stimuli is administered that that might have the effect of moving the Cp50 up higher?

A Possibly.

Q And didn't you testify to that, in fact, in front of lethal injection Commission?

A Yes.

Q When was the last time you used thiopental on a patient, sir?

A I last used thiopental as an anesthetic in 1992, and a few times since then intermittently I've used it at high doses for brain protection during neurosurgery.

Q Okay. Would you agree with me that generally thiopental should not be administered subcutaneously?

A In general that's a true statement.

Q And, in fact, to you when you are in a clinical situation when you're administering -- or when you were administering thiopental to patients, would you administer it subcutaneously?

A Never deliberately. Thiopental should only be deliberately given IV.

Q If somebody was undergoing surgery in your hospital, and you're the anesthesiologist and you were using thiopental, the Cp50 would move dramatically to the right. Would you agree -- would you agree the Cp50 would be well above 7.3?

A Actually, no, because we would -- even when we used it, we didn't use it as a sole drug. And so these studies that involve using it as a drug in isolation do not

reflect a real world scenario because never in my life had I used thiopental, even when I used it, I never used it as a sole drug.

Q When you're talking about the effects of the drug with Mr. Nunnelley on direct examination, one of the effects of thiopental would be to decrease respiration and circulation; is that correct?

A Correct.

Q Okay. And how about pancuronium bromide, would you tell me what the effects of that would be?

A Pancuronium bromide paralyzes the skeletal muscles.

Q And going back to thiopental, could you tell me how rapidly somebody would be induced to be unconscious?

A Typically, after a few hundred milligrams have been delivered the onset of unconsciousness is typically between thirty and sixty seconds.

Q And how about pancuronium bromide?

A The -- well, first of all, I would have to tell you that the onset is dosed dependant, so the larger the dose the more rapid the onset. And there are no studies in humans or animals that reflect the sort of dose that's been used here.

So typically when a dose of ten milligrams is given to a human of average size, the onset is somewhere in the vicinity of four to five minutes. I could tell you that given a hundred milligrams it will be more rapid, but I

can't tell you how much more rapid.

Q And if somebody was given pancuronium bromide and thiopental and an execution had not taken effect what would be -- what would be the effects the person would feel?

A Initially, they would become weak and short of breath, and later on they would become completely paralyzed.

Q And how would that feel to the person?

A It would be horrible. They would feel like they needed air and would not be able to breathe in, so it's what we call air hunger.

Q The other trait that pancurion -- pancuronium bromide would have would be to mask if somebody was awake under thiopental -- not getting enough thiopental, would that be correct?

A A person who is wide awake and completely

paralyzed by pancuronium would be unable to mount any sort of motor response that would be visible to anyone.

Q And would you say that that would cause you to have a problem to establish what the person's anesthetic depth might be?

A Not to an anesthesiologist. It would perhaps make it difficult for a layperson to determine the presence or absence of consciousness. But assessing the depth of anesthesia by an expert can be done in the presence of total paralysis.

Q Going to a situation when somebody is being executed, is there an anesthesiologist present at the time that person is being executed?

A I don't believe there is in Florida.

Q And in Florida -- first of all, do you have any knowledge about the execution chamber and who stands in the execution chamber?

A Only what I've heard in this morning's testimony.

Q And that would be all Department of Corrections personnel; would that be correct?

A I believe so.

Q And that would be one guard that stands at the person's head, another person who would stand at a person's waist. There's another person who is by the person's feet. And then you have a warden and assistant warden that were

further away. Is that correct?

A If that's how they testified, yes.

Q And there were also another person, but farther back underneath a clock. Did you hear that testimony this morning?

A I believe that person is recording data? That's my interpretation. There's someone in there who is supposed to be keeping a log.

Q So that's your interpretation from this morning, someone is keeping a log?

A No, that's actually in the protocol. It says there's somebody recording data.

Q Okay. And are any of those people medically trained to your knowledge?

A Not that I know of.

Q And the warden certainly would not be medically trained?

A I would assume not.

Q And if you were to be undergoing surgery, sir, and somebody was going to be giving you anestesia -- anesthesia, would you want somebody that was not medically qualified to determine your depth of anesthesia?

A No.

Q Do you know how much pancuronium Florida uses?

A I believe the protocol says a hundred milligrams.

Q And pancuronium, is that given intravenously?

A Yes.

Q Are there times when it might be given subcutaneously?

A By accident only.

Q How quickly would somebody's respiration stop if you were given five thousand -- five thousand milligrams of thiopental?

A I would typically expect it to cease within a minute or two of the beginning of the injection.

Q And Mr. Nunnelley was going through on direct with you about the tubing and the -- and the plunger and things of that nature --

A Yes.

Q -- do you recall that? And in Florida how quickly would you expect to deliver a dose of the sodium thiopental to the inmate?

A Well, depending on the length of the tubing, if

the person were injecting at two milliliters per second, from the time they first started pushing the plunger on the thiopental syringe it would then take approximately eight seconds for the first of the thiopental to reach the intravenous catheter.

Q And how quickly would it get to the patient or the person being executed?

A I just said, eight seconds.

Q Eight seconds? And how quickly would that distribute throughout the body?

A That question doesn't make sense.

Q Well, and how quickly would it get to the brain?

A Typically, the arm to brain circulation time is taken as twenty to thirty seconds.

Q So what's the total, from the time that a person started pushing the plunger in Florida for that thiopental to get to the person's brain?

A Well, the first pharmacological effect, certainly not the peek effect, but if we take eight seconds as an estimate of pushing the thiopental through the dead space, and twenty to thirty seconds as an estimate for the arm to brain circulation time, then the first pharmacological effect is probably forty to forty-five seconds from the time that the person first starts pushing the plunger.

Q So within forty-five -- forty to forty-five seconds what would you expect?

A During that first forty-five seconds, nothing.

Q After that?

A The person would start feeling sleepy.

Q How long would it take a person to become unconscious?

A Well, typically, loss of consciousness would occur

after the delivery of one hundred and fifty to two hundred milligrams, which in the five percent solution that Florida uses would be three or four more milliliters; so therefore just a few more seconds.

Q So less than a minute?

A Yes.

Q So certainly from the time that the person -- the executioner in this case -- started pushing the plunger, the first round of sodium thiopental, you would expect that person to be asleep and unconscious within one minute; is that correct?

A If they are able to administer the two milliliters per second I would expect the person to lose consciousness in less than a minute.

Q Okay. Now, did you -- you said you were in here this morning?

A Yes.

Q Did you hear testimony that long after a minute or two Mr. Diaz was speaking, moving, breathing heavily, pursing his lips; did you hear that testimony?

A Well, I actually didn't hear the breathing heavily or pursing his lips, but I did hear the statements about the fact that he did appear to speak.

Q And how long after was that?

A Well, nobody described that, but -- nobody could

describe how long it was.

Q Well, what if he was talking seven minutes after?

A That would be unexpected.

Q And would that mean that the thiopental had not been delivered intravenously?

A It would suggest that an adequate dose had not been delivered. I can't say that none of it was delivered intravenously, but I would strongly imply that an adequate dose had not been delivered intravenously.

Q In your clinical practice do you train people to work IVs, to put them in? Do you train people to do that?

A I teach occasionally medical students how to put IVs in, but that's generally not part of my usual teaching repertoire.

Q In your practice do you do that, do you have residents that come to you and -- and you teach them how to put in IVs?

A Most residents know how to put IVs in.

Q Okay. Did you have anything to do with the training of the Department of Corrections personnel in terms of putting IVs in?

A No.

Q Do you have any knowledge whatsoever as to what the person who put the IVs background is?

A No.

