UNITED STATES OF AMERICA
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

TIMOTHY JOHNSTON,)
)
Plaintiff,)
)
vs.) No. 4:04-CV-1075 CAS
)
LARRY CRAWFORD,)
)
Defendant.)

TRANSCRIPT OF TEMPORARY RESTRAINING ORDER

BEFORE THE HONORABLE CHARLES A. SHAW
UNITED STATES DISTRICT JUDGE

August 26, 2005

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Proceedings recorded by mechanical stenography, produced by computer-aided transcription.

I N D E X

E X H I B I T S

(The following proceedings were held in open court on August 26, 2005 at 10 o'clock:)

THE COURT: Good morning.

MR. GORLA: Good morning, Judge.

THE COURT: Okay. This is Timothy Johnston versus Crawford, it's 4:04-CV-1075. Representing Mr. Johnston are attorneys Christopher McGraugh and Michael Gorla. And representing I guess Larry Crawford, originally Kemper, et al. is Denise McElvein.

MS. McELVEIN: Yes, Your Honor.

THE COURT: Okay. Good morning. Now, first of all, let me say this: I have voluminous records, experts, all this kind of information. There's no need to repeat that. From talking to the clerk I understand that you all apparently are in agreement with that to some degree. But we do have this video conferencing, videotape that needs to be displayed. And, of course, that's over in Judge Webber's courtroom across the hall. And we will have to do that. So anything either of you all, Mr. McGraugh, Mr. Gorla, you wish to say relative to that?

MR. GORLA: Judge, I agree that we've said everything we needed to say. It's in the documents that you have.

THE COURT: Yeah, they are voluminous and we've been trying to go over them. So the quicker we can do this, the

quicker I can get busy working further on those documents.

MR. GORLA: That's fine, Judge.

THE COURT: Okay.

MS. McELVEIN: Your Honor, I have just one administrative matter.

THE COURT: Sure.

MS. McELVEIN: Pertaining to the documents submitted under seal pursuant to the court order and the agreed protective order.

THE COURT: Yes.

MS. McELVEIN: So I'm wondering as far as referencing that to still protect that information if somehow we could refer to it generally. This is information contained in Director Crawford's interrogatory answers and Director Crawford's supplemental interrogatory answers.

MR. GORLA: Judge, I have no problem with that. And if we need to go into it in more detail, we'll let the Court know and ask to approach the side bar.

THE COURT: That works for me.

MS. McELVEIN: Okay.

THE COURT: Is there anything else we need to do before we adjourn and we move over to Judge Webber's courtroom?

MS. McELVEIN: Well, Your Honor, the only thing I would say is that we have Dr. Dershwitz standing by on video

conferencing. He was about -- he was just getting to the courthouse. So it's going to take him a little while to get in. I thought that plaintiff could go ahead and proceed since they are not presenting witnesses, and then I can proceed with him.

THE COURT: Well, I don't know that they got anything that they want to proceed with. You just need to figure out what time he'll be ready and they got to hook it up, and we got to get over there. And I got to go through there and excuse myself, say thank you and da, da, da, da for using somebody else's courtroom. And so it's not like I just walk out like I do mine, you know. You can't just walk into his chambers and walk straight through like it's my spot. I'm in somebody else's house, you know. Might offer me a drink or something, I don't know. Whatever. Water, that is.

MR. GORLA: Judge, like I said, I think the documents reflect our position. The affidavits are in the record. You have all that.

THE COURT: Yeah, I've got all that.

MR. GORLA: I see no need to get up and regurgitate it.

THE COURT: So, Ms. McElvein, you have some idea of time that the witness will be ready?

MS. McELVEIN: Yes, he was arriving at the courthouse. I spoke to him about ten minutes ago, so he just

had to go through security and find the proper location.

THE COURT: Well, Jeff, what you can do -- the clerk can go over, call and find out what the situation is and when they are ready. And, Jeff, why don't you come back and let them know. Make sure the courtroom is open so they can go over. And then when we're ready to go, come and tell us and we'll go on, okay.

MR. GORLA: Thank you, Judge.

MS. McELVEIN: Okay. Thank you.

THE COURT: Sure.

(Court in recess from 10:04 a.m. until 10:22 a.m.)

THE COURT: Good morning again. This is a strange situation here, strange setting here. Okay. Are we ready to proceed?

MS. McELVEIN: Yes, Your Honor.

THE COURT: Very well. Go ahead, Ms. McElvein.

MS. McELVEIN: Hi, Dr. Dershwitz. My name is Denise McElvein.

THE WITNESS: Good morning.

THE COURT: Are you able to hear me?

THE WITNESS: Just fine, thank you.

MS. McELVEIN: I'd like to have the witness sworn.

THE COURT: Very well.

MARK DERSHWITZ, M.D., PH.D.,

Having been first duly sworn, was examined and testified as

follows:

DIRECT EXAMINATION

BY MS. McELVEIN:

Q. Would you please state your name for the record?

A. Mark Dershwitz.

Q. What's your current occupation?

A. I'm an anesthesiologist at the University of Massachusetts.

Q. Where are you employed?

A. At the University of Massachusetts.

Q. And I have marked as Exhibit A a copy of your curriculum vitae. Do you have it there?

A. Yes, I do.

Q. Okay. And is that your curriculum vitae?

A. Yes.

MS. McELVEIN: And I'd like to admit that into evidence as Exhibit A.

MR. GORLA: We have no objection, Judge.

THE COURT: It will be received.

MS. McELVEIN: I would move that Dr. Dershwitz be allowed to give expert testimony today, Your Honor.

THE COURT: Any objection?

MR. GORLA: No, Your Honor.

THE COURT: Very well. Go right ahead.

BY MS. McELVEIN:

Q. Dr. Dershwitz, would you describe for us briefly your occupation as an anesthesiologist?

A. What my present position involves is a combination of providing clinical anesthesia in the operating room, teaching residents in my training program, as well as being responsible for the training program in our department. I also have a number of administrative responsibilities in the department as the academic vice chair which include overall responsibility for the training as well as things like continuing medical education for the staff. And I'm also the point person for interviewing and choosing the residents who are in our program.

Q. Do you hold any other medical degrees?

A. Well, in addition to my M.D., I also have a Ph.D in pharmacology which I also obtained from Northwestern University.

Q. And what is pharmacology?

A. Broadly speaking pharmacology is the study of the effect of chemicals on living systems.

Q. Okay. Could you explain that a little bit more what that means?

A. Well, again, it's a very broad definition. But it's a basic medical science that involves the study of how chemicals interact and affect biological and living systems.

Q. And does your experience relate to drugs that are used

in lethal injection?

A. Absolutely. My clinical work in the operating room uses these medications on a regular basis. And my past research has emphasized the study of the time course of the effects of intravenous anesthetic medications. That was my primary area of research over the last 20 years.

