

Q What do you base that on, that conclusion?

A It's impossible. It's injected into a major free-flowing vessel. The only way it hurts is by causing spasm in a vessel in your hand or in your arm or in your leg. Once it passes through the arm or leg into a central high-volume vessel, it's completely painless.

Q I see. So I'm just having a little bit of trouble following because of my lack of medical background. So I

think you said two things. One is that it isn't painful in the femoral vein because that vein doesn't spasm?
A Absolutely not. It's a high-flowing vessel. It's not a cutaneous vessel. Cutaneous vessels on your skin must have muscles in them to constrict. If you accidentally cut yourself -- peripheral vessels have to contract and stop bleeding or else everybody when they cut their finger would bleed to death. Central veins do not need to constrict so they have no muscle in it so you do not feel a spasm and they cannot react to drugs as they are being injected. Plus the drug is diluted instantly. The amount of blood flowing through the interior vena cava amounts to a quart every two seconds, so it's instantly dissolved.
Q And what is the concentration of the potassium that you inject?
A Higher than can be given through a peripheral IV. We're using a drug that was designed -- a bottle that was designed to be put in a quart of IV fluid in order to adjust electrolyte imbalance on people that are on diuretic overdose. They eliminate so much potassium, and potassium allows for stability of the heart beat. So we will put one of those bottles of the six that we use in a large IV solution and give it gradually over six hours to patients in ICU. We can't give it any faster than that in the clinical setting.

Q If you'll look at the chemical log again, which is Exhibit No. 4, just looking at the first line on the first page, for the potassium chloride it says amount, 120.
A Yes.
Q Is that 120 milliequivalents?
A I have been informed that the new solution, and we have been through three, has two milliequivalents per ML, so -- and I could stand corrected, but it's probably 240 that we are using right now.
Q I see. So you're using 240 milliequivalents in 120 cc's or milliliters; is that correct?
A Yes. Again, we're trying to maintain the continuity for the people doing the injection. Since they're nonmedical people, they want to come in and see those six syringes just as they saw them the previous time because they don't want to make any mistakes.
Q I see.
A I could probably get by with one syringe if we always knew we were having that 240, but it's much easier for the other people to see this standardized tray with those syringes as they remember them from the previous time.
Q I see. So there was a point where the dose was not 240. It was 120?
A It was 120, and again this log is really -- people writing on the previous lines, and as I stated before I'm

incapable of copying one line to the next consistently, but I try.

Q So when the dose is 120, you also used two syringes to keep it consistent?

A Always two syringes. Now, we did have one individual that I do remember when we were going through this where I recommended, because of the size of the inmate and because of what I previously stated, if we do not get the heart to stop on two syringes we then have to give two plus, meaning three syringes, so we'd have to give a total of five. It was much easier to have three syringes available and give it to ensure -- and the factor is called fat absorption, that the fat absorption of the potassium would not use up enough of the drug that the heart would stop at an appropriate time.

So in one instance I recommended and did not check or tell anybody because it was based on medical dosage that this person would require a third syringe of potassium. And I don't remember whether it's even in this log, but one instance, because of the obesity of the inmate. And again, Texas, California, those places, they have no one that can make those decisions, so if they had someone of that weight, they might have had a serious problem. But we do this on an individual basis and for that reason I recommended that we use more so we would not

be sitting there for 30 minutes waiting for the electrical activity to stop.

Q I see. So just going back to the potassium in the femoral vein, so if -- the concentration is I guess two milliequivalents per milliliter; is that correct?

A Right.

Q And that concentration won't hurt in the femoral vein?

A Absolutely not. It's not actually going in the femoral vein. We use the femoral vein to insert a catheter that I think is about 16 inches long, so actually from the femoral vein if you measure up to your xiphoid which would mean it's about two inches from the heart, so the catheter is almost in the heart when -- so the drug is directly injected below the heart as it enters.

Q I see. And what do you base your conclusion that it's not going to hurt at all on?

A The same as before. It's not a peripheral vein. It's diluted so rapidly in the heart.

Q Are there any calculations that go with that?

A Heavens, no.

Q So you don't have to calculate the concentration?

A No.

Q I see. Okay. I think you said in one of your interrogatories, this was in the plaintiff's supplemental interrogatories, you don't have to turn to it unless you

don't remember, but I think you stated you have had conversations with previous Directors of Corrections regarding your authority to make changes to the execution process?

A Well, we don't exist in a vacuum. I mean, we will, as we come in for the execution, basically I go to the Director's office. The Director is usually always there, plus his assistants, and so we will visit about this and he will ask are there problems, do you anticipate problems, have you had problems, in the course of that conversation. So there is some discussion every time there is a execution if I anticipate problems or if I have adequate supplies or what do we need or what I would recommend to be done in the future, so, yeah, we do discuss these.

Q And do some of these discussions involve the scope of your authority and context of the procedure?

A No. He's relying on me to keep him looking good, to use his terms directly, so he does not have to go out and explain why we made a mistake or we may have a problem or why it didn't go smoothly or why a clamp was left on the tubing and we had to close the curtains and make an adjustment. That will not happen when I'm there.

Q So your understanding is that you have the authority to do whatever is necessary during the execution to ensure that it goes smoothly?

A Yes. And if I can't get it done, I will contact him and he will make sure what I request is done. But so far we have -- we have anticipated every possible problem with this dosage, with these catheters, with these solutions, and we see no reason to make any significant change other than drugs not available or, you know, the catheters that we use, the IV tubing, all that is current state of the art.

Q I see. So it's your understanding from previous directors that you have the authority that is necessary to make the execution go smoothly?

A They're relying on me to make changes or suggestions that they will agree with if I think a change needs to be made. They're relying on my medical expertise. No other state has a physician that they can consult and say what went wrong when these guys set up in Ohio, what went wrong in Texas when they sprayed the viewers' gallery with pentothal.

Q I see. Have you had any discussions with Director Crawford about the scope of your authority?