Q When you're putting in an IV line -- and I'm assuming you've put them in before?
A I've put lots of IVs in.
Q How many times do you think you've put in IVs?
A Many thousands.
Q And have you ever had an IV that didn't work?
A Certainly.
Q How many times do you think that's happened?
A Hundreds.
Q And can you tell me the various things that might happen, why it might not work?
A Well, typically, in my experience if the IV isn't working it's usually because the tip of the catheter is not in the vein.
Q And what -- what would be the effect of that? How would -- how would you know that it might not be in the tip of the vein, what would tell you that?
A It's typically that there's either a collection of fluid at the IV catheter site, or that the flow from the bag is not as expected, or a combination of both.
Q And would you discontinue, is that the point in time just to push chemicals into a person's body if you had that -- if you had that problem?
A Of course not.
Q Are you familiar with a term called back pressure?

A Yes.
Q Could you please tell the clerk -- the Court what back pressure is?
A Well, it's actually a misnomer applied to IVs. But there is a significant pressure drop from the syringe to the IV catheter as it goes into the vien. And that pressure drop depends upon the length of the tubing, and the caliber of the tubing, and the length of IV catheter, and the caliber of the IV catheter.

And so what that basically means is the amount of pressure that is being exerted on the plunger of the syringe is much greater than the actual pressure that exists at the site of the IV catheter as it goes into the vien.
Q And if somebody had pressure -- had resistance in a plunger, or if you did -- let's start with you. If you had that problem, where you had plunger resistance, what would you do?
A I would investigate why it's there.
Q And what would you do to investigate that?
A Typically, I would check to make sure, as I described previously, that the IV is flowing as expected.
Q And I'm assuming you've had that happen to you before?
A Of course.
Q And how many times do you think that's happened to

A Hundreds. And it could be for many reasons. For example, sometimes there are clamps -- there are certain clamps on the IV tubing. And a clamp could get clamped by accident. The IV tubing could become kinked or bent because of the way the person is placed in bed.

So not every unexpected degree of pressure on the IV -- or the syringe plunger means that there's a malfunction of the catheter. It could be anywhere between the catheter and the syringe itself.

Q But you would want to investigate that to find out what it is?

A Yes.

Q Okay. In terms of the tubing that's used in Florida, do you know what the tubing is?

A I've seen tubing similar to it. I don't know if it's the same manufacturer that we use, but it's pretty generic-looking IV tubing.

Q What kind of tubing is it?

A Do you mean what plastic it's made out of?

Q Yes.

A I think it's polyethylene.

Q And you've used that -- have you used the same type of tubing before in your practice?

A Something like that. I can't tell you if it's

made by the same manufacturer, but these things are very generic looking from manufacturer to manufacturer. It's perfectly recognizable to me.

Q And in terms of the Angel Diaz execution, were you

shown any photographs of Mr. Diaz when he was strapped to the gurney?

A No.

Q Do you have any knowledge of how the lines were run from the execution room to the execution chamber?

A Only as it was described today.

Q And if you heard testimony that the tubing was attached to the gurney --

MR. DUPREE: And, your Honor, can I just be kind of demonstrative here for just a second, if you don't mind?

BY MR. DUPREE:

Q If this is Mr. Diaz, and I'm Mr. Diaz, and I'm laying down on a gurney -- I would lay on the floor but I might not be able to get back up -- if I'm here on a gurney and there was tubing that came out of my arm, ran down the length of the gurney where it was taped, and then made a right turn to go under the gurney, toward the floor, and then up to a little slot that's a four by six inch slot --

MR. NUNNELLEY: Your Honor, that's very good but that's not what the testimony was. I don't

believe it was making -- I did not hear the testimony that there is a right turn, down on the floor, and then back up. I don't believe we've heard that testimony.

THE COURT: This is a hypothetical. Go ahead.

MR. DUPREE: Yes, sir.

MR. NUNNELLEY: As long as it's clearly a hypothetical.

BY MR. DUPREE:

Q Could there be a problem with that type of tubing? Would that cause the tubing maybe to kink or having that sharp right turn?

A It depends on how sharp it is.

Q Do you have kinking problems with your tubing in your clinical practice?

A Certainly.

Q Approximately how many times a week do you have that happen?

A Well, actually, if a patient's arms are at their side during the surgery, it's actually not that uncommon that the surgeon leans on their IV tubing. So it happens with some frequency, and we tell them to move.

Q Okay. With regard to a person who is inserting an IV as part of an execution team, what qualifications do you

think that person should have?

A They should put in IVs as part of their day job.

Q And you're familiar with -- with administering anesthetics remotely; you've done that before?

A Not commonly, but I have done it.

Q And, in fact, you've probably done it less than time -- ten times; is that correct?

A Depending on your definition. But if you're referring to other times where I've testified being in a

different room and giving anesthesia for MRI procedures, yeah, it's probably ten or twelve or less.

Q And how long have you been an anesthesiologist?

A As an attending physician since 1986.

Q Okay. So that's twenty-one years.

A Yeah, but we didn't have MRIs back then, so --

Q Oh, I understand that.

A -- these MRI experiences are more recent.

Q Now, when you're remotely -- and you said you've had that experience -- when you're remotely monitoring a patient what do you do?

A When I'm monitoring a patient?

Q Yes.

A What I do is rely on the electronic monitors that we have in place.

Q And what monitors do you use?

A Well, typically, we have electrocardiogram, we have Pulse Oximetry we have capnography, we have blood pressure. Those are the mandated ones that we use in almost every case.

Q Okay. And generally in your clinical experience when you're the anesthesiologist for somebody who is doing surgery where are you located with regard to the patient?

A Usually at the head or the side.

Q And so you're close?

A Generally.

Q Within three feet?

A Usually.
Q Most of the time you would be at the head?
A Yes.
Q Unless there's something going on with the head that would cause you to move down by the feet perhaps?
A Or the side.
Q But you would be within very close proximity and you would be monitoring the patient; would that be correct?
A Yes.
Q And you wouldn't sit -- you would not induce the anesthesia and just walk away, would you?
A There are occasions where I need to do that, generally for my own protection, for example, during radiation therapy. But it -- it's not common, but it's done

occasionally.
Q And that's -- that's not a normal thing?
A Normal is not the word I would use. It's not a common thing.
Q Now, going back to back pressure for just a second. Do you think it might be important for somebody to understand what back pressure is?
A Well, again, I wouldn't use the term back pressure. But a person who is pushing the plunger down on the syringe should know what resistance is and have an idea of what normal resistance should feel like.
Q And do you train for that or is that something you just pick up over the years?
A It's just by experience.

Q Just by experience. It's something that you had to learn?

A By doing it, yes.

Q By doing it. Now, Mr. Nunnelley talked a little bit about thiopental and pancuronium bromide. Now, if those two were administered together in an IV line what might happen?

A If they come in contact with one another they form a precipitate.

Q And could you explain to the Court what that means?

A It means that one or both of the chemicals is no longer soluble in solution and it turns into a solid.

Q And do you know which one of the two precipitates?

A Well, actually, that's controversial, and it depends on who you ask. It's also not materially important here, but one or both of them will solidify.

Q And what would be the effect on the IV line?

A It typically would plug up the IV line.

Q Now, if thiopental and pancuronium bromite -- I keep screwing that up -- pancuronium bromide were injected subcutaneously together what would be the effect?

A They probably wouldn't precipitate because the body has an enormous capacity to buffer chemicals that are injected, and so I don't expect that they will actually form a precipitate unless they were confined in a very, very small space.

But I do expect that the thiopental would hurt. And I would expect that the onset of both drugs would be very slow.

Q When you say very slow, are there any studies that you could cite to the Court?

A As far as I know nobody has ever studied the subcutaneous kinetics of thiopental or pancuronium. It would just be based on clinical experience, and watched how terribly slow the onset was.

Q Now, if somebody was an administering thiopental and then pancuronium bromide and they felt pressure, what's the worst thing they could do?

A Well, they shouldn't continue. And it's not just a feeling of pressure, because there's certainly significant pressure when one is pushing on a sixty CC syringe. It would be atypical pressure, or a change in pressure.

Q And again, that would come with experience to know that?

