COMMONWEALTH OF KENTUCKY
FRANKLIN CIRCUIT COURT
DIVISION 1

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RALPH BAZE,                :
                           :
PLAINTIFF                  :
                           :
      v.                   : CIVIL ACTION No. 04-CI-01094
                           :
JOHN REES,                 :
                           :
DEFENDANT.          :
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[Street Address]
[City, State]

April 20, 2005

The HEARING in this matter began/continued at [time a.m./p.m.] pursuant to notice.

BEFORE:
ROGER CRITTENDEN
FRANKLIN COUNTY CIRCUIT JUDGE

APPEARANCES:

On behalf of Plaintiff:

THEODORE S. SHOUSE, ESQUIRE
Assistant Public Advocate
Department of Public Advocacy
207, Parker Drive, Suite 1
La Grange KY 40031

DAVID BARRON, ESQUIRE

SUSAN BALLIET, ESQUIRE

On behalf of Defendant:

JEFF MIDDENDORF, ESQUIRE
Department of Corrections
Justice and Safety Cabinet
2439, Lawrenceburg Road
P.O Box 2400
Frankfort, KY 40602-2400

DAVID SMITH, ESQUIRE

BRIAN JUDY, ESQUIRE

* * * * *

C O N T E N T S

WITNESS	DIRECT	CROSS	REDIRECT	RECROSS
JOHN WOOD	5			
CAROL WEIHRER	22	31	40	47
DENNIS GEISER	53	72	86	
MARK HEATH	92	177	223	

EXHIBITS		MARKED	RECEIVED
PLAINTIFF’S EXHIBITS:			
2		54	
10	Dr. Gieser’s resume	53	97
11	Avowal 3	150	
[OPPOSING PARTY'S] EXHIBITS:			
1	[Short Description]	[#]	[#]
2	[Short Description]	[#]	[#]
3	[Short Description]	[#]	[#]

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1 P R O C E E D I N G S

2 (##:## a.m./p.m.)

3 SPEAKER: But I can imagine the court's reaction

4 when I took this time out there. Though I thought this

5 information is quite important, I'd like to be on the road

6 at 7:30 this evening. I know that that --

7 THE JUDGE: I think you'll be on the road by

8 7:30 p.m. --

9 SPEAKER: (inaudible).

10 THE JUDGE: -- whether you are finished or not

11 you can go.

12 SPEAKER: That's exactly what I said this

13 morning.

14 THE JUDGE: All right. What time does he get

15 in?

16 SPEAKER: His flight landed a little -- I think

17 at 11. They'll be here soon if you think it's all right

18 to watch.

19 THE JUDGE: Okay. We'll do that. Okay. Call

20 your first witness.

21 MR. SHOUSE: Yes, sir, Judge. Mr. John Wood.

22 THE JUDGE: John Wood, Sheriff.

1 MR. SHOUSE: He is out by the water fountain.
2 Whereupon,
3 JOHN WOOD
4 was called as a witness and, having been first duly sworn,
5 was examined and testified as follows:
6 DIRECT EXAMINATION
7 BY MR. SHOUSE:
8 Q Good morning, sir.
9 A Good morning.
10 Q Would you please state your name and spell your
11 last name for the record?
12 A My name is John Wood, W-o-o-d.
13 Q Yes, sir. And how are you employed, Mr. Wood?
14 A The nursing services administrator, Kentucky
15 State Penitentiary.
16 Q Does that mean you are head of all nursing in
17 the penitentiary?
18 A Yes.
19 Q Okay. How long have you been employed in that
20 position?
21 A I have been there almost three years.
22 Q Okay. Are you an RN?

1 A Yes, I am.
2 Q Okay. Where did you receive that degree?
3 A Augusta Collage in Augusta, Georgia.
4 Q Augusta, Georgia. Okay, sir. And what are you
5 duties as Nurse Service Administrator in the penitentiary?
6 A I oversee all of the nursing practice,
7 scheduling appointments, supply.
8 Q Okay. So is your job more that of a hands on
9 nurse, touching people, evaluating people or are you more
10 administrative?
11 A More administrative.
12 Q More administrative.
13 A Yes.
14 Q Okay. What percentage of your time would you
15 say is spent on administrative duties as opposed to
16 clinical duties?
17 A 90 percent.
18 Q 90 percent of your time? Okay, thank you. Do
19 you have any specialized training or certification?
20 A No.
21 Q Okay. Now, what involvement do you envision
22 having in any execution carried out by lethal injection in

1 the Kentucky State Penitentiary?

2 A None.

3 Q None? Okay. Do you -- could you recall on

4 January the 5th, of this year, when I and Mr. Barron came

5 down and deposed you?