A Oh, yes. We talk -- I talk in his office and at the time of the execution. In fact, he's the only director I have actually gone over to his office for other reasons and visited about this. And again, he has no background in corrections and he has no background in medicine, so the

other corrections officers had long backgrounds in corrections so they were aware of what we were doing and why we were doing it. Since he has no background in either field, he reiterated that he's totally dependent on me advising him what could and should and will be done, and he will back up -- if I think there's a change that needs to be made, he wants me to quickly inform him so he can make the appropriate changes.

Q I see. So it's your understanding that if you thought a change to the execution procedure needed to be made you would -- Director Crawford would defer to your opinion?

A Absolutely.

Q And would you have to inform him first before making a change?

A If I made a change of the number of syringes or if I made a change of that magnitude, I would inform him that he is going to see different times. And that's the only way he's going to know something -- I would warn him that -- he's very used to sitting up in his office and seeing one drug, next minute another drug, next minute another drug. Two minutes later he's informed that we're finished. And if we had to add extra syringes or change something significant to where you can't physically inject that many syringes, then he would -- I would tell him it's going to be two minutes between the first and second dose and then

he would understand and know why it happened. Or someone would ask him a question at the press conference, which he has to give, he would be informed of what that change was so he could answer intelligently.

Q I see. So let's just go through that a little bit. So what types of changes might you not inform him about?

A Well, when we could not mix the drugs, he would not care that we could not mix the drugs as long as I could mix a sufficient dose. If I would have required -- could not mix it that night and would require two syringes instead of one, I would immediately inform him.

But I have no way of returning from the execution chamber to the Director's office without upsetting their schedule so it would have to be a phone conversation, not a face-to-face conversation.

And I'm also aware that we have no other way to change once we're in that room and we're given the drugs that they thought were the right drugs when they arrived.

Q I see. So you have the impression that Director Crawford wouldn't care whether the drugs couldn't be mixed or something like that, as long as the number of syringes stayed the same, is that --

A Well, the only reason he would know the number of syringes were different is because the difference between the first and second drug would take two minutes instead of

one.
Q I see. Have you ever had any conversations with Director Crawford that sort of gave you the sense certain things you would inform him about and certain things you wouldn't?
A When these actions occurred in this state and other states, we were aware that we were going to be under a fine tooth comb so we were already exploring if certain drugs were ruled unacceptable we would have to go to alternate drugs. So I was researching and my conclusion was that it's going to cause problems if we have to switch drugs.
Q And what do you mean by that, that it would cause problems?
A Well, if Diprovan is going to be used, it requires a continuous IV infusion. You can't put it in a syringe and inject it. So the entire procedure is going to have to be changed.
Q Because you need a continuous IV?
A Continuous infusion. We are already anticipating that because what we use is called a triple lumen catheter. I can simultaneously inject three independent drugs without danger of intermixing in the tubing because the catheter we use has three individual injection sites so I can get one in one and another drug in another.
So if a change should occur where we require

continuous infusion of Diprovan, we can simultaneously give the other drugs through another port while the Diprovan is infusing.

Q I see. So if you use the Diprovan you would use one lumen of the catheter for the Diprovan and then use the other lumens for the --

A Yes. The triple lumen anticipates that problem.

Q I see. So is that why you use the triple lumen catheter now?

A We use the triple lumen because that is the most complete tray available. There are single lumen catheter trays that are available, but they do not require all the instruments that's on the triple lumen catheter that are necessary to treat hematoma, pneumothorax, those type of complications. Should they, in the remote possibility that any of those occur, there's sufficient material on that large tray to treat and correct those complications.

Q I see. So that tray contains equipment necessary to deal with any complication from the femoral catheter?

A Yes. It's a full instrument tray on triple lumen, and the single lumen does not have a full instrument tray.

Q I see. And that tray comes with a triple lumen catheter?

A Yes. It's all packaged as one unit.

Q So just hypothetically, if you had to change an aspect

of the procedure that wouldn't affect the timing of the drug, say giving a different drug but using the same amount of solution, is that something that you would inform the Director about?

A If it was the same number of syringes and we could give it with sufficient speed, the Director would not be aware. I mean if -- the reporters are watching this so closely that if there is a difference of one minute or so between injections or 10 or 15 minutes to time of death they immediately have questions about it. So if there would be a problem in what the public perceives, then I would inform him this is why this happened, this is why this didn't happen, so he -- since he has no medical background he wants to be informed and so I do a good job of keeping him informed why something happened. That's more what he's interested in, rather than opposed to what am I going to change on my own authority.

Q I see. Is there anything that wouldn't affect timing that you would tell him about, any kind of change?

A No, because all he sees is the timing.

Q I see. So you'd inform him about something that affected the timing?

A If there was a perceptible difference in the way the execution was carried out that someone in the -- one of the three visitors gallery would ask him a question about or

anticipate a question, why did this happen, why did he cough, why did he wiggle, why did he move, he's prepared to answer those questions.

Q I see. So you'd inform him about anything that happened --

A Absolutely anything.

Q Anything -- I'm sorry.

A Anything that could be noticed or questioned.

Q So you'd inform him about anything that happened during the execution that might be noticed by the witnesses?

A Yes.

Q Okay. Thank you. Are you aware -- are there any regulations or rules that require you to notify the Director about certain aspects of the procedure or certain changes?

A Absolutely not. This is just good practice.

Q I see. And is any part of the execution procedure written down?

A I have never seen it. If it was, it would have been written on my recommendations.

Q I see. Do you have any idea why it might not be written down?

A I'm sure it's written down somewhere. If they're checking the logs of all the drugs every time we use them

and recording expiration dates and number of sheets and needles that we use, I'm certain they have it written down somewhere.

Q But in terms of the aspects of the procedure that you're responsible for, that you perform, those aren't written down, to your knowledge?

A It might be written in there, but it would be written on by somebody observing what I was doing and using their interpretation. So if there was a written procedure that they had done I would -- you know, I'm curious to see what they think I'm doing, but I don't know that they write down the individual details of how I insert an 18-gauge rather than a 22-gauge or a 14-gauge needle.