A Yes.

Q For instance, if I had never used a plunger before you would not want me administering anesthetics to one of your patients; is that correct?

A No, but I could show you what it should feel like with a mock up of the sort of equipment. If we took the stuff that was in the box here out of the box, I could hook it up and show you what it's supposed to feel like in the normal situation, and then show you what it's supposed to feel like when, for example, somebody was standing on the

tubing.

Q When you are administering anesthetic to somebody do you do that wearing a Haz Mat suit?

A No, I wear scrubs because we're not supposed to wear street clothing into the OR, a hat, a mask, and that's it.

Q Have you ever induced the anesthesia for somebody from a distance who was about to undergo a painful stimuli?

A Not that I can recall.

Q Would you undergo surgery if the person that was administering your anesthetic only had CPR training?

A No.

Q Now, you mentioned the three drug cocktail. And it's thiopental, correct?

A Yes.

Q And then you have -- you call it Pav -- there's another name for it called Pavulon, the pancuronium bromide?

A Actually, the trade name --

Q The trade name?

A -- the trade name Pavulon, I'm not even sure it's available under it's trade name anymore because it's been generic for so long.

Q Now you -- and the third would be potassium chloride; is that correct?

A Yes.

Q And you described their effects on direct examination?

22 A Yes.
23 Q And my understanding from having read the number
24 of times you've testified, there's a general statement that
25 you make basically, and you again made it today, that if

1 those drugs are put into an IV, they're administered
2 correctly, in the doses that Florida does, that it is your
3 opinion that they would be -- that would be a humane
4 execution; is that correct?
5 A Well, the way I typically phrase it is, is that in
6 my opinion if the right drugs are given in the right dose
7 and in the right order through a working IV, I don't believe
8 there's any possibility that the inmate could suffer.
9 Q And your view -- and with regard to the thiopental
10 that person should be out within one minute, correct, with
11 that massive amount?
12 A Well, it's actually not dependant upon the five
13 thousand milligrams, because they'll lose consciousness at
14 about the same time. Even at the ultimate dose, if it was
15 going to be two thousand milligrams like some states use,
16 the person would be expected to lose consciousness, the
17 average person, typically when one hundred and fifty to two
18 hundred or three hundred milligrams are finally delivered.
19 So regardless of the final dose they will lose consciousness
20 when only a small fraction of that has been administered.
21 Q And again, that's all based upon one really huge
22 problem here, which is it's got to be properly administered
23 through an IV line intravenously. That's what you're basing
24 your statement on; is that correct?

A Yes, it works under the assumption that we have a

properly functioning IV.

Q Okay. But if the thiopental is not delivered to the brain, that concentration to the brain, wouldn't the person's execution then become extremely inhumane if it was -- because the thiopental is not getting there, would that mean that the other two drugs are also not getting there?

A Yes. Now, this is a question that was raised to the --

Q Doctor, it's a yes or -- it's a yes or no question.

A No, it's not a yes or no question --

Q Yes, it is yes or no.

A -- I have an explanation.

MR. DUPREE: Your Honor --

THE WITNESS: May I give an explanation?

MR. DUPREE: -- I asked him a yes or no question.

THE COURT: What is your question?

MR. DUPREE: I asked him -- I asked him, yes or no, if the -- if the thiopental did not reach the brain would that necessarily mean the other two drugs also did not reach because of the IV? That's a yes or no question, period.

THE COURT: I don't think it's a yes or no.

You can answer it however it's required.

THE WITNESS: We are now well within the realm of hypothesis because there's no studies on this. But I was asked this question in several different ways when I testified before the Florida Commission.

And the onset of thiopental given subcutaneously would be very slow. The onset of pancuronium would be even slower, assuming both were given into the same subcutaneous site.

BY MR. DUPREE:

Q And your theory about that is because of the pH level of thiopental versus pancuronium bromide?

A No, it's actually based upon the known lipid solubilities of the two drugs.

Q Which one of them would absorb in the fat faster?

A Thiopental.

MR. DUPREE: Your Honor, could I have just one moment?

THE COURT: Sure.

BY MR. DUPREE:

Q Now, in the Diaz case is there any way for you to determine how much thiopental got through to Mr. Diaz's brain?

A No.

Q Are you aware of the term called intraoperative awareness?

A Certainly.

Q And you had -- I think you call it awareness under anesthesia; is that correct?

A That's a synonym.

Q And which term do you use?

A I tend to use awareness under anesthesia.

Q Okay. And what is that?

A That is when a patient is intended by the clinician to be asleep and they are awake during a part of their anesthesia when the intent was to have them asleep at that point in time.

Q Has intraoperative awareness in a clinical situation ever happen to you?

A Yes.

Q Does it happen to every anesthesiologist?

A Every anesthesiologist who's honest.

Q And I think you -- I think you've been quoted at that. I think you wrote an article that said, if the anesthesiologist said it's never happened to them they're not telling the truth?

A Or they're not asking their patients the right questions post-operatively.

Q Okay. So it has happened to you?

A Yes.

Q Now, in order for you to determine somebody's

surgical plane and try to make sure that nobody wakes up during an operation what do you do?

A In 2007?

Q Yes.

A Okay. In 2007 for almost all of my general anesthetics in addition to the monitors that I've previously described, and in addition to physical examination, primarily of the eyes, I also employ an EEG monitor that helps me determine the depth of anesthesia based upon a computer analysis of the patient's EEG waves.

Q And you continually monitor your patients when you've giving the anesthesia; is that correct?

A Yes.

Q You don't just -- or you just don't get up and walk away, turn your back on them, not look at them?

A No. I mean, I might turn the responsibility over to another anesthesiologist or nurse anesthetist, because we do give breaks to each other, but someone is always monitoring the patient continually.

Q Continually. And you're usually close by, three feet, four feet away?

A Most, typically.

Q Now, if -- we're going to talk about Mr. Diaz. If

Mr. Diaz was in the execution room and he had six people with no medical training whatsoever who were not watching him, is that something that you would do in your practice -- in your clinical practice?

Would you have somebody that is not qualified, not

medically qualified, never been to medical school, monitoring somebody for depth of consciousness, or depth of anesthesia?

A Not for surgical procedures.

Q Now, the third drug that we talked about is potassium chloride; is that correct?

A Yes.

Q And what does potassium chloride do?

A Well, it's a salt whose components, potassium and chloride, are obligatory components of bodily fluids. So in the peri-operative period the IV fluids that we administer to patients typically contain some potassium chloride.

Q And what would expect -- the effect be on the heart?

A At the concentration that we use clinically, none.

Q How about the effect with the concentration that Florida uses for execution?

A Well, when one gives hundreds of milliequivalents rapidly the expected effect is to stop all electrical activity in the heart.

Q And why does it do that?

A Well, the explanation is rather complicated, but in the body there is a low concentration of potassium outside the cells, and there's a very high concentration of potassium inside the cells; and therefore, that generates what is called a potassium current.

But then rapidly changing the normal intracellular

to extracellular gradient the heart cells lose their ability to generate the action potential, which is a basic nerve stimulus that causes the heart to beat.

Q And how -- the amount that Florida gives for execution, how quickly would you expect one -- first of all, how quickly would it effect the heart, the amount that Florida gives?

A Once it reaches the heart one would expect changes in the ECG almost immediately. The problem is, and I have reviewed quite a few ECGs --

Q Can I stop you for just a second. Well, could you tell me how quickly? Would you say -- can you give me a degree of time?

A The answer is complicated, and I will try to answer it as best I can. Once the potassium chloride reaches the heart in substantial quantities, in other words beyond a few milliequivalents, we would expect to see changes in the ECG within seconds.

The reason why this is complicated is because since the potassium chloride is invariably being given after a large dose of thiopental after it's deposited into the arm vein, there's quite a bit of evidence that the circulation time from the arm to the heart varies tremendously from person to person primarily based upon the significant cardiac effects of thiopental.