6 A Yes.

7 Q Okay. And some of these gentlemen were there as

8 well, right?

9 A Right.

10 Q Okay. Do you remember telling me at that time

11 that you thought that your involvement would be to give an

12 injection of Valium to the inmate prior to the --

13 A Yes.

14 Q -- execution? You do recall that?

15 A Yes, yes.

16 Q Okay. Do you consider that a participation in

17 the execution?

18 A No.

19 Q Okay, then let me ask this, what do you see your

20 duties being leading up to an execution then?

21 A We prepare a special section of the chart. We

22 give the Valium as I am directed to do so.

1 Q Anything else?

2 A Guess that's pretty much it.

3 Q Okay, that's pretty much it. Let me ask you

4 this, can the inmate -- if the inmate thinks that he

5 doesn't need the Valium part of the execution, can he

6 reject that?

7 A Yes.

8 Q He can? Okay, right. Let me show you part of a

9 checklist -- Judge, this has already been --

10 THE JUDGE: Yes.

11 MR. SHOUSE: -- introduced into evidence. I

12 think it's actually Plaintiff's 1 or 2. It's the action

13 that's been taken after receiving the execution order --

14 THE JUDGE: -- within 30 --

15 MR. SHOUSE: No, this checklist is based on a 30

16 day notification.

17 THE JUDGE: Okay.

18 MR. SHOUSE: (inaudible).

19 THE JUDGE: (inaudible).

20 BY MR. SHOUSE:

21 Q Okay, Mr. Wood, well, first of all, let's make

22 sure we know what we are dealing with here. Can you read

1 the title of that document into the record?

2 A "Actions to be taken after receiving execution

3 order."

4 Q Okay, and what -- when was that -- what does it

5 say in the upper right hand corner of that document?

6 A Revised 12/14/2004.

7 Q Okay. And let's just be sure on this here. I

8 deposed you on January the 5th of this year, is that

9 correct?

10 A I believe that's right.

11 Q Okay, and that's after the 14th of December.

12 Okay, could you turn to Number 42 on that checklist,

13 please? Can you read Number 42 aloud?

14 A "Administer a therapeutic dose of Valium which

15 may be performed by a doctor or a nurse since the Valium

16 is used treat a possible medical condition leading up to

17 an execution. If again, they refuse the Valium, however

18 insufficient to deal for the therapeutic dose of

19 medication that's necessary to treat in medical condition,

20 the dose will be administered as per CPP."

21 Q And CPP is Correctional Policies and Procedures?

22 A Yes.

1 Q Does that sound like that it was entirely
2 optional for you to, that refusal?
3 A That’s -- my role would be to give it if the
4 physician directed me to. Do what the physician directed
5 me to do.
6 Q And understand this Number 42 on this checklist
7 to mean that should the patient refuse the Valium, but the
8 doctor says that he is going to get it, then he is going
9 to get it.
10 A Well, that would be as per the physician. I’ll
11 do whatever he tells me to do.
12 Q No, no, I am not doubting that you would. But I
13 am just saying -- I’m just asking you to read those three
14 sentences and tell me what you -- what you does that sound
15 like that’s an option?
16 THE JUDGE: I think it sounds like this, speaks
17 for itself unless somebody else complains.
18 MR. SHOUSE: Okay. Yes, sir.
19 THE JUDGE: That’s open to interpretation.
20 BY MR. SHOUSE:
21 Q Okay, do you how much -- I’ll take that back.
22 Do you know how much Valium will be injected?

1 A It depends on what the physician's orders.
2 Q Okay. You're just going to inject whatever the
3 physician orders?
4 A Uh-huh.
5 Q Okay. What else do you see yourself doing in
6 regard to an execution?
7 A That's pretty much -- before the execution,
8 yeah.
9 Q Pretty much? Is there anything else?
10 A That's all I think.
11 Q Okay.
12 A Just the valium.
13 Q Okay, right. Again, you remember your
14 deposition?
15 A Uh-huh.
16 Q And you remember saying that your deposition
17 what you thought you'd be doing when the execution took
18 place was standing by?
19 A Yes, sir. I'd be there, yes.
20 Q Okay, you'd be there and standing by?
21 A Yes.
22 Q Okay, standing by for what?

1 A There is a process to in place to help the staff
2 deal with any problems they might have, any emotional --
3 any kind of -- I am on that process to --
4 Q Okay, that is to help the staff should they have
5 emotional problems?
6 A Yes.
7 Q Is there anything else?
8 A That's -- I believe that's it.
9 Q Okay. Are you aware that in the recent -- first
10 of all, are you aware that there have been recent changes
11 in the protocol?
12 A No.
13 Q By recent I mean December. Okay. So are --
14 then, let me ask you this, are you aware that there are
15 now provisions for a crash carts to be on the premises?
16 A Yes.
17 Q You do know that?
18 A Yes.
19 Q Well, do you have any involvement in using that
20 crash cart?
21 A No.
22 Q Do you have any idea what's on that crash cart?