Q I see. So people might write things down as you're doing them, but there's no guide that you follow as you're doing it?

A Absolutely not.

Q So you just rely on your memory?

A Yes.

Q And your judgment?

A Yes.

Q Do you have a clinical practice?

A [redacted]

[redacted]

Q [redacted]

[redacted]

A [redacted]

[redacted]

MR. PRITCHETT: [redacted]

[redacted]

MS. ANDERS: [redacted]

[redacted]

A [redacted]

[redacted]

[redacted]

MS. ANDERS: Okay. I'd just like to -- maybe we can establish is it okay for the doctor to answer these questions about where he's worked and things like that because we certainly would agree that that all should be subject to a protective order.

THE COURT: You say is it okay that he not be asked that, or not respond?

MS. ANDERS: That he go ahead and answer that subject to Mr. Pritchett's objection. Because otherwise, we're going to have to talk about the protective order later and I might have to go back and ask him those questions because he won't have given a substantive answer.

MR. PRITCHETT: Well, I object to the identifying information coming out in general other than, as I mentioned earlier, general time frames or general locations, even subject to the protective order.

THE COURT: I think he can talk about his practice in general. You don't have to specify where it is you practice, that kind of thing. Just an inquiry as to the background, but not where.

MR. PRITCHETT: I still ask that that identifying information be subject to the protective order.

THE COURT: I just told you how my ruling is going to be on that, protective order notwithstanding.

MR. PRITCHETT: Okay. Thank you, Judge.

MS. ANDERS: I'm sorry. Could you restate that?

THE COURT: No, I won't restate it. Continue your examination. You don't have a lot of time left.

MS. ANDERS: Then I guess I'd just like to note that I probably will need more time.

THE COURT: No, I don't see any reason to extend the time at this time.

MS. ANDERS: Okay.

Q (By Ms. Anders) So I think you mentioned that you are [redacted] doing some practice [redacted]; is that correct?

A [redacted] I [redacted] have patients call me for advice and recommendations and referrals, so I will talk with patients on a daily basis, recommending surgery or I'll sometimes go in and assist in their surgeries. [redacted]

Q [redacted]

A [redacted]

Q [redacted]

A [redacted]

[redacted]

Q [redacted]

[redacted]

A [redacted]

[redacted]

Q [redacted]

A [redacted]

Q [redacted]

[redacted]

A [redacted]

[redacted]

Q Do you have any training in the induction of general

anesthesia?
A I don't know that that has anything to do with this because the induction of general anesthesia is not what we're doing when we're doing an execution.
THE COURT: The question, Doctor, is do you have training?
A I do lots of anesthesia. [redacted]
Q (By Ms. Anders) So you have assisted anesthesia --
A I have induced anesthesia many times, either in the course of endoscopies, in the course of surgeries, starting an operation or induction before the anesthesiologist gets there. I'm quite capable of doing that. It's not a matter of training. It's a matter of doing it.
Q And have you for the purposes of surgery, say abdominal surgery, have you ever induced anesthesia yourself without the aid of any anesthesiologist?
A Yes, because with a gunshot wound, a car wreck arrives in the emergency room, [redacted] So, yes, I have induced the anesthesia. They simply follow up and catch up with where I am at the point. Any surgeon can do that. And should.

Q That would be anesthesia for the purposes of surgery and there would be no further anesthesia given?
A The purpose of saving a life. The continuation of the anesthesia is done by the anesthesiologist. I must get that person breathing which means inducing an anesthetic, get them on a respirator to keep them alive until the anesthesiologist gets there. That requires an anesthetic induction. And I may even transfer them to the operating room. I do not turn on the gas, because I don't want that on until the anesthesiologist is there, but I will maintain sedation and pain medication until the anesthesiologist gets there. Then I can proceed with the surgery. I have done it many times as a [redacted] surgeon.
Q And what year did you graduate from medical school?
A [redacted]
MR. PRITCHETT: Object on the ground of identifying the year would be identifying --
THE COURT: He said [redacted], Mr. Pritchett.
MR. PRITCHETT: Thank you.
Q (By Ms. Anders) I just ask for the record where did you go to medical school?
A [redacted]
Q As part of your medical training or otherwise, have you gone through different scenarios that can occur or problems that can arise when inducing general anesthesia?

A Yes. [redacted]

Q So just hypothetically, if you were attempting to insert a femoral catheter on anyone and they moved and you ended up lacerating the femoral artery, what would you do about that?

A It would never happen.

Q Well, hypothetically speaking, if it did happen?

A Since I'm only using a 22-gauge needle for the initial insertion, this is like a small wire with a tiny hole, any laceration of anything could be controlled with 30 seconds of pressure and then proceed to try again.

Q I see. So what if you lacerated the femoral artery and a hematoma developed?

A You cannot lacerate it with a 22-gauge needle. It's two small. It's like a stick pin. It's no bigger than a safety pin needle and that can't lacerate.

Q Well, just assuming hypothetically using a larger needle or whatever --

A Cellular does not use a larger needle. It only uses a small needle to start the procedure. That's why we use

that needle.
Q And just assuming for a second that a hematoma developed, what would you do about that?
A Reach over on the tray, take the knife that's provided with the tray, open it and vent it and it would be controlled. Actually under this setting, the hematoma would actually stop bleeding better than actually -- the medical treatment would be to drain it, but in this setting the hematoma is actually useful and it will stop the bleeding in a matter of seconds by itself.
So there's a medical reason why you drain a hematoma, but the reason in this situation was the hematoma would actually stop the bleeding. But we have never and could not possibly see a hematoma in this setting because of the small needles used.
Q So when you say that the hematoma would stop the bleeding, I don't really follow that.
A As it bleeds into the space it increases the pressure around the vessel. The pressure of the hematoma is going to stop the bleeding no matter where the bleeding is.
Q So the bleeding would stop on its own?
A It would stop on its own.
Q If that happened while you were trying to get the catheter in for an execution, how would you then get the catheter in?