Q. And what do you mean by time course?

A. One of the things that's very important to an anesthesiologist is to understand when a medication is given, how long it is expected to act. So we can predict when we need to give more medication or when we can predict that the patient is going to awaken from anesthesia. So that this time course of the effect of the medication has been one of my primary interests in my career.

Q. Have you researched and published articles on the medications used to induce anesthesia?

A. Yes, I have, quite a few actually.

Q. And what drugs are those?

A. Well, today the most commonly used medication to induce anesthesia is propothol, which is or has pretty much replaced thiopental. Thiopental is the medication that's commonly used in lethal injection is less commonly used today in anesthesia because we consider it to be too long lasting in terms of its effects on the patient. Today it is important for most of our patients to awaken very quickly from

anesthesia and then be able to typically leave the hospital to go home on a very short time frame. And thiopental is a much longer lasting drug than the drugs that are more commonly used today, and that's one of the reasons that we don't use it as often today in anesthesia as we did 10 or 20 years ago.

Q. When you say thiopental, is that also sometimes referred to as sodium pentothal?

A. Sodium pentothal is the trade name of Abbott Labs, but thiopental is the official name for the drug. And as a pharmacologist, that's the term that I'm more likely to use.

Q. Now, when thiopental is administered, does everyone have the same reaction to this drug?

A. Well, there are certainly differences from person to person in terms of, for instance, how long they will sleep after a given dose. But everybody will be rendered unconscious if given an adequate dose of thiopental.

Q. Have you received and reviewed materials in anticipation of your testimony today?

A. Yes, I have.

Q. Okay. Could you tell me briefly -- well, what you have reviewed?

A. Well, I have affidavits of Mr. Larry Crawford, I believe there's two of them. I have affidavits of Dr. Heath and Dr. Groner. I think I have two affidavits from

Dr. Groner. And I've also been provided with an exhibit that you gave me, the execution times chart which shows your state's experience with a lethal injection. And then, of course, I prepared two declarations and a number of exhibits that I provided to you.

Q. Okay. And just for the record, you're talking the time chart that you referred to was taken from the interrogatory answers, Crawford's?

A. I believe that is Exhibit I --

Q. Right.

A. -- in this case.

MS. McELVEIN: Just for the record, you have a copy of all of this, but paralegal Kelly is going to give you a copy.

BY MS. McELVEIN:

Q. Did your research and your professional expertise assist you in analyzing these materials?

A. Yes. What I did was I used the protocol for lethal injection as used in Missouri to then do an analysis that permitted me to predict the probability that a person would be conscious after varying times of the injection of thiopental. And those analyses are Exhibits B and C, I believe, in this case.

Q. Okay. And you used those charts B, C, and I think there's also one D, and attached those to your affidavit that

you submitted in this case?

A. Yes, I did.

Q. Okay.

MS. McELVEIN: And for the record we have the affidavit marked as Exhibit E, and then the charts marked as B, C, and D. May I hand you these exhibits?

THE COURT: Sure.

BY MS. McELVEIN:

Q. Okay. In Exhibit E, which is your affidavit, what I'd like for you to do is to turn to the second page. And starting with the first drug that Missouri uses in lethal injection, I'd like for you to discuss the dosage of the drug and the purpose of the drug.

A. Well, the first medication administered is thiopental, and Missouri mandates a dose of 5 grams, which is the same thing as 5,000 milligrams, which is as far as I'm aware the largest dose of thiopental used in lethal injection in the United States. Other states use less. California uses five grams. I believe the other states use less. The purpose of thiopental is to produce unconsciousness.

Now, when we administer an anesthetic to a person, the typical dose for the average size person that we give of thiopental is 300 to 400 milligrams. And so the dose of 5,000 milligrams is 10 to 15 times approximately the average dose that's given to a person for surgery. And keep in mind,

for surgery usually we have a goal of having the person awakened in a relatively short period of time after the procedure is over. And so we want to have the patient have a relatively low level of hangover afterwards.

Now, when a dose as large as 5,000 milligrams of thiopental is given as compared to the typical doses we use for surgical anesthesia, first of all, the likelihood of becoming unconscious increases very high, and more importantly the duration of unconsciousness will be measured in hours rather than minutes. And so even though pharmacologically thiopental has been called ultra short acting barbiturate, that is a relative term comparing it to the intermediate and long lasting barbiturate. Even as an ultra short acting barbiturate, when it's given in a dose of 5,000 milligrams, the duration of unconsciousness is hours.

The other thing that thiopental does as another effect which most anesthesiologists consider an adverse effect is it depresses the heart's ability to pump. And so almost everybody given even the typical three or 400 milligram dose of thiopental will have a significant decrease in their blood pressure. But most people who are reasonably fit tolerate that short duration of decreased blood pressure relatively well.

On the other hand, when a dose as large as 5,000 milligrams is given, the ability of the heart to pump

is substantially depressed and in a significant fraction of the population, 5,000 milligrams is enough to cause circulation to cease. And so --

Q. Let me ask you with regard to the thiopental, if it's used in surgery, when it was used in surgery, what amount would be given then?

A. Well, as I said, the typical dose to start an anesthetic for surgery in an average size person is 300 to 400 milligrams.

Q. 300 to 400 milligrams of the thiopental?

A. Correct. And the duration of unconsciousness after a dose of 300 to 400 milligrams is typically on the order of seven to ten minutes. That's why it is classified as this ultra short acting barbiturate. But when a dose of 5,000 milligrams is given, the duration of unconsciousness is measured in hours, not minutes.

Q. Do you have an estimate as to how many hours?

A. Well, I think if you refer to Figure C or Exhibit C, which only carries the time course out to about three hours, the concentration at the end of that three-hour time frame in Exhibit C is still high enough to cause unconsciousness.

Now, in my affidavit I believe I calculated that the average person of approximately 80 kilograms in weight or approximately 176 pounds, the average person will remain unconscious for a little over seven hours after a dose of

5,000 milligrams. That is under the assumption that after such a large dose their heart will continue to beat. But as I said before, a substantial fraction of people given 5,000 milligrams will stop breathing and have their heart stopped just by this large dose of thiopental.

Q. What I'd like to do is have you turn your attention to Exhibit B.

A. Yes.

Q. And I wanted to ask you, you prepared three graphs to demonstrate your analysis of the five-gram dose of thiopental; is that correct?

A. Yes.

Q. Okay. And these three graphs are marked as Defendant's Exhibit B, C, and D. And I'd like you to start with Exhibit B. And explain to us what the X axis is and what the Y axis is and explain what this graph means in laymen's terms.

A. Okay. Well, the X axis in both of these graphs is time. A note that the time is on an algorithimic scale in order to make it more easily visualized. The Y axis is the predicted arterial blood concentration of thiopental, again, on an algorithimic scale. And I emphasize that this is the predicted arterial concentration because it is the concentration of thiopental in arterial blood that reflects what the brain concentration is. And of course it is the effect of thiopental in the brain that causes

unconsciousness.