So I have reviewed ECGs where the potassium chloride seems to take effect within a few seconds of being injected, and in another cases it's taken minutes. And this

is a huge variable from person to person.

Q If given alone, if potassium chloride is given alone, no thiopental, no pancuronium bromide, what would it feel like to a person?

A First of all, as far as I know that's never been done at this dose to a conscious person. But based upon giving lower doses to conscious people by accident one believes that it would be quite burn -- it would be an intense burning sensation travelling up the arm.

And then once the potassium chloride reaches the heart and the heart stops, that the person should in addition start feeling some chest pain due to the lack of oxygen supplied to the heart. And the person will probably lose consciousness in ten to twenty seconds. But during the time that the heart is stopped -- or after the heart is

stopped, they'll probably have chest pain that feels like angina until they lose consciousness.

Q Did you ever tell a court in Evans vs. Saar that a person would suffer terribly?

A I think that that is evidence of terrible suffering.

Q And it would cause death within one minute or less?

A Once the potassium chloride stops the heart the person -- there would be no mechanical contractions and the heart will -- should remain permanently stopped, and the person will probably lose consciousness in ten to twenty

seconds.

Now, if you're asking me what the definition of death is, that's actually hard to answer because we do not have a universally agreed upon definition for the exact moment of death.

Q In terms of Mr. Diaz, and in terms of the statement you just made, your theory with regard to the potassium chloride again assumes that it is correctly administered intravenously by a working IV into the vien; is that correct?

A Yes.

Q And there's evidence in this execution, Mr. Diaz's execution, that that did not occur; is that correct?

A Well, it seems that the most plausible explanation for why he didn't fall asleep is that there was a malfunctioning IV.

Q Okay.

A Or, excuse me, IVs, because he had two.

Q He add two, both of which went through the vien; is that correct?

A I suspect that, but I have no objective evidence.

Q Well, did you review Dr. Hamilton's testimony?

A No.

Q And he's the Medical Examiner; is that correct? Do you know?

A I actually don't know.

Q Okay. Would you agree with me that the risk of intra-operative awareness would increase if somebody has a

lack of experience in giving anesthesia?

A I'm not sure that's an important risk factor. The -- in the studies that we have so far that risk factor has not fallen out of the statics.

Q Did you testify in the Johnson case that it would, in fact -- that if a person was administering anesthesia was inexperienced that it would increase the risk level of intra-operative awareness?

A And what was the date on that? Because there may be a more recent paper.

MR. DUPREE: May I approach the witness, your Honor?

THE COURT: Sure.

MR. NUNNELLEY: May I approach and look over your shoulder? I'm going to look over your shoulder unless you got a copy.

MR. DUPREE: I'm sure we got one. This isn't all of it.

MS. KRAVATH: What's the date?

MR. DUPREE: August 30th of 2004.

MR. NUNNELLEY: And what case is this?

MR. DUPREE: Johnson.

MR. NUNNELLEY: Okay.

MR. DUPREE: May I approach, your Honor.

THE COURT: Sure.

THE WITNESS: I just want to see the dates.

MR. DUPREE: Absolutely.

THE WITNESS: So what is your question?

BY MR. DUPREE:

Q Is that a factor?

A Well, actually, I said here --

Q Go ahead and read the whole answer that's on there.

A Would the risk of intra-operative awareness increase if the person administrating the anesthesia is

inexperienced or unskilled?

My answer was: That's a good question. We don't know. In the largest setting in which intra-operative awareness was examined that did not come out as a risk factor, and so I don't know. Intuitively, you might think it would be, but I don't know.

Q Thank you.

MR. NUNNELLEY: Your Honor, I am going to object and move to strike. If that was supposed to be impeachment, what he just read was consistent with his answer.

MR. DUPREE: Your Honor, I just asked him if he -- if he testified to that, period.

BY MR. DUPREE:

Q Okay. Doctor, if a person's got his eyes closed does that mean they're unconscious?

A No.

Q In terms of the Department Of Corrections personnel you do not know the qualifications of the medical team; is that correct?

A That is correct.

Q You don't know the qualifications of the execution team; is that correct?

A Correct.

Q You don't know the qualifications of the person

that's putting the IVs in this case; is that correct?

MR. NUNNELLEY: Your Honor, that's been asked and answered.

THE COURT: Overruled. Go ahead.

BY MR. DUPREE:

Q Are you familiar with a machine called a BIS monitor?

A Very.

Q And what is that?

A The BIS monitor is actually the trade name for one of the monitors that I was describing earlier. It records EEG brain waves from the person's head, and then uses a computer to analyze these to display a number that can be correlated with the probability of unconsciousness.

Q Is there another machine that correlates that also, it's called a Patient State Index?

MR. NUNNELLEY: Your Honor, I am going to object to this. It's outside the scope of direct and unrelated to any sort of impeachment of this witness.

THE COURT: Overruled. Go ahead.

THE WITNESS: Yes. The Patient State monitor

is made by PhysioMetrics.

BY MR. DUPREE:

Q Okay. And they're -- what -- do both machines

essentially do the same thing?

A Well, the companies wouldn't like you to say that --

Q Right.

A -- but in general, qualitatively, they're very similar.

Q Is this something that you use in your clinical practice as an anesthesiologist?

A Regularly.

Q Do you know whether or not Florida uses a BIS monitor or PSI monitor in executions to determine level of consciousness?

A I'm assuming they don't because it's not mentioned in the protocol.

Q Going back to pancuronium bromide for just a second. If a person is given pancuronium bromide and they were ordered to open their eyes, would they be able to open their eyes?

A For a few minutes after the drug is given, yes, but then once the complete paralysis takes effect over a period of minutes, then they would not be able to move anything.

Q Now, when you testified before the lethal injection Commission -- and you did that telephonically; is that correct?

A Yes.
Q And do you recall the date that you did that?
A Yes.
Q Was it this year?
A I believe so. I actually have a copy of the report, and it has my name and date on there. I could look it up, but I don't remember off the top of my head.
Q Would that makes sense to you if I said to you it was February of 2007?
A That's probably about right.
Q And you said that prior to the time that you -- you testified before lethal injection Commission, you'd spoke with Ms. Snurkowski; is that correct?
A Yes.
Q Did you talk to any other Commission members?
A No.
Q Did you ever talk to a person named Bill Jennings?
A The name doesn't ring a bell, I don't think so.
Q How about Peter Cannon, from CCRC Middle Office?
A The name doesn't ring a bell, I don't know.
Q And prior to that time you had not spoken to the ME? And, in fact, I think you said at that time that the thing that you relied on for your testimony in front of the lethal injection Commission was you had read some newspaper articles; is that correct?

A Right. As I told Ms. Snurkowski, I intended my testimony to be based upon the scientific questions that they would pose to me. And I didn't think that reviewing any of the data that they had were going to be terrible helpful.

Q Well, you knew that the lethal injection Commission was meeting because of the Diaz execution; is that correct?

A Yes.

Q Then you realized -- and you knew that the Governor had actually created this task force to determine what happened at the Angel Diaz execution?

A Yes.

Q But you still did not review -- even though you were going to go and testify as an expert before this commission, you still did not review the reports, you did not talk to the Medical Examiner, you did not talk to the toxicologist; is that correct?

A Because I intended --

Q It's a yes or no question, doctor.

MR. NUNNELLEY: Your Honor, he's entitled to explain his answer, which has been given twice before already anyway.

THE COURT: You can answer. Go ahead.

THE WITNESS: Yes, because I expected that my

pharmacology and the deliver systems. And I didn't need to review anything to talk about those as an expert.

BY MR. DUPREE:

Q Could you tell this Court within a reasonable degree of medical certainty when Angel Diaz became unconscious or conscious?

A No.

Q Could you say within a reasonable degree of medical certainty that the thiopental that was administered went into Mr. Diaz intravenously?

A I have no way of knowing how much, if any, was delivered intravenously.