A He's got two legs.
Q So you'd go to the other leg?
A Yes. And two vessels in the neck that I can use as back-up. I have never failed. The only instance that failed was an IV drug user who had been injecting his legs. I made two attempts on the leg and saw that we were dealing with a completely clotted vessel so I immediately went to the neck. I only have about a five-minute window from the time the inmate arrives where I have to make a judgment decision to get a sufficient IV in. So if I can't get it in the femoral in 30 seconds, I will then turn my attention to either the subclavian or internal jugular and quickly insert it in another appropriate vessel.
Q So you have about five minutes to complete the procedure?
A Five to ten minutes. That's all I need.
Q I see. And you have always completed it within that time?
A It takes two minutes.
Q Okay. And has femoral access always been the first choice method of obtaining venous access for an execution?
A It's my preferred method because it avoids all the complication with the subclavian. In the rare event that someone would perforate through the vessel in a subclavian you would actually hit the lung with that small initial

needle. That could cause a pneumothorax after about four or five hours. Plus inmates can and will manipulate their shoulders which could affect IV infusion. Or could possibly grab or turn their head, dislodge the catheter. In a femoral vessel, it was chosen simply because it's the safest way to put it in. It cannot be dislodged. It cannot be manipulated by the inmate.

Q So they can't move their legs or anything like that?

A Absolutely not. They are completely restrained with over-the-knee, pelvis, shoulder straps, and full arm and ankle restraints. They could move their head because we allow them to look at their family, and they could turn their head and literally bite the bandage off of their arm, which I'm sure one might try to do some day, but with it in the leg that isn't going to happen.

Q So do you know if femoral access has always been used by the DOC since they started lethal injection?

A Since I was involved with the lethal injection and because of the serious problems they had on that prolonged execution, I have recommended and stuck by the femoral line which is foolproof.

Q So after -- so you came in after that problematic execution?

A Yes.

Q And you recommended femoral access?

A Yes. They wanted me to do a cut-down because they thought that was the way to solve the problem. I informed them that I probably could not find a cut-down tray in the prison system anywhere or in the state of Missouri. It was ancient.
Q I see. So you mentioned the cut-down. If you tried within your five or ten minute window to --
A It takes 30 minutes to do a cut-down.
Q Is it something that you might do if you had trouble?
A I haven't had to do one in 30 years.
Q Would you consider doing one?
A If I lived another 30 years I might.
Q If you had trouble with both subclavian access and jugular access and femoral access, would you --
A That can't happen.
Q Why not?
A Just -- God made it that way. You cannot clot all of those vessels off and survive.
Q So I think you said that the institution of femoral access, was that based on your recommendation?
A Yes.
Q And was that something that had to be approved by someone, or did you just decide to do it?
A No. They wanted a foolproof solution to their problem and they did not want to have to explain to the public why

things did not go well, and I said this will solve your problem forever. And they were quite pleased that I did exactly what I said I would do, and it did exactly what it was supposed to do.

Q So when you suggested femoral access, do you know who made the ultimate decision on that to approve it?

A I told them that's what was necessary as opposed to a cut-down and this could be done quickly, safely, easily, and they were in complete agreement, in fact relieved, that they did not have to do a surgical procedure.

In the event that the central line is -- femoral line is inserted and the execution could be cancelled, which is almost impossible, I can simply go in and remove that femoral line and hold pressure for 30 seconds and there's no damage done. With a cut-down it requires sutures and suturing a catheter. Removing the cut-down is a surgical procedure also.

Q I see. So you would rather not do a cut-down?

A It's totally unnecessary.

Q So was it the Director of the DOC who approved the femoral access?

A I don't even remember who the director was at that time. I only communicate directly with John Doe 4 or 5 and he passed the information on to the Director.

Q And then for the first execution that you participated

in, you used the femoral catheter?
A A femoral catheter, yes.
Q Did someone communicate to you that that would be acceptable? Did someone tell you that's what you would be allowed to do?
A That's what I told them I was going to do because they had to order the special equipment to do it.
Q I see. So you told them that's what you were going to do and --
A Yes.
Q And they ordered the --
A They ordered it.
Q And in making your recommendation, did you consider the risks and benefits of a femoral catheterization?
A Yes.
Q And what risks and benefits did you consider?
A No risk. All benefit.
Q And what are the benefits?
A All benefits. There's no way it can fail. And no risk to the inmate.
Q So there's no risk of complication?
A Really, no. It's not put in until all appeals are satisfied. There's no chance there's a secondary appeal going to come. We have never, and don't even anticipate the situation would occur that once it's inserted that an

appeal will somehow magically appear. So we don't really start -- and that's the advantage we have. It can be done quickly, but it can also be removed quickly. And that's what I communicated to the Director, that it was much easier than doing another surgical procedure to remove a surgical cut-down, and would allow rapid infusion of the drugs by nonmedical people.

Q I see. So the primary benefit of femoral is that it allows rapid infusion?

A Predictable infusion.

Q I see. And is your primary priority in performing executions the timing issue?

A It's as much as the weight, mental attitude, and in the rare instance, sex, total body fat, age. Those are all factors that affect the reaction to the drug, the doses used. These are all things that, while they have little impact, you can't ignore them.

Q All right.

A States where no doctors are involved, they ignore all of those variables and simply inject a standard amount by a janitor I guess is what one fellow is.

Q Right. And you mentioned several times that it's important that the injection procedure be quick.

A Yes. All drugs are time-related. I could give each of those drugs over a prolonged period of time on anyone in

this room with absolutely no effect if you give it slow enough or through a route where it's metabolized. Each of those drugs is metabolized theoretically almost as fast as you give it if you gave it slow enough. None of these are lethal drugs. They are simply a dose of a drug that if not reversed has consequences. But the drug itself is the same drugs that are on the shelf in any pharmacy. At the time they were used, any pharmacy and any hospital had all of these drugs available and that's why they were chosen. Every doctor was comfortable with their use. They were quite aware what the drug was and what to expect.