So if we look at Exhibit B, as the time increases from one to three minutes, as the injection proceeds, the arterial blood concentration of thiopental increases and reaches a peek a little over 400 micrograms per milliliter. Then it starts to decrease as a function of time. And over a period of about 20 minutes it falls to a concentration of around 60 micrograms per milliliter.

Now, Exhibit C carries this analysis out for a period of approximately 200 minutes. And after 200 minutes the predicted arterial blood concentration of thiopental is approximately 15 micrograms per milliliter.

Now, in terms of trying to then compare or associate these arterial blood concentrations of thiopental with the effect on the human, Exhibit D is a graph of the probability of unconsciousness as a function of the arterial blood concentration of thiopental. And at low concentrations of thiopental, those below three to four micrograms per milliliter, almost every human is awake if their arterial blood concentration is below three to four micrograms per milliliter. And we reach the 50/50 point at seven micrograms per milliliter. Meaning if we had a population of normal individuals, each of them having a thiopental concentration of seven, about 50 percent would be awake and about 50 percent would be asleep. And then as the thiopental

concentration increases beyond seven, then the probability of unconsciousness falls dramatically. And above concentrations of approximately 12, almost nobody is conscious.

Q. And you're talking 12 micrograms per milliliter?

A. That is correct. And those probabilities are actually listed in my affidavit on pages 4 and 5, the very small probability that somebody could be conscious for varying times after a dose of 5,000 milligrams of thiopental.

Q. What do you mean when you say unconscious?

A. Well, to a researcher the definition of unconsciousness and the way that these experiments were actually performed is to ask the person to follow a specific command, typically raise your right arm, raise your left leg, and see if they are able to perform that command correctly. And so -- and I've actually done a number of these experiments myself in volunteers. So a particular dose of medication is given and the blood concentration is measured at a point in time. And at that same point in time the person is asked to follow a specific command like raise your left leg, raise your right arm. And if they are able to do that correctly, they are deemed to be conscious. If they are unable to do that correctly, they are deemed to be unconscious.

And these volunteers are typically extremely well motivated to cooperate with these experiments. So the data obtained from experiments such as this are highly reliable.

Q. And in paragraph 8 of your affidavit you talk about your opinion to a reasonable degree of medical certainty. If you would just read those two sentences, I want to ask you what -- to explain that a little bit.

A. Well, as I said before, 5,000 milligrams or 5 grams of thiopental is a very, very large dose. And after the injection of this dose the predicted probability of unconsciousness as I calculated it is 99.99999999 percent. For all intents and purposes it is hard to imagine a human being remaining conscious after this dose of medication. Because these probability calculations by definition could never be 0 percent on one end or 100 percent on the other, we end up with probabilities with a lot of nines in them because mathematically you cannot have in this type of calculation 100 percent. But this is practically speaking a dose that guarantees unconsciousness in everybody for a significant period of time.

Q. Now, you've talked about unconsciousness. Is awareness and unconsciousness the same thing that we're talking about or --

A. Lack of awareness and unconsciousness are interchangeable terms in terms of the research definition that I gave. So, in other words, a person who is considered aware would be able to follow the simple command that I described before, and a person who is unaware would be unable

to follow that same command.

Q. I'd like to turn your attention now to the second drug that Missouri uses, the pancuronium bromide.

A. Yes.

Q. And I think that's listed in your affidavit as well. Could you tell me how much of that?

A. The protocol mandates a dose of 60 milligrams of pancuronium. And, again, that is a very large dose. The typical dose for causing surgical paralysis, and this is medication that we commonly use during surgery, the typical dose in an 80 kilogram person would be approximately six to eight milligrams. So this is about an eight to ten fold overdose beyond what is commonly used during surgery.

Q. And what's the purpose of the use during surgery?

A. The purpose of pancuronium during surgery is to provide muscle relaxation to make it easier for the surgeon to do the operation. It is helpful in certain parts of the body where the surgeon is going through muscle, let's say, for instance, to obtain access to the abdominal activity, the surgeon has to go through the abdominal muscles. And it is easier for the surgeon to do so if those muscles are rendered paralyzed. So that's why we commonly produce paralysis for certain types of operations.

Q. And when you say the dose in an 80 kilogram, that's approximately 175 pounds, is that what you said before?

A. Correct.
Q. A 175 pound person. And that would be six to eight --
A. Milligrams.
Q. -- milligrams. Now, according to what you've listed there in your affidavit in 4-A, B, C are there flush solutions that are used --
A. Yes.
Q. -- between the drugs? Between the first and second drug?
A. Yes. And it is important to flush the IV line after the thiopental and before the pancuronium because thiopental, the solution has a PH of around ten, so its PH is at the basic end of the chemical spectrum. Whereas pancuronium has a PH of around five. And would the two drugs come in contact with one another, they would form a precipitate. So by flushing the line of thiopental with the saline solution, that prevents the possibility of the thiopental and the pancuronium mixing prior to entry into the person's body.
Q. And in Dr. Heath's affidavit he talks about a chemical veil that's caused by the administration of the pancuronium bromide. Could you explain what your understanding of that is?
A. What he means is that if pancuronium is given to a fully awake person, it will paralyze all of the muscles in their body at this dose and it will cause them to have a

placid and serene look on their face. And his concern is that if pancuronium is given to a fully awake person, it would be a horrible experience, but the person would be unable to communicate that they were in such distress. And I have no disagreement with that contention. In fact, in anesthesia we take great pains to make sure our patients who are paralyzed are not conscious.

On the other hand, if the dose of pancuronium is preceded by a dose of thiopental, especially a dose as large as 5,000 milligrams, the likelihood that the inmate will experience the paralysis caused by the pancuronium is negligible.

Q. And I wanted to ask you also about the comment about -- that Dr. Heath makes in his affidavit about perhaps using pentobarbital rather than the thiopental, to make a switch. Do you have an opinion about that?

A. There are many, many ways pharmacologically to achieve the same end point. And pentobarbital is another option for producing unconsciousness. But compared to the dose of thiopental that is mandated by Missouri's protocol, there would be no meaningful difference whatsoever because 5,000 milligrams is going to cause almost everybody to remain unconscious for hours. So substituting one barbiturate for another will have no meaningful effect whatsoever.

Q. Have there been studies about the use of pentobarbital

in humans?

A. Well, there have been, but many fewer studies. Pentobarbital is a medication that is uncommonly used today. And since physicians in general and anesthesiologists in particular have been conducting state-of-the-art kinetic analysis, frankly, there's been no interest in conducting a state-of-the-art analysis of the effects of pentobarbital simply because it's so uncommonly used. And so we have much less data available to us on how a population of people will respond to a dose of pentobarbital in comparison to the huge amount of data we have available to predict how people respond to thiopental.