Q You were posed a hypothetical during the lethal injection Commission, I believe it was Dr. Varlotta. Do you remember Dr. Varlotta from the Commission?

A Not specifically.

Q And Dr. Varlotta, he posed a hypothetical saying that they had heard testimony that Mr. Diaz had been taunted by guards, and had promised his family that he would remain stoic --

MR. NUNNELLEY: Your Honor, I am going to object to the relevancy of this.

MR. DUPREE: Judge, we're in the Diaz

execution. He's already testified on direct about the effects of thiopental, it would make him scream out, I'm entitled to cross on that.

THE COURT: Go ahead and finish your question.

BY MR. DUPREE:

Q Do you recall testifying in the lethal -- in front of the lethal injection Commission that people who are administered thiopental subcutaneously might not cry out given the circumstance under which you understood Mr. Diaz told his family he would not cry out?

A I believe it is plausible that a patient could attempt to remain stoic.

Q You also talked about a term called redundancy. Do you recall giving testimony in front of the lethal inject -- injection Commission with regard to redundancy?

A Yes.

Q And what is redundancy?

A In the context here it means having a duplicate system in case one fails, so in this case two IVs.

Q Now, with regard to the two IVs, and the way you understood redundancy, or the way you meant to tell the lethal injection Commission about it, did you want both IVs to be administered to the inmate simultaneously?

A Well, I actually wouldn't give a response like

that. I would discuss the advantages and disadvantages of sequential or parallel use of these redundant systems and let others make the ultimate decision. But there are advantages and disadvantages doing them either way, either series or parallel.

Q Okay. And you said in this -- in this particular

instance the redundancy system failed?

A Yes.

Q If a person has liver problems is that going to effect how a person could push chemicals into their body?

A No.

MR. NUNNELLEY: Outside the scope of direct, your Honor.

MR. DUPREE: We're on the Diaz execution, your Honor.

THE COURT: Overruled. Go ahead and answer the question.

BY MR. DUPREE:

Q And your answer was no?

A No.

Q Now, you said you reviewed the protocols in this particular case of Florida?

A Yes, the former protocol and the current one that was issued about two weeks ago.

Q And when did you first review those?

A Just within the last week or two.

Q And did you have any conversations with Mr. Nunnelley about those?

A Yes.

Q Did you write a report to the DOC with regard to what your feeling was on those?

A No.

Q And did you say you did or did not read the DOC

Task Force report? I'm sorry, I've forgotten.

A I read the Department Of Corrections' response to the Governor's Commission's report.

Q Okay. And was that a response that said all team members, meaning the execution team and the team in the chamber, was not primarily focused on the inmate? Did you read that?

A I don't recall if it's in there.

Q Now, in the 2006 --

MR. DUPREE: May I have a moment, your Honor?

THE COURT: Yes.

BY MR. DUPREE:

Q Now, in these protocols -- do you have them in front of you?

A No.

MR. DUPREE: Can I go?

MS. KEFFER: Here, it's one and two.

BY MR. DUPREE:

Q I'm handing you exhibits, Joint Exhibits 1 and 2. One being the August 16th, 2006, and Two being May 9th, 2007. And you said before that you recognized those; is that correct?

A Yes.

Q And those are the ones that were provided to you by Mr. Nunnelley?

A They were actually provided to me as PDF files, so I'm assuming they're the same.

Q Now, looking specifically at the August 16th, you

said that the -- in comparing the August 16th and the May 9th, you said the one thing that you noticed was after the administration of the first set of two syringes with the thiopental that the procedure was going to be stopped; is that correct?

A Paused.

Q Paused. And that purpose -- and then the inmate was going to be checked; is that correct?

A For the presence or absence of consciousness, yes.

Q Of consciousness. And even though it's not in the protocol, you told me what the Department Of Corrections personnel is going to do; is that correct? At least what's your understanding they were going to do?

A Yes.

Q And you did not provide that information to them?

A No.

Q As to what they should do?

A No. In fact, I specifically asked Mr. Nunnelley if he could tell me what the procedures would be, because I expected to be asked about them.

Q And in terms of the 2007, and in comparison between the two, let's just go -- let's go down the list, okay? Now, the selection of the executioner is still going to be done by the Warden; is that correct?

A Yes.

Q And the training of the execution team, even though it is expanded upon in the May 7th (phonetic), it's

still going to be done by the Warden; is that correct?

A Or under his direct responsibility.

Q Right. So in terms of the training of the execution team, in August of 2006, which by the way was prior to the Angel Diaz execution, it says the Warden or his or her designee will conduct simulations of the execution process on a quarterly basis; is that correct?

A Yes.

Q And now it says, there is to be sufficient training to insure that all personnel involved in the execution process are prepared to carry out their roles for an execution. The warden or his designee will conduct

simulations of the execution process on a quarterly basis at a minimum, or more often as needed as determined by, again, the warden; is that correct?

A Yes.

Q That's essentially the same language as 2006; would you agree with that?

A Well, it's in greater detail.

Q And additionally, a simulation shall be conducted the week prior to any scheduled execution; do you read that?

A Yes.

Q All other persons involved with the execution should participate in the simulations; do you read that?

A Yes.

Q So that doesn't mean a person has to do it, right, they should do it, correct?

A As I read that that's a reasonable interpretation.

Q And were you aware from the lethal injection Commission that the executioner in the Angel Diaz case testified that he had never attended a training, hadn't attended a training in seven years, and was not -- had no medical qualifications whatsoever?

A I have no way of knowing that.

Q Now, does it say in the new protocol that the executioner, the person who is going to plunge the drugs into the inmate, has to attain -- has to have any kind of

training whatsoever?

MR. NUNNELLEY: Your Honor, I am going to object to this. I didn't offer Dr. Dershwitz as an expert in the protocols. The protocols speak for themselves.

MR. DUPREE: Your Honor, he testified on direct all about these protocols.

THE COURT: Restate your question.

MR. DUPREE: Could you read that, please?

(Thereupon, the last question was read back.)

MR. DUPREE: Do you understand the question, Judge?

THE COURT: Go ahead.

THE WITNESS: All I can infer from the protocol is it says that there shall be sufficient training to insure that all personnel involved are prepared to carry out their roles.

BY MR. DUPREE:

Q Right. And that's all it says?

A Yes. And I believe elsewhere it designates the overall responsibility to insuring that to the warden.

Q To the warden, correct?

A As far as I can tell.

Q And that -- and that's essentially in August of 2006 exactly what the 2006 protocol said; is that correct?

The warden or his or her designee will conduct simulations of execution process on a quarterly basis, correct?

A Yes.

Q Now, if I could, I would like to direct your attention specifically to Page 7.

A Of the new or the old?

Q I'm sorry. Good question. The new one.

MR. NUNNELLEY: Excuse me, the new ones?

MR. DUPREE: The new ones, yes, sir.

MR. NUNNELLEY: On what page?

MR. DUPREE: Page 7. Your Honor, may I have one moment? I just want to ask counsel one question. Page 5, counsel.

MR. NUNNELLEY: Of which ones?

MR. DUPREE: Of the May 9th, 2007.

BY MR. DUPREE:

Q All right. Let me direct your attention to Page 8 of the protocol on May 9th.

MR. NUNNELLEY: You just told me Page 5.

MR. DUPREE: I misspoke. Page 8. Number 4.

BY MR. DUPREE:

Q And this was the change you were talking about with Mr. Nunnelley; is that correct?

A Well, no, the change is primarily in Step Three.

Q Okay. Well, it goes to on to four if the inmate

is not unconscious, correct?

A Yes.

Q Okay.

A But the major change begins at point three.

Q Correct. So let's read that. At this point a member of the execution team will assess whether the inmate is unconscious, correct?

A Yes.

Q The warden must determine after consultation that the inmate is indeed unconscious, correct?

A Yes.

Q Until the inmate is unconscious and the warden has ordered the executions to continue the executioners shall not proceed to step five, correct?