Q So let me just go back to the risks and benefits of femoral catheterization. You said the benefits are that it's not very risky, is that correct?

A It's virtually risk-free. It's not used in clinical practice because the anesthesiologist would prefer to have the IV up in the neck, head and neck area where they have control of it. They can change it. They can enlarge it by special techniques. They can double the size of it if they want to. And if it's -- in my primary concern, if I would ever use it, would be in the trauma situation where I'm operating for abdominal injuries. If I have an abdominal injury, I do not want the catheter on the other side of my injury because I may be dumping my blood and fluid into the abdomen rather than into the patient. So it makes no sense

to use it in clinical practice. There's very good reasons why I don't use it anymore in practice. Only in an emergency. And then I would simply switch to a neck method for the benefit of the anesthesiologist.

Q I see. So you said there are reasons that you don't use the femoral catheterization in your practice?

A That's correct. Because mostly I would be doing it only in a trauma situation where the patient was legally dead at that time and I would use two femorals and two neck veins to dump five points of blood in in five minutes and try to revive that patient sufficient to take them to the operating room to stop the bleeding that is inside the abdomen and the anesthesiologist wouldn't start until we had neck veins going to where they could control the amount of blood they gave. Because the femoral has a chance that it's not going in the patient. It's actually going through the ruptured liver or the ruptured spleen.

Q I see. And is that a problem generally?

A It doesn't help the patient.

Q Is that a problem in an execution situation?

A No, because they have not been in a car wreck or shot or stabbed.

Q And if a complication occurred using femoral access for an execution, would you consider changing back to peripheral access?

A No.
Q Why not?
A It isn't reliable or predictable or safe.
Q So by predictable, what do you mean?
A We know that we're going to have -- the inmate is unconscious in 15 seconds. He's paralyzed a minute and a half after that. His heart will stop beating three to four minutes after the injection starts. You cannot guarantee that with a peripheral IV.
Q So by predictable, you know exactly how long it should take?
A Yes. And you don't know that if you can't give the drug rapidly.
Q And by reliable, what do you mean?
A We know it's going in there and it can't leak around the needle. When you use a peripheral IV, you're using a two-inch needle. You're not using a central line. So if you force it, it will leak and leak into the hand. In the case of the individual where the vein in the thumb was used, I'm sure most of the medication went into his hand rather than into his veins. With a central line that doesn't happen.
Q I see. And when you said that the femoral procedure is safe, what did you mean?
A No complications. I can't puncture a lung. Can't hit

the wrong thing. The vein is protected by muscle on one side and the artery, which I can feel with my finger. So if I could feel the artery with my finger and my finger is on top of the artery, I'm not going to stick my finger. And the nerve is on the other side of all of this, so nerve and artery lacerations are impossible.

Q I see.

MS. ANDERS: And, Your Honor, I'd just like to ask how much time I have left at this point.

THE COURT: We started at 1 o'clock and we'll finish at 2 o'clock.

MS. ANDERS: I'm sorry. Finishing at 3 o'clock?

THE COURT: Started at 1 o'clock and finishing at 3 o'clock. You're correct. I'm sorry.

MS. ANDERS: I'd just like you to know that I'd like more time than that.

THE COURT: I think you've asked for more time and I told you already and I see no reason to change that at this time, and I won't change it.

MS. ANDERS: I understand, Your Honor.

Q (By Ms. Anders) Would you be aware of it if a complication of femoral access occurred during an execution?

A It couldn't occur once I put that line in using this method. We do these a hundred times a day in every

hospital across the nation and we walk out of that room with the confidence that that is not going to fail once that's in. That's why we use this method in every hospital every day. It can't fail. The patient's life depends on this thing functioning perfectly once it's inserted.

Q So are there any complications that could make themselves -- that could become visible after you have left the execution chamber?

A No. Complications can occur months and weeks later due to long-standing problem, but the complications that you are referring to that occur with the insertion, these only occur on a person that is doing his first five insertions. After someone has done ten of anything, he will never have another complication for the rest of his life.

Q I see. And do you examine an inmate after death?

A I disconnect the line and clamp it because it's a Heparinized system. If it was not clamped the medical examiner could not stop this thing from leaking. But we are required to leave the catheter in place and simply disconnect the hose and the cardiac monitors.

Q So do you examine the catheter site after --

A I can see it because I have to remove the sheet to remove the IV tubing.

Q I see. I'm just going to introduce an exhibit.

You have just been given a photo which was part of the documents that the State produced to us from the Johnston execution.
A Yes.
Q I think that was 6/30/05.
A Yes, I think so.
Q Did you perform the femoral catheterization?
A Yes.
Q And do you see a hematoma in that picture?
A No.
Q Could you explain why you say that?
A I don't see one.
Q If I told you that three other physicians have looked at these photos and thought they saw a hematoma there, would that cause you to reconsider?
A No. They are just making your case. There's no hematoma there.
Q So you have never had a person move or anything like this while you're putting --
A No. They're sedated. They are very comfortable, calm, relaxed. If they're agitated, upset, I will ask them and if they want a sedative I will provide that for them, so they are very calm. They don't feel this. They are very comfortable.
Q I see. And have you had any training in the

pharmacology of thiopental?
A No.
Q What is the pH of thiopental?
A I have no idea.
Q Is it -- do you know whether it's acidic or basic?
A I know it's caustic. If that's basic, but I know it will necrose if you infiltrate it.
Q Can you explain to me how thiopental distributes through the body?
A By the bloodstream. It's given in the blood and it's distributed immediately to all parts of the body.
Q So is there some progression? Does it go somewhere first or --
A No, it goes everywhere immediately. That's why we use the central line. All the drugs we use are distributed to all parts of the body within five seconds. When you use a peripheral IV it can be five to 15 seconds after you give it before there is any effect. With a central line the effect is immediate in every part of the body, so a drop of blood that's in the heart is in your toe in two heart beats.
Q I see. So the same thing is true with thiopental?
A Yes.
Q And what dose of thiopental would you consider too low for execution purposes?