Q. So it would be accurate to say that the dosage of thiopental, it's easier to figure out what the actual dosage of thiopental should be if the goal is to induce death?

A. Well, I would rephrase this in a slightly different way. I would say that because of the wealth of data that we have on thiopental, the effects of a dose of thiopental are far more readily predicted in humans than we would be able to do with a drug like pentobarbital for which there is less state-of-the-art kinetic data.

Q. I'd like to turn your attention now to the third drug, the potassium chloride.

A. Yes.

Q. And if you could comment on the use of this drug and

the amount that's used.

A. Well, Missouri mandates a dose of 240 milliequivalents of potassium chloride. And the effect of potassium chloride is to basically turn off the heart's intrinsic pacemaker. So what will happen after a dose of potassium chloride in this amount is the electrical activity in the heart will stop. And so the heart will almost immediately stop beating after the potassium chloride reaches the heart. That is assuming that the heart had not been stopped by the prior administration of the dose of thiopental.

Q. So what you're talking about is if you just gave the potassium chloride if the individual had no other drugs?

A. If a person had circulation, this dose of potassium chloride will stop the heart almost instantly after it reaches the heart.

Q. And, again, I note that there is a saline flush before this drug is administered. Is that your understanding?

A. Yes.

Q. Do you have any estimate as to -- from the start of the thiopental, the administration of the thiopental through the administration of the third drug, how long before the heart would stop?

A. I think that's very well described in your Exhibit I. The injections began at the time listed in the third column. And the time that the inmate was pronounced dead is in the

fourth column.

THE COURT: Hold on.

Q. Hold on.

MR. McGRAUGH: Your Honor, I'd like to impose an objection as it refers to Exhibit I. And my objection as to Exhibit I is that we requested in discovery the dosages that were used of the thiopental as it relates to the former inmates. We were not given a specific dosage. So we don't know what dosage was given related to those inmates. As such, Judge, I would object to Dr. Dershwitz stating a conclusion that the dosage to be used in this instance would be the same as used in those instances and draw conclusions therefrom.

MS. McELVEIN: I can withdraw this exhibit.

THE COURT: Very well.

MS. McELVEIN: That's fine.

BY MS. McELVEIN:

Q. We're going to withdraw this exhibit.

A. Okay. Just talking from experience --

THE COURT: Move on from that.

MS. McELVEIN: Okay.

Q. We're going to move on. Okay, Dr. Dershwitz, do you have an opinion to a reasonable degree of medical certainty whether or not the three drugs used to carry out Missouri's lethal injection cause any undue pain and suffering during

the execution by lethal injection?

A. Yes, I do. I think that if the protocol as described here is implemented, the likelihood that the inmate will experience any suffering is negligible.

Q. What I'd like to turn to now, Dr. Dershwitz, is to talk a little bit about the training and experience of the -- in this case the persons mixing the drug. What is your understanding of that?

A. Well, according to the affidavit of -- the two affidavits that I read of Mr. Crawford, that the medications are prepared by a board certified surgeon and licensed practical nurse.

Q. What is the risk as far as mixing drugs when you're talking about thiopental, pancuronium bromide, and the potassium chloride?

A. Well, first of all, the second and third drugs do not need to be mixed. They are a liquid solution in a vile that is simply drawn up into a syringe. The first medication, thiopental, is supplied by the manufacturer as a powder. Now, there's a number of different preparations available, but the one that's typically used involves a syringe that has two parts, and there's powder in one part of the syringe and there's the water dilutant in the other part of the syringe, and the two chambers are brought into contact with one another so that the water then dissolves the thiopental and

then the thiopental remains in the syringe.

Q. And who would be -- who would be able to mix the thiopental from your experience based on your experience?

A. I think that you could teach virtually anybody to do this. For example, in many departments anesthesia techs are allowed to prepare thiopental solutions to help the anesthesiologists. And these are typically people with a high school diploma and a lot of on-the-job training. So in my opinion the title of the person is much less important than their prior experience and their training. But a person's title is not very important to me as far as what their qualifications are.

Q. And when you've looked at Director Crawford's interrogatory answers, and he has identified in there the background of the persons who mixed the drug in this case?

A. Yes, I would expect a surgeon and a licensed practical nurse to be very experienced in drawing up and mixing medications in general because that's something that they probably have a lot of experience doing in general.

Q. What I'd like to turn to now is the -- where it talks about how the three syringes are labeled. What's the significance of that?

A. Well, in order to minimize the likelihood that the inmate would suffer, it's absolutely crucial that the medications be given in the correct order. And so it's

important to label the syringes to help increase the likelihood that the thiopental is given first.

Additionally, thiopental is a yellow solution. Whereas potassium chloride and pancuronium bromide are clear and colorless solutions. So visually it is easy to tell the difference even without a label. But adding a label to each of the syringes increases the security of making sure that the medications are given in the order mandated in the protocol.

Q. Okay. I'd like to turn now to the intravenous access through the femoral vein.

A. Yes.

Q. I would like for you to explain to the Court what does that mean.

A. Well, first of all, the femoral vein is a large vein that carries the blood from the leg back to the heart. And in the typical adult the diameter of the femoral vein is about the same size as the person's thumb. So it's the largest peripheral vein in the body. And it is readily located because it is right next to the femoral artery. And in almost everybody the femoral artery has a strong bounding pulse. So if one can place one's fingers on the femoral arterial pulse, then the femoral vein is located right next to it. So locating it is very easy.

Now, one of the questions that has been raised not

only in your state but in others is the reliability of the intravenous access for lethal injection. Because we all agree that if the IV -- if the function of the IV were to fail, then that is one potential way that an execution could go awry. And by placing an intravenous catheter in the femoral vein, that is one of the most reliable places that one could place an IV because the vein is large and it's easy to locate.

Q. Are you aware of other jurisdictions that use the femoral vein to gain intravenous access?

A. I am aware that the federal government mandates the use of the femoral vein for the executions that it carries out.

Q. I'd like you to take a look at Dr. Groner's affidavit.

A. Okay.

Q. There's two of them; there's a first one and a second one.

A. I have those.

Q. Okay. And I'd like to turn your attention to the paragraph 12 of the second affidavit.

A. Yes.

Q. Okay. And could you address what his concerns are there?

A. Well, he is disagreeing with me on the likelihood that a resident in training is going to be taught to place a central venous catheter. And I said in my affidavit, quote,

Every resident in internal medicine, surgery, and all surgical subspecialties, pediatrics, anesthesiology, and emergency medicine have been trained to insert a central venous catheter, unquote. And in order not to offend my radiological colleagues, I should have added radiologists to that list also. I stand by that statement.