A Yes.

Q And we've already discussed that there's nothing about how they make that determination in that protocol, correct?

A Yes.

Q Let's go on to number four. In the event that the inmate is not unconscious the warden shall signal that the execution process is suspended and note the time and order the drapes to be closed, correct?

24 A Yes.

25 Q The execution team shall assess the viability of a

1 secondary access site. And it's your understanding there's
2 line one and line two; is that correct?
3 A Yes.
4 Q One at the right arm, one at the left arm,
5 correct?
6 A Not necessarily, but typically.
7 Q Typically. So they're going to assess the
8 viability of a second access site. And then it says, if a
9 secondary access site is, or at any time, becomes
10 compromised, a designated member of the execution team will
11 secure peripheral venous access at another appropriate site
12 or will perform a central venous line placement with or
13 without a venous cut down at one or more sites deemed
14 appropriate by that team member.
15 Now, a venous cut down, and going to a femoral
16 vein -- a femoral artery, is that a more advanced medical
17 procedure than putting an IV into somebody's arm?
18 A Yes, it's a femoral vein, not the artery.
19 Q I'm sorry, femoral vein. That's a more advanced
20 medical procedure; is that correct?
21 A Yes.
22 Q Is that something you do --
23 THE COURT: That's a what, what was your
24 question?
25

BY MR. DUPREE:

Q That's a more advanced medical procedure. And that would require more skill for the person than just putting an IV into somebody's arm; is that correct?

A Yes. And you asked me is that something that I do.

Q That's something that you do?

A And I put IVs into the femoral vien with some regularity, but I don't it by a cut down technique. I do it percutaneously.

Q Okay. And with the cut down technique, it's something that would be -- would require more skill on a part of a person?

A Typically, yes.

Q Now, read on with me. It says, once the warden is assured that the team has secured a viable access site the warden shall order the drapes to be opened and signal the execution process will resume, correct?

A Yes.

Q The executioners will then be directed to initiate the administration of lethal chemicals from -- from stand B, starting with the syringes of sodium Pentothal labeled one and two.

A Yes.

Q Is that correct?

A Yes.

Q Okay. Do you see anywhere there or in the next paragraph that says, after the administration of sodium Pentothal where they're going to check the inmate again to determine whether or not he's unconscious?

A No.

Q So a person might have a situation, like Mr. Diaz did, where we know that line A did not work into his left arm, correct? We know that line B also did not work. And nobody made a determination that he was conscious. Okay?

Isn't that the same thing that happens here, that after a person is determined to be unconscious and they're going to administer the drugs again, and then they're not going to check for consciousness? Isn't that what that protocol says, sir?

MR. NUNNELLEY: Your Honor, I have two objections -- actually three. First of all, it goes outside the scope of direct. This witness was not offered as an expert in the English language, nor was he offered as an expert on the protocols. And third, it assumes facts not in evidence. The protocols speak for themselves, and this Court is well able to read this.

If Mr. Dupree wants to call Dr. Dershwitz as his witness and have him read the protocols to the

Court, that's fine. But this is outside the scope of direct, it's irrelevant, it's immaterial, it

should be stopped.

MR. DUPREE: Judge, they can --

THE COURT: Overruled. If you understand or know, you can answer the question.

MR. DUPREE: Okay.

BY MR. DUPREE:

Q You do understand the English language, correct, doctor? Let me just cover that objection.

A In general.

Q Okay.

A So the protocol --

Q And you can read?

A Yes. So the protocol does not explicitly state that after the second dose of thiopental is given that there will be a pause --

Q Right.

A -- for reassessment of consciousness.

Q Okay. Let's again read on to paragraph five. Okay? Now, after having the second line we know the first line, according to paragraph four, has in some way been compromised whatever the circumstances are. Paragraph five says, the executioner will remove from the stand on the work top the syringe labeled Number Three, which is supposed to

be the saline; is that correct?

A Yes.

Q Place the blunt (indiscernible) into the open port on the --

THE COURT REPORTER: I'm sorry, say that again?

BY MR. DUPREE:

Q Okay. I'm sorry. Place the blunt cannula, c-a-n-n-u-l-a, into the open port of the IV extension set labeled A, and push the entire contents of that syringe into the port at a rate that meets the injection resistance of the cannula. When the syringe is depleted she will hand -- she he will hand the empty syringe to the secondary executioner. Correct?

A Yes.

Q Well, let's take a look at number five. It says they're going to put saline solution in line A. Wasn't line A the one that was just compromised and that's why they had to stop the execution?

A If it was line A that they deemed nonfunctional.

Q So I -- let's go back then to number two, which is before this. And it says they're going to place the first round of sodium thiopental into the open port of the IV extension set labeled A, correct?

A I believe that's the intent.

Q That's what it says, right?

A Yes.

Q And so three talks about we're going to check to see if he's unconscious.

Four says, we're going to suspend it. We're going to make sure that the other line is accessible, and we're going to go ahead then without checking. We're not going to

go with line -- we're going to do five and we're going to put it into the same line. Correct?

A Apparently.

Q Thank you. Now, when you were reviewing the protocols in August 16th -- for August 16th and for May 9th was there anything in the Florida protocols that talk about resuscitation equipment?

A No.

Q And so if there was a situation where a stay of execution came in after the administration of the five grams of sodium thiopental there's nothing in that execution room to rush in and save the person; is that correct?

A That is correct. Although, I question whether the person is resuscitatible after the delivery of that dose.

Q But there's nothing -- but there's nothing that you can do because there's no equipment?

A Well, the equipment is less important. It would require the presence of personnel who would be skilled in

dealing with this sort of patient. So not any physician.

Typically, an Emergency Department physician, or a critical care physician, or an anesthesiologist would have to be standing right there, and then would need to have the equivalent of a trauma bay in an Emergency Department. So this would involve an extraordinary addition of personnel and resources.

And I question, since this five grams has never been given to a human for clinical reasons, knowing what a

three gram dose does to a typical patient, having done that myself, I do question whether it's even possible to resuscitate somebody who has gotten five grams.

Q But Florida is not even going to try, correct?

MR. NUNNELLEY: Your Honor, that's argumentative. I object to it. It's also irrelevant.

THE COURT: What did you say?

MR. DUPREE: I'll move on, Judge.

BY MR. DUPREE:

Q Have you -- you've been involved with other states that do have resuscitation equipment in their execution rooms; is that correct?

MR. NUNNELLEY: That is irrelevant.

MR. DUPREE: It is relevant, Judge.

THE COURT: Overruled. Overruled. Go ahead.

THE WITNESS: Actually, I am unaware of any state that has made provisions for the resuscitation of an inmate who has received a lethal injection.

BY MR. DUPREE:

Q Do you know whether or not the warden is qualified to respond to medical emergencies?

A I have no specific knowledge.

Q Do you know if anybody on that team is -- is qualified to respond to medical emergencies?

A I believe there are physicians present.

Q Do you know that for a fact?

A I don't know that for a fact, but it sounds from the description like there are physicians present.

Q Now, in a situation where -- I'm hypothesizing here with you -- if somebody received a small amount of thiopental, one hundred milligrams in the administration intravenously, and then something happened to the catheter, it went in subcutaneously, popped out, and the person was -- where would that person be at say with one hundred milligrams of -- of sodium thiopental?

A Probably very sleepy but not unconscious.

Q And where would the person be unconscious? Give me a number where the person would be unconscious?

A Well, typically, consciousness will be lost in an

average person after one hundred and fifty or two hundred milligrams are given, but they won't remain unconscious for very long.

Q And how long a period of time would that be?

MR. NUNNELLEY: Judge, this has been asked and answered at least five times. We don't need to keep replowing the same ground trying to get to five o'clock.

THE COURT: Overruled. Go ahead.

THE WITNESS: A matter of a few minutes.