A 500 milligrams reliably, but if someone said the court has said now you have to use 500 milligrams, I would say one out of 20 may not be fully asleep when the other dose is given and I would caution them that some observer might say I don't agree, like seeing this hematoma which isn't here, somebody would say, well, if you're only using 500 I saw his eyes blink, therefore he was not unconscious. So if we're saying we're giving two grams, there isn't a physician anywhere that would say that's an improper dose.

Q I see. And have you -- I think you mentioned talking with people from other states about the execution procedure.

A Yes.

Q Have you consulted with any other jurisdictions recently?

A Yes, California.

Q And for what purpose?

A They had a big brew-ha about a canceled execution, so I was talking with the warden at that time.

Q I see. And what was the substance of that conversation?

A [redacted]

Q [redacted]

A [redacted]

Q [redacted]

A [redacted]

[redacted]

Q [redacted]

A [redacted]

[redacted]

[redacted]

Q And have you consulted with any other doctors or anything like that?

A No. None -- there's no other doctor knows anything about this. If I would ask another anesthesiologist, which I have, they are more interested in what the effects are because they have never done anything like this and they don't know what -- they really don't know what the effects are.

Q I see. Have you talked with other states besides California?

A Yes.

Q And what states?

A Lots.

THE COURT: Ms. Anders, I'm going to give you five minutes to wrap this up.

MS. ANDERS: Okay. Thank you, Your Honor.

Q (By Ms. Anders) Could you give me some examples of other states you have talked to?

A [redacted]

[redacted]

[redacted]

Q [redacted]

[redacted]

A [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Q [redacted]

[redacted]

A [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Q I see. And just going back to injection speed for a second, and I know I only have a couple minutes, was it your recommendation to inject the drugs as quickly as possible?

A Yes.

Q And why is that?

A There's no advantage to slow injection.
Q And why did you think that a fast injection would be good?
A They don't do any good in the solution. You want a rapid onset of the drug, and these drugs are rapid onset drugs. If you give them slowly they just don't work. And you want -- the timing is more critical than most nonmedical people realize. The timing is really essential, and if you wait too long after the pentothal, the heart and blood pressure may eventually drop so the pancuronium doesn't circulate. And you really require a strong heart beat to circulate the pancuronium to the entire body. And it's for the same reason that the potassium needs to be circulated. It doesn't need to be sitting in a nonflowing vessel. And the only way you can guarantee that is by rapid injection.
Q Did you also have the understanding that the DOC wanted rapid executions?
A They don't want to wait 25 minutes with witnesses standing around wondering what happened.
Q So 25 minutes would be too long?
A Five minutes is too long. There's no reason why it should take more than five minutes to perform three drug injections and that they should have the effect on the inmate. There's no point in prolonging this. That's cruel

and unusual.
Q And there's no medical reason to give the drugs any slower?
A No. Only the initial dose of pentothal, which could cause excitement or seizures, and once that plateau has been reached, it's safe to give all three drugs as rapidly as possible.
MS. ANDERS: Your Honor, that would conclude a line of questioning, but I would note that I have other lines of questioning that I would raise if allowed to do so.
THE COURT: Any follow-up, Mr. Pritchett?
MR. PRITCHETT: A little bit, Your Honor.
CROSS-EXAMINATION BY MR. PRITCHETT:
Q Doctor, you discussed your understanding as to your authority to conduct your involvement in executions up until the present time. What is your current understanding of who has the authority to determine whether changes may be made in the method of execution?
A Yes, the Director has the ultimate authority on all of these executions and after going through this process he's going to be better informed what's going on. He may not understand, so it's also my job to explain to him why these changes are required or necessary or help keep him informed of what we're doing and what's going on and why.

Q If you're informed that the plan is for executions in the future to have five grams of the sodium pentothal or the thiopental, would you deviate from that five grams without informing the Director?
A If we could -- I'd really be surprised if we would be able to get it, but if it was -- after we discussed this and said I want five grams given and we could not obtain it or give it, yes, he would be informed or I would inform him that I can give that safely but I have to use two syringes, is that acceptable. And we would discuss that.
Q And what is your understanding as to who would be able to make the final call on that decision?
A The Director would, but I would have to explain the timing and what it would appear or how it would affect the other drugs, and he's very receptive to my education.
Q So it would be the Doctor's call based on your advice?
A Yes. The Director's call.
Q If you were to change any of the drugs at this point, would that be something that you now would expect to inform the Director of?
A If I had changed any drugs at any time, if I changed the drug, absolutely I would have informed the Director.
Q Let me back up. If you had changed the dosages -- if you change the dose of any drug in the future, is that something you understand the Director wants to know?

A He wants to know that now. And in the past my understanding was as long as the -- it was still sufficient doses, I thought he did not need to be informed, but now he will be informed of changes as they occur.
Q And if there is ever a need to go from a femoral vein access to some other sort of access, is it your understanding that that's something the Director wants to be informed of?
A I will so inform him, but I am -- I'm gowned, gloved, prepared to do it, so I will simply switch from one to the other and then I will inform him after I have done it probably, simply because of how we are dealing with this, unless he tells me I want to know before you switch, then I will of course do that. But it's my recommendation that I will notify him if I have to make a change.
Q So if the Director indicates he would like to know and make the final decision if you have to change from a femoral access to some other access, is that what you would do?
A He's the boss.
Q You indicated on one execution you had to go from a femoral vein access because of intravenous drug use through the leg to neck access, and you also discussed subclavian access.
A Yes.