And, in fact, where he says pediatric residents at Columbus Children's Hospital are not trained in that procedure, if that is a true statement, I would be very surprised. This morning I did not have a chance to confirm that. I know at my hospital pediatric residents are trained to put in central venous lines. He said urologists, orthopedic surgeons, plastic surgeons, ENT surgeons, and ophthalmologists are not trained. I will grant that he is correct with regard to ophthalmologists because ophthalmologists technically are not surgical subspecialists. On the other hand, all neurologists, orthopedic surgeons, plastic surgeons, and ear nose and throat surgeons must train at least one year in general surgery first. And I contend that all surgical interns have experience with gaining access to the central circulation.

My point in raising this topic is not to say that every one of these specialists is an expert in placing a central venuous line. The point that I'm trying to make is that this is such a common and relatively benign procedure

that many, many, many, many medical people, regardless of their area of training are trained to do so as part of their residencies.

And, in fact, I did have time this morning to confirm that the American Board of Internal Medicine -- now, we would consider internists to be, you know, among the more broadly trained physicians, not super specialists. The American Board of Internal Medicine requires that every resident in internal medicine be trained to place a central venuous catheter. They have a quota of these that they have to fulfill and their program director must certify that every resident has met this, you know, requirement along with, of course, many, many other requirements that the program director has to certify.

So the bottom line in my mind is placing a central venuous catheter is not a procedure that is in the realm of only the most rare of specialists, but it is commonly done by many, many different branches of medicine. And, again, what's more important to me is not the person's title --

MR. McGRAUGH: Your Honor, I'm going to object.

A. -- but their level of experience. And if somebody regularly places --

Q. I'm sorry, Dr. Dershwitz, let me ask you another question. Could you explain the procedure itself for inserting an intravenous line into a femoral vein?

A. Okay, the procedure is straightforward. The femoral vein is located because of its proximity to the femoral artery. So the person who is going to do the procedure palpates the femoral artery and typically makes a mark where the artery is and then makes a mark where the vein is. The skin is then scrubbed with an antiseptic solution. Local anesthetic solution is injected with a small needle in order to render the area numb. Typically a small needle is inserted first into the femoral vein to confirm its location, and then that needle is withdrawn. A larger needle is then placed into the femoral vein. And once the femoral venous circulation is obtained, it is confirmed by the fact that the blood is nonpulsatile and dark in color. It is easy to tell the difference between the femoral vein and the femoral artery because the femoral arterial blood will pulsate. It will squirt quite a distance from the needle and it will be bright red.

Once the needle is in the femoral vein, a wire is inserted through the needle and the needle is withdrawn. This wire is made of a stainless steel and it looks like it could be an electrical wire, but it's very, very flexible.

Q. Dr. Dershwitz, is that the wire then that has the catheter?

A. No, the wire is separate from the catheter. Once the wire is inserted into the femoral vein then the catheter is

inserted over the wire. And what this means is that the hole in the femoral vein that the needle and the wire made is of smaller caliber than the diameter of the catheter that's going to be ultimately inserted. Once the catheter is inserted over the wire into the vein, the hole that was created is actually sealed. And then the catheter is typically sutured in place to make it secure and a bandage is applied over the insertion site and the procedure is done.

Q. Okay. I want to ask you, Dr. Dershwitz, what is your opinion as to having looked at Director Crawford's Answers to Interrogatories, and I don't want you to talk about, you know, what's in those, but having reviewed that, do you have an opinion as to the ability of the doctor to insert this femoral vein or intravenous line into the femoral vein?

A. Well, I don't know obviously the name or the specific background of the surgeon in particular, but the vast majority of surgeons in general are comfortable and very experienced in doing this procedure. And if this particular surgeon is experienced in doing the procedure, I have little reason to be concerned that there is a likelihood that something is going to go awry.

Q. Now, I want to ask you as far as turning to another area here where there's been some concern raised, as far as once the intravenous line is inserted, what about monitoring that area, that specific site? What's your opinion about

that?

A. Well, if the intravenous catheter was placed into the femoral vein, and typically when the catheter is placed, the person doing the insertion confirms after final placement that it's still in the right place by virtue of the fact that you obtain dark and nonpulsatile blood through the catheter, then no further monitoring is necessary because the likelihood of it becoming dislodged in the next several minutes is negligible.

Q. Okay.

A. If I may give you an example.

Q. I want to address one other area with you talking about where Dr. Heath's affidavit, paragraph 45 of his affidavit talks about the need to assess anesthetic depth.

A. What paragraph number is that?

Q. Paragraph 45.

A. Okay. His concern is that the executioners have no training, competency, or proficiency, excuse me, in the assessment of anesthetic depth. Now, it is crucial for an anesthesiologist to be able to assess anesthetic depth when the goal is to have the patient awakened quickly at the end of the case. The need for this type of monitoring is obviated by giving such a large dose of thiopental that's going to render everybody unconscious for quite awhile. So the need for trying to figure out if the person remains

conscious X number of minutes later is really not a concern.

MS. McELVEIN: That's all I have, Your Honor.

THE COURT: Cross-examination.

CROSS-EXAMINATION

BY MR. McGRAUGH:

Q. Dr. Dershwitz, my name is Chris McGraugh. I represent Tim Johnston. I have a few questions for you. I hope to be brief, okay. Are you having any trouble hearing me?

A. Not at all, sir.

Q. Okay. Let's do a little house cleaning matters first, Doctor. As far as -- I want to review with you all the materials that you reviewed in coming to your opinions today and those that are included in your affidavit, okay.

A. Yes.

Q. And just in order to keep it brief, Doctor, is everything that you discussed on direct examination that you went through with the Attorney General everything that you reviewed in this case?

A. That's a hard question to answer because as you probably know, I am involved in some cases in other states, and so I actually commonly read about this particular topic as it comes up. So, for instance, I reread yesterday the well-known article in the Lancid concerning lethal injection thinking that you might bring it up to discuss it with me. Ms. McElvein did not bring it up, but since you might, I have

a copy of and I reread it.

Q. So would it be fair to say that besides this case you have reviewed and incorporated for your opinion other protocols from other states?

A. I have reviewed other protocols, but I don't need them to form my opinion in this case. My opinion in this case derives from the protocol as described in Mr. Crawford's affidavit.

Q. Okay. That's really what I want to get to. I want to find out what materials you are using to rely on for your opinion here today and those that are contained in your affidavit, okay. And would it be Mr. Crawford's affidavit?

A. Yes.

Q. Okay. Have you reviewed any photographs or video of the actual execution site?

A. No, I have not.

Q. Have you been -- have you reviewed any listings or have you reviewed what equipment is on the execution site at the time of the execution?