BY MR. DUPREE:

Q A matter of a few minutes. So if a person received some sodium thiopental intravenously and became unconscious, and received that small amount, and then was

injected with pancuronium bromide, and the person woke up after the injection of the pancuronium bromide, how would the person -- how would the warden be able to determine that the person was conscious or unconscious?

A Well, the hypothetical depends upon the IV then popping back into the vein for the administration of pancuronium, which I don't think is medically possible.

Q Well, didn't you just testify that the pancuronium would actually absorb quicker than the thiopental?

A No, I said the opposite.

Q The thiopental would go faster?

A From a subcutaneous injection site thiopental would be absorbed more rapidly than the pancuronium.

Q What if a person was injected with sodium thiopental and some pancuronium got in; how much would be required to paralyze that person?

A Well, the typical paralytic dose is around eight to ten milligrams for an average person.

MR. DUPREE: If can I have just a moment, your Honor?

THE COURT: Sure.

MR. DUPREE: Judge, let me check my notes, we may be getting toward the end here.

THE COURT: Sure.

BY MR. DUPREE:

Q When you testified before the lethal injection Commission did you tell the Commission that you could come up with a scenario in your mind in which the potassium

chloride went into his system faster than the two other drugs, the pancuronium and the thiopental?

A I don't specifically recall, but if two IVs are working -- are being utilized, and the potassium chloride is put through a working IV, and the other drugs are put though a malfunctioning IV, that is a scenario in which a completely awake person could get the whole dose of potassium chloride.

Q First?

A First.

Q And you recall giving that statement, correct?

A I don't specifically recall, but I can think in my mind of a scenario in which using two IVs improperly could result in that scenario.

Q Okay. And there's no question that -- that the two IVs here went into the veins and were improperly either administered, came out, whatever?

A My understanding --

MR. NUNNELLEY: Judge, facts not in evidence. This witness cannot testify to it, and I object it.

THE COURT: Overruled. Go ahead.

THE WITNESS: As I said, the most plausible explanation for what happened to Mr. Diaz was that both IVs malfunctioned.

BY MR. DUPREE:

Q You have been involved in other -- in other

states; is that correct, sir?

MR. NUNNELLEY: Asked and answered.

MR. DUPREE: I believe --

THE COURT: Go ahead.

THE WITNESS: Yes.

BY MR. DUPREE:

Q And are you familiar with -- do you review execution logs? Have you ever reviewed execution logs as par of your expert testimony?

A I've actually reviewed data derived from execution logs in at least one other state.

Q Which state is that?

A Virginia.

Q Have you ever reviewed any in Oklahoma?

A I think so. Although, for the purposes of Virginia I did some calculations and prepared a table. I don't recall what I did with the numbers in Oklahoma.

Q Were you provided with any -- any kind of execution logs here for Florida?

A I don't believe so.

Q Do you know whether or not Florida uses a tape to read out on an EKG during an execution?

A Well, my understanding is there's two monitors hooked up. I don't know if they're just, you know, CRT displays or whether there's a paper printout, also.

Q And so the answer is, you don't know if they have paper printouts?

A I don't specifically know.
Q Okay. Had you -- so you don't recall ever seeing one here in Florida?

A I'm pretty --
MR. NUNNELLEY: Asked and answered, your Honor.
THE COURT: Go ahead.
THE WITNESS: I'm pretty sure I've never seen a raw EEG (phonetic) strip from an execution here.
BY MR. DUPREE:
Q Did you ever ask for one in preparation for your testimony to here -- today, or before the lethal injection Commission with regard to the Diaz execution?
A No.
Q Does pancuronium serve any kind of a medical purpose in an execution?
A As I testified elsewhere, there are advantages and disadvantages to the inclusion of pancuronium. And the ultimate decision on whether or not to include it in the protocol is not a medical one.
Q And it's done to -- what does pancuronium do? Why -- why is it used?
A Well, again, I have no specific knowledge of why it was originally incorporated in a protocol. But if a state were starting from scratch to write a protocol, there are advantages and disadvantages to its inclusion.
And so I think you would be -- you could describe

well why it might be disadvantageous. The advantage that

needs to be considered is that in addition to stopping the heart the potassium chloride is expected to cause widespread stimulation of nerve and muscle tissue throughout the body. That will cause involuntary muscle contractions.

Many witnesses have improperly described those movements as convulsions. And many witnesses have erroneously assumed that those movements were associated with suffering. And pancuronium will mitigate substantially those involuntary muscle contractions.

And so it is reasonable to answer the -- to ask the question, to pose the question, should this be in the protocol? And then it is up to those policy makers to weigh the advantages and disadvantages and come up with a final decision.

Q Directing your attention to a case called Patton vs. Jones, which is a Western District of Oklahoma case; are you involved in that case?

A I believe that name rings a bell.

Q Were you provided execution logs in the Patton vs. Jones case?

A To be honest with you, I can't remember.

Q Okay. Do you recall in Oklahoma that executions recently have taken less than two to three minutes from beginning to end?

A Again, I'm not very good at remembering such data.

I have no specific recollection of anything they sent me.

Q If -- if an execution was to take only two to three minutes, would that give the pancuronium bromide enough time to get in the body and cause a paralytic effect?

A It would not have reached it's peek effects. It would after three minutes have a substantial effect, but it would not have reached its peek effect.

Q And since -- and then the next drug in Oklahoma is the same as Florida, it's potassium chloride; is that correct?

A Yes.

Q And the potassium chloride is what caused the person to go into convulsions; is that correct?

A Absolutely not.

Q It causes -- it causes a convulsive moment?

A Can I just back up one second?

Q Sure.

A My recollection is that Oklahoma does not use pancuronium. I believe they use Vecuronium, which peeks in about one third to one half the time that it takes pancuronium to peek. And --

Q Well, do you know what the purpose of using the Vecuronium is?

A For this -- I would assume it's the same reason for using pancuronium.

Q And that's also a neurologic -- a neuromuscular blocker like pancuronium bromide; is that correct?

A Yes, with faster kinetics.

Q Okay. So were you ever provided in Oklahoma anything that -- any witness statements that indicated that during the execution that took two to three minutes that nobody convulsed after being injected with potassium chloride?

A I have no specific memory.

Q I want to cover just one area, I think I touched on it before, about redundancy. In the lethal injection Commission you talked about redundancy. And I think today you testified that you thought it would be a good idea to use both lines at the same time; is that correct?

A Well, as I said, there's advantages to either the serial use or the parallel use. And it's up to others to decide which one is better, because better is not a medical decision.

Q Did you ever pass that suggestion along to the Department Of Corrections? Did you pass it along to Mr. Nunnelley, Ms. Snurkowski, anybody from DOC?

A No. I may have discussed the advantages and disadvantages of parallel versus serial administration, but I would not have made a recommendation as far as which one is better because better is not a medical opinion.

Q Do you know why Florida did not go along with that?

A I don't know. And, in fact, they actually --

MR. DUPREE: Your Honor, there's no -- there's no question pending.

THE WITNESS: There is. I didn't finish my answer, I was thinking. Florida does use a serial method of redundancy.

BY MR. DUPREE:

Q But not the redundancy that you were talking about, where they use both lines at the same time?

A That's parallel.

Q Okay. They don't use that?

A You said that they didn't adopt either one. And I was thinking about how to rephrase it. That was not an incorrect statement. They do use a serial method of redundancy, they do not use a parallel one.

MR. DUPREE: Just one moment, Judge. Your Honor, I have no other questions.

MR. NUNNELLEY: I have just a couple, your Honor. May I approach?

THE COURT: Sure.

MR. NUNNELLEY: Very briefly, your Honor.

REDIRECT EXAMINATION

BY MR. NUNNELLEY:

Q Dr. Dershwitz, I'm showing you an article entitled Thiopental Pharmacodynamics that Mr. Dupree showed you. What's the date on that article, sir?

A It seems to be 1992.