Q Are those common means of obtaining access for drugs in a surgical setting?
A Yes, it's preferred by the anesthesiologist, and they use the neck and subclavian interchangeably because the insertion point is only an inch apart and they wind up in exactly the same location, so neck access and subclavian access means internal jugular access.
Q So subclavian or neck is more standard in surgical procedural --
A Absolutely, for the reasons I stated, not only with trauma, but then the anesthesiologist has complete control. The anesthesiologist can take this catheter out and by inserting a cellular wire back in, she can exchange that for one, two, or three other catheters in a crisis situation, but she couldn't do that if it was under the drapes in the leg. So the anesthesiologist has the capability of quickly switching to a larger or additional catheters using this in the neck, or the triple lumen can use the extra lumens. But they just won't start a case unless they have a neck access that they can actually put their hands on so they can see if it's not functioning properly.
Q If it were necessary for you to recommend access other than femoral access through the neck or through the subclavian entry -- and by subclavian, is that near the

clavicle?
A Subclavian is under the clavicle, yes.
Q If it became necessary for you to make a recommendation that we go from femoral -- the execution site go from femoral access to one of those other two access, are those types of venous access that you have experience in performing?
A Yes, but it requires significant modification of the facility. In other words, the bed must have the capability of being tilted with the feet up so these veins would dilate sufficiently to guarantee safety. Plus it would be prudent to have chest tube capability available. I have rudimentary chest tube capability on this tray as I have selected. But if you said I would always do subclavian, I would have chest tube available on every occasion.
Q So if in a rare instance you needed to go subclavian or neck for access, would you be able to do that, as you understand, in the current set-up of the prison where executions occur?
A This tray is set up to be used interchangeably in either place, and that's why we selected this particular tray. It's actually designed as a subclavian catheter which can be used as a femoral catheter, but it's just called a central line triple lumen.
Q What's the standard dose in a surgical setting for

sodium pentothal?
A Usually those ampules are 500 milligrams or less. When an anesthetic is being induced, the anesthesiologist, if they were using pentothal, would give a dose to the point where they would see the facial reaction indicating the pentothal had taken effect. They immediately stop giving, whether they have given 100, 200, 300 milligrams, immediately stop giving the pentothal and then immediately paralyze and intubate the patient and start the anesthetic, which is the gas, going through the inhalation tubing in the tracheal tube. So the actual anesthetic agent goes through the tracheal tube and they must reach a sufficient level of gas. So if you start the operation five or ten minutes after the gas is started, the individual will move because they do not have sufficient anesthesia for the procedure. So it takes about ten to 15 minutes for a gas to render them safely unconscious, stay unconscious, and also relieve all pain.
Q Of course we don't use gas in the execution process. You have indicated that 2 or 2.5 grams in your judgment is enough to permit the administration of the remaining drugs in a painless manner. I was kind of confused in the testimony myself. I'd just like to ask the question directly. If 2 to 2.5 grams are what's given, is that sufficient in your judgment, to a reasonable degree of

medical certainty, to keep the inmate unconscious and unable to feel pain for the time period it would take for the execution to be completed?

A The two-gram dose would ensure that he would stay unconscious for at least 15 minutes in 99 percent of the population. The only qualifier would be body fat, a certain percentage of body fat would absorb the drug and not allow it to circulate. It's actually effective only in the brain, but you have to have it everywhere in the body to keep that level in the brain available.

Q And an execution does not take 15 minutes.

A No. We're done in three to five minutes.

Q On the photograph you were shown, I think it's identified as Exhibit No. 5 --

A Yes.

Q -- you said you didn't see a hematoma.

A What they're seeing is where I --

THE COURT: Doctor, there isn't a question in front of you yet. Let's get the question.

Q (By Mr. Pritchett) What would you see or what would you expect to see if there was a hematoma? How can you say there's not one here?

A What they're seeing is the site where I injected my local anesthesia. It causes a little blue mark. A hematoma would be the size of a tennis ball.

Q So you don't see any -- and would that have a distinctive color to it, the tennis ball?
A It would not necessarily have a color. It takes hours for the color to develop, and since we're doing a deep injection inside other tissue you would see the tennis ball and the color would not occur until the next day, but the tennis ball would be obvious. And it would only occur if the artery was punctured. You cannot get a hematoma from a vein. All you see is where I injected the local.
Q What if any significance is there to the blue line that you mentioned?
A That's where the local anesthesia was injected with a 25-gauge needle and that -- in some instances, I not only feel for the femoral artery but I will also mark it with a magic marker. I do not see the marker on this inmate. I probably used my finger because he was probably thin. But if it's a moderately obese individual I will use a magic marker to exactly outline the landmarks so I'm sure I'll miss the vital structures.
Q Assuming there were a hematoma in some case, what effect, if any, would a hematoma have in the execution process?
A It would have none on the execution because this catheter end is 16 inches away from where I inserted it and it's in a free-flowing vessel. We can confirm the free-

flowing vessel by aspirating any one of those three ports. So if it was kinked, curled, knotted, subcutaneously inserted, it would be immediately obvious that it was not functioning properly.

MR. PRITCHETT: That's all I have, Judge. Thank you.

MS. ANDERS: Just a couple questions, Judge.

REDIRECT EXAMINATION BY MS. ANDERS:

Q So, Doctor, is there a written procedure or regulation somewhere that delineates your discretion as to what changes you tell the Director of Corrections about?

A Not yet, but I bet there will be.

Q So if you had to -- if you had to make a change during an execution, say in the heat of the moment, such as you mentioned going to neck access, is that something that you would tell the Corrections Director about after the fact?

A I would tell him after I was done, because once I start inserting this line I cannot stop. I have all the sterile equipment prepped and ready to go, so I simply take the needle and move to the neck area and insert it. Then I would so inform the Director. In fact, in the instance where I did change to a subclavian in the drug addict, I immediately informed the Director there was a different line and the bandage would be on the inmate's shoulder and visible to the gallery, because he was going to immediately

be confronted by gallery, as I call them witnesses, and say what was that patch on his shoulder thing, I didn't see that before, or what was that, and he would immediately know that because of his addiction problem we had to use a different type of IV.

Q I see. So the one time that you went to neck access, that was a subclavian access?

A Yes. And immediately informed the Director when I did it.