A. I may have been informed about things like an EKG monitor or whatever, but I don't think it's in writing.

Q. Okay. Now, as to -- and I assume that that doesn't have any effect as far as what your opinion is here today?

A. No.

Q. Okay. Now, as to -- have you interviewed any doctors

that participated in the execution protocol?
A. I don't understand the question.
Q. I'm sorry. Have you interviewed the doctor who is involved in the execution protocol?
MS. McELVEIN: Objection, vague. Are you talking about in Missouri?
MR. McGRAUGH: Yes.
MS. McELVEIN: Okay.
A. I am unaware of who specifically wrote the protocol.
Q. I'm asking about the doctor that actually participates in the protocol that you discussed on direct examination about mixing the drugs.
A. I have not interviewed the surgeon who mixes the drugs or places the IV.
Q. Have you had -- have you interviewed or discussed anything with the actual executioners?
A. No.
Q. Anything with Larry Crawford or any of the other defendants in the case?
A. I have not communicated directly with Mr. Crawford, only through his affidavits.
Q. Now, as to your direct testimony, I want to talk with you a little bit about the drugs used in the Missouri execution protocol, okay?
A. Yes.

Q. Okay. And the first is thiopental; is that right?
A. Yes.
Q. Okay. And the purpose of thiopental is to render the inmate unconscious; is that correct?
A. That is correct.
Q. Okay. And we don't really know how thiopental works, do we?
A. Well, that's a difficult question. We know what neurotransmitter system it interacts with, and so I can tell you at a molecular level what it does. It potentiates the neurotransmitter gamma-aminobutyric acid. I think that's pretty well established.
Q. Okay. But let me ask you, do you know how or do you understand how thiopental works at the molecular level?
A. Well, that's a very complicated question, but thiopental binds to a receptor and it increases the activity of gamma-aminobutyric acid. Now, gamma-aminobutyric acid is what's called an inhibitory neurotransmitter. So, therefore, when its activity is increased, brain activity then decreases including the level of consciousness. And I think that's been pretty well established.
Q. Okay. Let me just refer you, Doctor, to testimony you gave in James Reid versus Gene Johnson in the Eastern District of Virginia. Do you recall that?
A. Yes.

Q. And that was last year?

THE COURT: Counsel, is there any issue in this case relative to this thiopental? Is there any issue here? I did not know that this was in controversy.

MS. McELVEIN: Your Honor, I would just add that I think Virginia, I think they issue two grams, so I'm not sure.

THE COURT: No, I'm talking about in this case whether or not this whole subject matter that is being broached by Mr. McGraugh is in controversy in this case.

MS. McELVEIN: Not to my knowledge.

MR. McGRAUGH: Judge, it's just background leading to the questions I was going to ultimately get to.

THE COURT: Have you got enough background?

MR. McGRAUGH: Let me ask it this way, Judge. I think I'll get what I need.

THE COURT: You said you were going to be brief.

MR. McGRAUGH: I'm trying to.

THE COURT: Try harder.

BY MR. McGRAUGH:

Q. Dr. Dershwitz, the focus of thiopental is on the brain, is that correct, the locus of how it effects the body is the brain; is that right?

A. Not Really. The primary desirable effect, which is the production of loss of consciousness, that indeed occurs in

the brain. But there are substantial cardiovascular effects that are inseparable. Now, most anesthesiologists consider those to be adverse effects, but they are substantial.

Q. All right. Well, let me ask you this, Doctor. In your testimony in Reid versus Johnson in the Virginia court you were asked this question: "Without going into great complex detail explain why. How does it happen? Does it go into the brain?" And your answer was, "That's a very good question because we actually do not understand how thiopental works at a molecular level. But in a more generalized way certainly its primary locus of action is on the brain and it alters brain activity so that the person looses consciousness." Is that correct?

A. Linguistically I have no problem with that. I stand by my prior statement.

Q. Okay.

A. We know a lot about how it works, but we don't know everything about how it works.

Q. Okay. Now, Doctor, as to the administration of thiopental, it's not uncommon for surgeons or anesthesiologists to administer a drug like thiopental to render someone unconscious and then give them a drug similar to pancuronium bromide to paralyze them; is that correct?

A. Correct.

Q. Okay.

A. In other words, the production of unconsciousness and the production of paralysis are common and routine during surgery.

Q. Okay. And, Doctor, would it be fair to say that one of the reasons why you're introducing pancuronium bromide in the execution protocol is to paralyze the body so it doesn't give any physiological manifestations of suffering for the witnesses' benefit; is that correct?

A. That's not how I would phrase it. May I use my own words?

Q. Sure.

A. First of all, I do not know the specific reason why because I've never interviewed the person why this particular drug was chosen, but I can surmise. There are two things that typically happen or that I would expect to typically happen during an execution. Once the brain is deprived of oxygen, it is common to manifest seizure activity. Now, seizure activity by definition occurs in an unconscious person. The pancuronium will prevent the motor manifestation that is the jerking movements during seizures. I believe it is reasonable to assume that many lay persons would view the seizure as suffering on the part of the inmate.

Second of all, potassium chloride in addition to having significant electrical effect on the heart also has direct electrical effects on skeletal muscles throughout the

body, and that is to cause involuntary movement which can be significantly mitigated by pancuronium. So it is my belief that the pancuronium was added to or made a part of the protocol in order to decrease the likelihood that the witnesses would perceive the inmate as suffering.

Q. Okay.

A. But I freely admit that this is just a hypothesis on my part.

Q. Okay. Now, Doctor, in the setting of surgery, I think we've already established thiopental or a drug like thiopental and a drug like pancuronium bromide is not uncommon; is that correct?

A. Very common.

Q. Okay. And because of that and I think you testified on direct examination, there is a -- great pains are taken to make sure that the patients are not awake and paralyzed at the same time; is that right?

A. Yes, with the understanding that the dose of thiopental or related drugs used during surgery is much lower than used during an execution because we typically need to wake the patient up in a very short period of time.

Q. I understand, Doctor, but in a surgical setting that is something that anesthesiologists pay a great deal of attention to to make sure that their patients are not awake and paralyzed at the same time; is that right?

A. That's absolutely right.
Q. Okay. And awareness under anesthesia is a real problem and a real concern in the anesthesiologist community, isn't it?
A. Awareness under anesthesia, yes, is a real concern.
Q. And I think you've been quoted in the past as saying at least .2 percent of people having surgery have experienced awareness under anesthesia; is that correct?
A. Well, the latest data suggests that if we take all comers to the operating room, approximately 0.2 percent or approximately one in 500 experiences awareness under anesthesia. There's certain subsets of the population where the risk is actually quite a bit higher.
Q. And because of that, Doctor, if you multiply that against the number of surgeries that go on, that's a rather large number, is it not?
A. It's a significant number, and it's a significant concern in our practice.
Q. Okay.
MS. McELVEIN: Your Honor, I'm going to object to this line of questioning as irrelevant because it concerns surgery. A person undergoing surgery is not directly related to --
MR. McGRAUGH: I'll link it up, Judge.
THE COURT: Well, get to the link.

BY MR. McGRAUGH:

Q. As to when you perform surgery or when you are acting as an anesthesiologist in a surgical setting, you make a calculation of the anesthesia that is to be used and the dosage to be given for the length of time that person is going to be under; isn't that right?