Q Thank you, sir. And also look at the article Pharmacological Properties of something or other Anesthetics that he was discussing with you. And I believe you had typographical error in there that Mr. Dupree chose not to let you explain. Can you explain that to the Court, sir, very briefly?

A This table, which appears to be in the latest edition of Goodman and Gilman's, the Pharmacological Bases of Therapeutics misquotes this 1992 article as demonstrating that the minimum hypnotic level of thiopental should be 15.6 milligrams per milliliter.

MR. DUPREE: Your Honor, I object --

THE WITNESS: -- and --

MR. DUPREE: -- unless we can determine where he got that information from, because I think it's hearsay, I am going to object.

MR. NUNNELLEY: He asked the question, your Honor, and cut the witness off from trying to answer. He's entitled to explain his answer.

THE COURT: Overruled. Go ahead.

THE WITNESS: Clearly this paper, that I guess is not an exhibit, but this paper by Stanski and coworkers published in 1992, did not measure the hypnotic level of thiopental anywhere in this paper.

The paper refers to the concentration of thiopental necessary to prevent movement, which has nothing to do with a hypnotic effect.

Hypnotic effect meaning sleep.

So in one case Stanski and coworkers are measuring how much thiopental it takes to present movement. And obviously this authors of this chapter, because the number is 15.6 in both places, have erroneously put it in here.

MR. DUPREE: Objection to the term erroneously, your Honor. He doesn't know what those authors were thinking.

THE COURT: Overruled.

THE WITNESS: It is undoubtedly a mistake because everywhere in the literature --

MR. DUPREE: Objection, your Honor, there's no question pending.

MR. NUNNELLEY: I thought he was still answering the one I asked him, Judge.

THE COURT: Overruled. Go ahead.

THE WITNESS: Everywhere else in the literature the approximate Cp50, or concentration of thiopental that causes half of the people to be unconscious is approximately seven.

BY MR. NUNNELLEY:

Q And doctor, one final question. In the practice of anesthesiology the patient is expected to live, isn't he?

A Yes.

MR. NUNNELLEY: No further questions.

THE COURT: Any other questions?

MR. DUPREE: No, sir.

THE COURT: Okay. Thank you, doctor.

MR. NUNNELLEY: May this witness be released, your Honor?

THE COURT: Released?

MS. KEFFER: Yes, your Honor.

THE COURT: You may be released. Thank you very much.

MR. NUNNELLEY: Your Honor, I think we have one matter to put on the record while Dr. Dershwitz is packing up.

Mr. Dupree in cross examination asked him if he had seen any photographs of Mr. Diaz on the gurney. Now, if Mr. Dupree has such photographs, he needs to produce them; otherwise, he needs to

state on the record that there are no such photographs. It's improper impeachment to ask a witness if he has seen something that is known not to exist.

MR. DUPREE: Judge, I don't even know how to respond to that.

MR. NUNNELLEY: You completely know full well how to respond. Doctor, thank you, sir.

THE COURT: Do you have any photographs?

MR. DUPREE: Judge, I asked the witness if he'd seen any. I didn't provide him any photographs.

THE COURT: Okay.

MR. DUPREE: I want to know if the State did.
THE COURT: Okay. All right. Ready to adjourn until the next day?
MS. KEFFER: Your Honor, I certainly think it's five o'clock. We're at a good stopping point. And we have the next two days set.
THE COURT: Right.
MR. NUNNELLEY: Judge, the only thing I would ask is if we could get some kind of an accounting of who they're planning on calling next time.
We've been hearing that we're going to hear Mr. Dupree testify as a witness as well as acting

as an advocate. We haven't seen that. We have just seen a lot of advocacy on his part today. Who are they going to call then?
Just give us -- they need to give us some kind of idea, if not today by the end of the week, what they plan on doing with the rest of this hearing time.
MS. KEFFER: Judge --
THE COURT: June, June 18, is that --
MS. WATSON: June 18th and 19th.
THE COURT: And 19th.
MS. KEFFER: -- the State was provided with a witness list. And I certainly have been in pretty constant communication with Mr. Changus with regards to who I intend to present, as most of

them are from the Department Of Corrections.

So, you know, that has -- I have been very open with that. It's the witnesses that we left for the 18th and 19th.

I can tell you from what I had planned on these two days, I believe we have Colonel Lorie Thomas, Brenda Whitehead, Neal Dupree, William Matthews.

I had subpoenaed Drs. Madan and Selyutin for these two days. I understand they have not

appeared. And I guess that's something we will have to take up.

Assistant Warden Polk. Gretl Plessinger, James McDonough, Max Changus, Electra Bustle, George Sapp, and Dr. Hamilton.

And Dr. Hamilton was scheduled to come today. Because I anticipated that Dr. Dershwitz would take a substantial amount of time, I did call him. I didn't want to waste his time coming here to sit around and not testify, so. I have let him know that our intent is to put him on the 18th and 19th.

THE COURT: How many more witnesses in total do you have?

MS. KEFFER: Well, that's for the 18th and 19th. I can tell you there's one -- I would have fourteen for the 18th and 19th.

THE COURT: Okay. And about how many more

after that?

MS. KEFFER: Your Honor, because I had only received the new protocol on May 9th, other than right now possibly two experts to testify I don't have a plan for July.

I certainly can provide that at a -- you know, if you want to set another date for an

amended witness list based on the new protocol, I would be happy to comply with that.

THE COURT: Okay. Ready to adjourn?

MR. CHANGUS: Your Honor, just for the record, on the matter of Dr. Madan being not -- well, Ms. Keffer and I had a conversation last month as to whom she wanted on what days. Those two names were not admitted -- they were sub -- and we did not discuss them, so it wasn't a matter of our production.

She -- you know, as she said she had them under a subpoena, and if she plans to call them she is going to notify us and we will continue to work with her as appropriate.

MS. KEFFER: I did not -- it was a mistake that I -- I wasn't thinking of them as DOC personnel, and that's why it was my mistake. So certainly we can talk about that.

THE COURT: Ready to adjourn?

MS. KEFFER: Yes.

MR. NUNNELLEY: I would ask we also coordinate with State -- with the State rather than all of a sudden merely calling Mr. Changus because calling Mr. Changus is not the same thing as telling me. I am counsel of record in this

case, Mr. Changus is not.

THE COURT: Okay. All right. That would be fine. June 18.

MS. WATSON: And 19.

THE COURT: June 18, what time, nine o'clock? Nine o'clock?

MS. WATSON: Yes, sir.

THE COURT: 8:30?

MR. NUNNELLEY: Make it 8:30, Judge, we need the time.

THE COURT: 8:30. In fact, we're running out of six days here, not adding up the hours.

MR. NUNNELLEY: We're running through a lot of them real slow, Judge.

THE COURT: Okay. We'll see you on the 18th at 8:30, okay?

MS. KEFFER: That's fine.

MR. NUNNELLEY: Thank you, Judge.

THE COURT: All right.

(Thereupon, court was adjourned at 5:10 to be resumed on June 18th, at 8:30 p.m.)

C E R T I F I C A T E

STATE OF FLORIDA

COUNTY OF MARION

I, Noelani J. Fehr, Stenographic Court Reporter and Notary Public, State of Florida at Large, do hereby certify that I was authorized to and did stenographically report the foregoing proceedings taken in the case of STATE OF FLORIDA VS. IAN LIGHTBOURNE, CASE NUMBER 81-170-CF; and that the foregoing pages numbered 483 through 619 inclusive, constitute a true and correct record of the proceedings to the best of my ability.

I FURTHER CERTIFY that I am not a relative, or employee, or attorney, or counsel of any of the parties hereto, nor a relative, or employee of such attorney or counsel, nor am I financially interested in the action.

WITNESS MY HAND this 6th day of June, 2007, at Ocala, Marion County, Florida.

Noelani J. Fehr
Stenographic Court Reporter
Notary Public
State of Florida at Large

My Commission expires: 7-24-2010