Q I see. And does the gurney that's currently in the execution room have the capability of tilting?

A I don't think so, but again we've had two or three different gurneys. If it's a hospital bed, it has a switch under the springs that allows me to tilt, or I simply, in this case where I put in a subclavian, two of the stronger guards simply lifted the bed twelve inches in the air and held it while I inserted the needle which took about five, ten seconds.

Q And what kind of lines of communication do you have, if any, with the Director during an execution?

A There is a radio that's by all senior guards. It's in the room with me. And there's two or three telephones. One is only a direct access to the Director's desk.

Q And do you use that ever during an execution?

A I have never used it. I simply inform someone else

what I was doing, or did on the case of the subclavian, but I have never had a circumstance arise that I have had to talk to him directly.

Q What type of circumstance do you think would require you to talk to him directly?

A Well, we have gone through so many with so few problems, and a lot of it has to do with the sedation that we administer before we start the IV, that I can't anticipate problems. That could only occur when the inmate is being brought into the room by the six guards, and if he's foolish enough to attempt something with those six guards, he wouldn't -- once those six guards have him strapped down, he is immobilized, arms, legs, wrists, ankles, pelvis, knees and shoulders, and by that time I'm in and he's aware of who I am, what I'm doing and I'm asking him if he's comfortable, if he would like more sedation, that I was going to inject a local, it was going to sting just slightly and then I was going to insert the line and he would not feel anything, and that's about the extent of our conversation, and he usually thanks me for not hurting him.

Q Do you know if an anesthesiologist would opt for a central line as a method of delivering anesthesia if no IV were already in?

A All anesthesiologists prefer a central line where the

operation will take over an hour.
Q Do you think they would use it as their first choice method of obtaining venous access?
A Only if it was over an hour, if they anticipated a blood transfusion. For a hernia repair, for routine gallbladders, with experienced surgeons, they will not. They will only start a peripheral IV with a flexible catheter. Only when you're doing a vascular procedure, a colon resection, stomach, total hip, total knee, will they require -- hysterectomy, will they require a central line or prefer a central line. Again, it's based on their confidence in their surgeon. There are certain surgeons that want a central line on every patient. Other surgeons, they know they can get by with a peripheral IV. So again with this it's their judgment coming into play.
Q And if an inmate were obese, I think you mentioned that you might need to use more thiopental. If you were faced with an obese inmate, would you adjust the dose?
A If he weighed over 300 pounds, but again if he was six foot five and lifted weights every day, he would not be considered obese. So it has more to do with body fat rather than total weight. But I just use the 300 pounds, that's what anesthesia uses as a guideline to reconsider if they will require additional. In the clinical practice they simply give pentothal until they see the reaction they

want. In our situation, we have to be prepared to give an overdose and we have to calculate what that overdose will be.

Q I see. And so if you were confronted with an inmate who was obese, how much would you want to give?

A A minimum of three grams is all.

Q I see. And would you have the capability of mixing three grams?

A I would then use two syringes of the current solution and inform them it was going to take two minutes for the first injection and then proceed with the rest of the injections to completely assure that there would be no problem.

Q I see. But I think you testified before that you prefer not to change the number of syringes.

A I do.

Q Okay.

MS. ANDERS: Thank you. That's all I have, Judge.

MR. PRITCHETT: A couple more, Judge.

RECROSS-EXAMINATION BY MR. PRITCHETT:

Q Doctor, if the Director issued an order, either orally or in writing, that if you were to change the access from femoral access to some other access, and you discovered you needed to do it, would you comply with that directive from

the Director of the Department of Corrections?
A Yes. This central line can actually be inserted in an arm and then simply threaded up the arm into a central line, which is another possibility we have discussed, if for some reason -- but when we present the arguments back and forth of central line vs. peripheral line or long peripheral lines, this is still the most safest, comfortable, reliable way of assuring that we're going to effectively administer the drugs in proper sequence and expect a very predictable result.
MR. PRITCHETT: Thank you, Doctor.
THE COURT: Okay. On this protective order, as I understand your request, it's any information that doesn't have a direct bearing on the identity of John Doe 1 ought to be subject to the public purview or to your inquiry or whatever you want to do with it; is that correct?
MS. ANDERS: We would certainly not use it for any purpose other than this litigation, but I think many subjects that we covered --
THE REPORTER: I just cannot hear you over there.
MS. ANDERS: Well, I was saying that plaintiff and plaintiff's counsel would certainly not use any of this deposition for any purpose besides this litigation, but there have been many subjects that we have covered in this deposition that already are subject to public access

through the court's filing system because they have been covered in the interrogatories. They're in interrogatory responses that have been filed by the defendants.

THE COURT: Your objection to that?

MR. PRITCHETT: Judge, it's more logistical than anything. If the whole deposition is subject to the protective order we don't get into any disagreement among the parties as to what's identifying information and what's not. It's just a very bright line.

MS. ANDERS: I think --

THE COURT: I think the protective order modification is fair and reasonable and so I will allow it. If there is any concern about what is or what isn't going into the category of the identity of the witness, then I urge counsel to consult the court.

MS. ANDERS: Just to be clear, Judge, so the whole deposition won't be subject to the protective order, but information that could be used to identify John Doe 1 could be subject to --

THE COURT: I think the way you framed it in your motion to the court adequately frames my response, which I hope I have already addressed.

MS. ANDERS: All right. Thank you.

All right. We will allow you to exit so Dr. Doe can leave, and we'll be gearing up for trial next Monday.

MS. ANDERS: Thank you very much for your time.

MR. PRITCHETT: Thank you, Judge.

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REPORTER'S CERTIFICATE

I, Donna M. Turner, Registered Merit Reporter, hereby certify that I am a duly appointed, qualified, and acting official court reporter for the Western District of Missouri; that the foregoing pages contain a true and correct transcript of the proceedings had in the within-entitled cause on the date stated herein, and that said transcript is a true transcription of my shorthand notes taken therein.

_____RMR
Registered Merit Reporter

DATE: _____