A. That's not exactly right. We don't necessarily calculate in advance how much is going to be needed. We give usually incremental doses and then monitor the patient's response to those individual doses. That's the type of monitoring that anesthesiologists are trained to do.

Q. Okay. But throughout that process you're continuing to monitor to make sure that person is under, completely under; is that correct?

A. That's the goal, yes.

Q. Now, and you would admit, Doctor, that if -- if the sodium pentothal is not administered or not administered correctly or not given in the proper dosage that the administration of the pancuronium bromide and then following the potassium chloride would be an inhumane death, would it not?

A. I agree that if an awake person were given pancuronium and then potassium chloride, it would be horrible.

Q. And there is a way to monitor and there is a way that you monitor whether an individual is completely under

anesthesia; isn't that true?
A. Well, that's one of the things that anesthesiologists are trained to do, yes.
Q. And one of that is an EEG machine; isn't that correct?
A. That is not standard of care yet. It is a new device that has not been universally adopted. I happen to be a proponent of it, but it is not universally adopted. Furthermore, it would not work in the setting of an execution.
Q. But there are other -- there are other commonly used machinery that you use to determine the level of anesthesia; isn't that correct?
A. Actually there is no commonly used monitoring device to determine the depth of anesthesia. It is the person's clinical experience which is used to assess the depth of anesthesia.
Q. Okay. As it relates to your review of the interrogatory answers or the Crawford affidavit, are the people at the execution site trained to monitor the level of anesthesia that's given?
A. I don't know what the surgeon's level of training is in this regard. I would suspect that the others are not.
Q. And as far as the surgeon, you have no information one way or the other?
A. I know a little bit about his background and training,

but I don't know what his experience in the anesthetic end of surgery is.

Q. And so the answer to my question is as far as the information provided to you, you have no -- no one at the execution site as far as you know has training in determining that depth of anesthesia?

A. As far as I know. But as I also said before, I think the need for that is not there.

Q. Well, that wasn't my question. I want to discuss with you about this -- on direct examination the Attorney General brought up that in -- there was a disagreement between you and Dr. Groner as to paragraph -- in his affidavit, paragraph 12, as to who was competent to place a femoral line. Do you recall that questioning?

A. First of all, that paragraph does not discuss competency. That paragraph discusses who receives training in this procedure as part of their residency training.

Q. Okay. Then I'll rephrase my question. You recall this disagreement?

A. Yes.

Q. Okay.

A. And he's wrong.

Q. Well, and, Doctor, I'm sure Dr. Groner would say you're wrong. By this affidavit he's saying you're wrong, isn't he? So there's a disagreement between two expert professionals,

is there not?

A. Yes. And if given the time, I will produce evidence from the relative board certification entities that will prove that he is wrong because most of these board certification entities have written requirements that their trainees receive instruction in the placement of central venous lines. And if he is unaware that this is going on at his institution, then he needs to be educated on this. But it is going on in his institution.

Q. Would you not agree with me, you two disagree on this?

A. Sure. But he's wrong.

Q. And he would say you're wrong.

A. He has the right to say anything he wishes, it's a free country. He's still wrong.

Q. Let me ask you this, let's talk about the femoral lines. You state the femoral vein lies close to the femoral artery and femoral nerve; is that correct?

A. I never mentioned the femoral nerve.

Q. Well, then let me ask it. Does the femoral vein lie close to the femoral nerve?

A. No. The femoral artery is in between the femoral vein and the femoral nerve. So as long as one goes on the side of the femoral vein, the likelihood of hitting the femoral nerve is essentially nil. It's never happened to me. It's possible for somebody with dyslexia not to know what side

it's on, but I would say that that's pretty unlikely.

Q. So the femoral nerve does not lie close to the femoral vein, is that what you're saying, Doctor?

A. No, what I'm saying is the femoral artery, which is a readily located structure about the width of your thumb, lies in between the artery and the vein. So if you can find the artery, you know the vein is on one side, you know the nerve is on the other. So if you're looking for the vein, the likelihood that you're going to hit the nerve is remote, not that it's not impossible.

Q. I didn't ask you that, Doctor. I asked you whether the femoral vein lies close to the femoral nerve is what I asked you. And I would appreciate if you would restrict your answers to my questions.

A. Well, the problem is I don't understand your question. Can you define for me the word close? I'm trying to elaborate on my answer because I don't understand the word close. It's not close.

THE COURT: Hold on just a minute. This is very interesting. You know, we as lawyers are wordsmiths. But it seems like the doctor here in terms of competence and close has one upped you.

BY MR. McGRAUGH:

Q. In the femoral catheter vein is there a kit that's provided for that?

A. Many manufacturers make such a kit.
Q. Okay. And is a scalpel normally included in a kit?
A. It's included in case it's needed. It's not necessarily needed.
Q. Okay. And the catheter that is used here is larger than the standard peripheral IV, is that not true?
A. Well, there's no such thing as a standard peripheral IV. Peripheral IVs come in all sizes. I have put catheters larger than your typical triple lumen catheter in an arm vein. So your question doesn't make any sense.
Q. Doctor, let me ask you this --
A. They have come in many different sizes.
Q. Let's talk about some things that can go wrong in the placement of a femoral Line. A large hematoma can develop with an arterial puncture; is that correct?
A. If given enough time, especially in a patient who is anticoagulated, if a person is on a blood thinning medication, that makes it more likely. And a person who is not on a blood thinning medication, that likelihood is pretty tiny.
Q. And also puncture on a femoral nerve could occur?
A. Well, of course, if the person is completely incompetent and goes on the wrong side of the artery, yes, they could hit the nerve. But to do that you have to be dyslexic, blind, or incompetent. I don't know anybody who

has done that.

Q. If the needle travels through the vein and strikes the bone in the pelvis that's possible as well?

A. Anything is possible, sir. It's just not good practice.

Q. And also as far as placement of the femoral catheter, an unrecognized interior catheter placement could cause the drugs to flow down the leg instead of the heart or brain; isn't that correct?

A. Well, if you left the catheter in the artery, yes. But it's inconceivable to me if the catheter were in the artery where it would get pulsatile blood that squirts quite a distance out of the end and it would be bright red. The blood coming from the vein would have to be withdrawn and it's going to be dark. Again, only a blind person or an idiot couldn't tell the difference in a normal patient.

Q. Also catheter tip malplacement or malposition could be a complication?

A. I don't know what that means.

Q. Well, the catheter tip lies outside the vein.

A. Well, if it were not in the vein, one would not be able to aspirate blood and one would know about it instantly.

Q. These issues all go to the competency of the individual that is actually placing the catheter, doesn't it?

A. Yes, that's exactly what I said before. The person's

title is less important to me than their level of experience in doing a particular procedure.