1 A Yes.

2 Q Okay. Tell me what's on that.

3 A Routine emergency cardiac drugs.

4 Q Okay. What are some of those?

5 A Well, there will be lidocaine, (inaudible),

6 atropine.

7 Q How about all the laryngoscope? Do you know

8 what that is?

9 A Yes, yes.

10 Q Will there be one of those on that?

11 A Yeah, no.

12 Q Okay. What else?

13 A I can't say exactly what it is.

14 Q Okay. Well, we had some testimony yesterday.

15 Just want to know this was a pre -- purchased as a pre

16 packaged kit. Does that sound right to you?

17 A Yes, right.

18 Q Okay. Did you take any part in ordering that

19 kit?

20 A Yes.

21 Q Okay. Did you order that kit?

22 A Yes.

1 Q Okay. What kind of kit is it?

2 A It's a -- I can't remember the exact brand mane

3 name, but it was called the Stat Emergency Kit.

4 Q Okay. Do you remember who you got it from?

5 A We ordered it from --

6 SPEAKER: I objection to the relevance of that.

7 MR. SHOUSE: Well, Judge, they've -- now, that

8 they have found their hat on this stabilization procedure

9 throughout this hearing and said, "Well, look at the

10 precautions we are taking should a state come in after the

11 first drug had been administered," all it says is "crash

12 cart." I am just trying to find out what's on that. We

13 had testimony yesterday, there is in fact one in one kind

14 of crash cart.

15 SPEAKER: I object to him asking to the

16 relevance of that who he bought it from.

17 MR. SHOUSE: Well, I just thought that might

18 trying to get memory, to be honest with you.

19 SPEAKER: Well, as far as what individual

20 supplier, I guess if he knows the brand name before the

21 cash cart --

22 MR. SHOUSE: That's right. I am getting at and

1 I think he said it.

2 SPEAKER: -- we don't really care what --

3 MR. SHOUSE: No, I don't care about that at all.

4 You gave the name to this. You called --

5 THE WITNESS: I believe it was a Bromstat 800.

6 MR. SHOUSE: Okay. That's what I am looking

7 for, Bromstat 800. Okay. Do you remember how much this

8 cost?

9 SPEAKER: Objection.

10 THE JUDGE: I'll sustain the objection on that.

11 BY MR. SHOUSE:

12 Q Okay. What else can you remember at this time?

13 You talked about a laryngoscope, that's there and you said

14 lidocaine, can you think of anything else?

15 A A bit of (inaudible) fluid on there.

16 Q How about oxygen?

17 A No, it's not included in it.

18 Q No oxygen?

19 A No.

20 Q Okay. Are you aware if there is any oxygen in

21 the death house?

22 A Yes.

1 Q There is? Are you aware or --

2 A Yes.

3 Q And there is oxygen there?

4 A It will be available, yes.

5 Q Okay. How will that be there?

6 A We keep oxygen packed at the hospital infirmary.

7 Q And you will transport those to the death house?

8 A Yes.

9 Q Okay. Okay. Okay, now, I'd like to show you

10 another protocol. This one has also been previously

11 received into evidence, Judge. This is the pre-execution

12 medical checklist "Actions to be taken after receiving an

13 execution order."

14 THE JUDGE: All right.

15 MR. SHOUSE: May I approach?

16 THE JUDGE: Yes.

17 BY MR. SHOUSE:

18 Q Okay, what's the date on that, Mr. Wood?

19 A 12/14/2004.

20 Q Okay, and just to sort of get our bearings, we

21 are just going to go through a few of these. Okay, not

22 every page of it. But number 1 says, "Notify the

1 Department of Corrections medical director and nurse
2 service administrator of receipt of the Governor's death
3 warrant immediately." Do you see that?
4 A Yes.
5 Q Okay. And you are the Nurse Services
6 Administrator at the penitentiary?
7 A Correct.
8 Q Okay, so under Number one, you and Dr.
9 (inaudible) are to be notified immediately at the receipt
10 of the death warrant. Is that the way you read that?
11 A Yes.
12 Q Okay, got it. Now, you said that you would also
13 be the person who would begin a special section of the
14 condemned's medical record, is that correct?
15 A I will see that it is put together.
16 Q Okay. What will that special section contain?
17 A Nursing notes, physician notes, order sheet, if
18 we order anything, it's just kind of like another small
19 medical record --
20 Q Okay.
21 A -- of the nurses section in charge.
22 Q Did you anticipate it will only last 30 days

1 based on number one, is that correct?