Q. But these complications all exist, do they not?

A. Again, anything is possible. I will concede that anything that could possibly go wrong might go wrong.

Q. Well, let me refer you, Doctor, to the Journal of American Medicine 2001, reported over 17 percent of incidents of medical complications in femoral central vein catheter. Are you aware of that?

MS. McELVEIN: Objection, what are you referring to?

MR. McGRAUGH: To the Journal of American Medicine, 2001 report.

MS. McELVEIN: Well, Your Honor, I object. I don't know that our expert has that.

MR. McGRAUGH: Well, Judge, I'm asking him if he's aware of that.

THE COURT: Well, haven't you all exchanged information and things that you were going to refer to?

MR. McGRAUGH: Well --

MS. McELVEIN: I do not have a copy of that, Your Honor, what he's referring to.

MR. McGRAUGH: Judge, I'm going to ask him whether he actually knows --

THE COURT: Well, then you're going to be testifying to what's in it.

MR. McGRAUGH: I'm just asking whether he's --

THE COURT: That's an objection. That's sustained. Move on.

BY MR. McGRAUGH:

Q. Are you aware, Dr. Dershwitz, of any data that suggests that there's over 17 percent incidents of mechanical complications in femoral central line placements?

A. Isn't that the same question you just asked me?

Q. I'm just asking if you're aware of any, Doctor.

A. Yes.

Q. You're aware of it?

THE WITNESS: Am I able to discuss the paper that you just sustained his objection?

THE COURT: I'll tell you what, let's move on from this line of questioning. I sustained the objection. And you've basically as the doctor said asked the same question, and then there's not going to be any discussion of it, so there's not going to be any discussion of, so that's the end of it. Move on.

BY MR. McGRAUGH:

Q. Doctor, approximately how many states have you testified on behalf of related to the appropriateness of their execution protocol?

A. Two.

Q. And how many have you offered affidavits in support of

it?

A. I think an additional five or six.

Q. Okay. The affidavit you prepared in this case which you've been referring to, Doctor, is that one you prepared specifically for this case?

A. Parts of it are specific to this case and parts of it, for instance, relating to my training and qualifications, I have used an affidavit not only in cases relating to lethal injection but I've also used it in cases where I've defended doctors against malpractice. It's basically boilerplate language that I use on all of my affidavits.

Q. My question is --

A. You didn't let me finish, sir. Certain paragraphs in this affidavit are absolutely specific to the State of Missouri.

Q. Okay. And so it's fair to say some of it's borrowed, some of it specific from other affidavits; is that right?

A. Borrowed from previous writings that I did.

Q. Now, did you carefully review it, Doctor, to make sure it's accurate?

A. I did. I will not stake my life that there's no typos in here, but to the best of my ability I proofread it before submitting it.

Q. And you read it before you signed it?

A. I read it over, and to the best of my ability there is

no typographical errors. All I can say, it's to the best of my ability.

Q. Okay. Doctor, on the last page of the affidavit where your signature appears?

A. Yes.

Q. Does it indicate that you signed it before the notary public on the 9th day of October 2005?

A. This is not a notarized affidavit. What I have in front of me is a declaration. I think the phrasing is the same as the affidavit. But what I have in front of me here is a declaration.

Q. Well, let the record reflect here the affidavit was filed in this court shows it was signed before a notary public on October 9th, 2005.

Doctor, are you being paid for your testimony here today?

A. Not yet I haven't.

Q. Do you anticipate to be paid for your testimony here today?

A. Yes, I'm going to submit a bill to the people of Missouri.

Q. And what is your charge for offering this testimony and the work you've done in this case?

A. I charge $400 an hour for work that I can do at home nights and weekends. And whenever I travel to testify

somewhere, I charge a flat fee of $3,000 a day.

Q. Do you know what the charge to date in this case is?

A. I just told you.

Q. I didn't have a specific amount.

A. Well, I haven't totaled up how many hours I've spent.

MS. McELVEIN: I'm going to object.

A. So I don't know how many hours so far.

THE COURT: Sustained. Mr. McGraugh, you aren't before a jury to incite them if you can belittle somebody and get in all this stuff, please.

MR. McGRAUGH: That's all I have, Judge.

THE COURT: You're up here putting testimony before a pro. Please.

MR. McGRAUGH: That's all I have.

THE COURT: Anything else?

MS. McELVEIN: Your Honor, I want to offer into evidence -- I hadn't offered Exhibits B, C, D and E yet. I already offered into evidence Exhibit A. And then because Mr. McGraugh referred to Exhibit G, which is the affidavit of Larry Crawford, I'd like to offer that into evidence as well.

THE COURT: Any objection?

MR. McGRAUGH: No, Your Honor.

THE COURT: Fine, they are received. Anything else?

MR. McGRAUGH: Your Honor, we would offer Exhibits 1, 2, 3, 4, and 5. They've been already previously provided

to the Court.

THE COURT: Any objection?

MS. McELVEIN: Your Honor, I don't have a copy of them.

MR. McGRAUGH: They do have a copy. Exhibit 1 is the affidavit of Mark Heath. Exhibit 2 is his curriculum vitae. Exhibit 3 is the affidavit of Jonathan Groner. Exhibit 4 is exhibit of Jonathan Groner. Exhibit 5 is his curriculum vitae, all of which have been provided.

THE COURT: Fine. Any objection there?

MS. McELVEIN: No, these look like the same ones that have been attached.

THE COURT: Fine, they will be received. Anything else?

MS. McELVEIN: No, Your Honor.

THE COURT: Anything else?

MR. McGRAUGH: No, Your Honor.

THE COURT: Very Well. Thank you, Dr. Dershwitz, you're excused. You may step down.

THE WITNESS: Thank you, sir.

THE COURT: Very Well. Listen, I'm going to go to work immediately on this. I know that time is of the essence. I appreciate your efforts. And I'm going to do the best I can. And if I can, I may get something out late today. Worst case scenario, Monday morning, okay.

MR. GORLA: Thank you, Judge.

THE COURT: I'm going to work to try to get something out later today, okay.

MS. McELVEIN: Thank you.

THE COURT: Thank you all very much.

(Court in recess at 11:47 a.m.)

C E R T I F I C A T E

I, Susan R. Moran, Registered Merit Reporter, in and for the United States District Court for the Eastern District of Missouri, do hereby certify that I was present at and reported in machine shorthand the proceedings in the above-mentioned court; and that the foregoing transcript is a true, correct, and complete transcript of my stenographic notes.

I further certify that I am not attorney for, nor employed by, nor related to any of the parties or attorneys in this action, nor financially interested in the action.

I further certify that this transcript contains pages 1 - 57 and that this reporter takes no responsibility for missing or damaged pages of this transcript when same transcript is copied by any party other than this reporter.

IN WITNESS WHEREOF, I have hereunto set my hand at St. Louis, Missouri, this _____ day of _____, 2005.

_____
/s/ Susan R. Moran
Registered Merit Reporter