2 A Yes.

3 Q Well, actually not based on Number one, based on

4 this other -- or actually, it will only last 14 days --

5 A Fourteen, yeah.

6 Q -- that it will last two weeks. Okay, and this

7 is just to talk about general health issues.

8 A Right.

9 Q Is that -- Okay, got it, got it. You'd be

10 surprised how long it took me to get that answer. it's

11 taken me weeks, and weeks, and weeks to get that answer.

12 Okay. Look at Number three there please, "Nurse visits

13 and checks on the condemned, each shift, seven days a

14 week, using a special medical section, to report contacts

15 and observation." Do you see that?

16 A Yes.

17 Q Okay. As Nurse Services Administrator, does

18 Number three give you any direction at all on what you

19 should be looking for or what you should order your nurses

20 to be looking for when they visit the condemned?

21 A The direction we'll take will come from the

22 physician, what he wants us to do.

1 Q Okay. The physician who is on staff?

2 A Uh-huh.

3 Q Well, he is on staff?

4 A Uh-huh.

5 Q Okay. So it is fair to say that you and your

6 nurses will take your direction from the DOC medical

7 director or his designee throughout this protocol, is that

8 correct?

9 A Uh-huh.

10 Q Okay. All right, that's all I need to ask about

11 that then. There's a couple of more -- would you ever

12 site an IV in someone's neck, you personally?

13 A No.

14 Q Okay, why not?

15 A I am not qualified to do that. I am not trained

16 to.

17 Q Okay. What kind of training does it take to be

18 a -- qualified to do that?

19 A I do not know.

20 Q Okay. Well, again, you remember when I came

21 down there and deposed you on in January this year?

22 A Uh-huh.

1 Q Okay. What's an ACLS certification?

2 A Advanced Cardiac Life Support.

3 Q Okay. You don't have one of those, right?

4 A No.

5 Q Okay, so you would -- without that even though

6 you've been a nurse -- how long you've been a nurse?

7 A Twenty-five years.

8 Q All right. You wouldn't site an IV in anyone's

9 neck?

10 A No.

11 Q Okay. Just one sec. That's all I have, Judge.

12 THE JUDGE: All right. Thank you.

13 SPEAKER: No, questions, sir.

14 THE JUDGE: Thank you, Mr. Wood. You could step

15 down. You are through.

16 THE WITNESS: Thank you.

17 THE JUDGE: Mr.Shouse.

18 MR. SHOUSE: Carol Weihrer. She is also out

19 where the water fountain --

20 THE JUDGE: Carol Weihrer, Sheriff.

21 MR. SHOUSE: Judge, Ms. Weihrer is totally blind

22 in one eye and almost blind in the other.

1 THE JUDGE: All right.

2 MR. SHOUSE: So -- okay, thank you, Judge.

3 Whereupon,

4 CAROL WEIHRER

5 was called as a witness and, having been first duly sworn,

6 was examined and testified as follows:

7 MR. SHOUSE: Okay, Ms. Weihrer. Could I try and

8 stand a little close to the witness so she can make out my

9 form and these gentlemen obviously can be closer to the

10 stand. I can't do the same on cross examination.

11 SPEAKER: The only thing that is on you --

12 MR. SHOUSE: I don't get caught on the tape, do

13 I?

14 SPEAKER: Sometimes you don't, sometimes you do,

15 but this will help.

16 SPEAKER: How close?

17 SPEAKER: You are close enough to be caught on

18 her microphone.

19 SPEAKER: Can you see me at all, Ms. Weihrer?

20 THE WITNESS: Just a form.

21 SPEAKER: Move up.

22 MR. SHOUSE: Okay.

1 DIRECT EXAMINATION:

2 BY MR. SHOUSE

3 Q Okay. Can you state your name for the record

4 and spell your last name?

5 A Carol Weihrer, W-e-i-h-r-e-r

6 Q Okay. And where do you live, Ms. Weihrer?

7 A Reston, Virginia.

8 Q All right. And I'm sorry, I lost my -- anyway.

9 Okay. And how are you employed now?

10 A I'm on the Anesthesia Awareness Campaign Inc.

11 Q Okay, and what is the Anesthesia Awareness

12 Campaign Inc?

13 A It's a nonprofit patient advocacy organization

14 whose goal is to be supportive of other victims of

15 anesthesia awareness to work with doctors in teaching

16 hospitals to prevent this in the future, to educate the

17 public in general, and to distribute free information and

18 support anyone who desires it.

19 Q Okay. Tell the Court briefly what is anesthesia

20 awareness.

21 A Anesthesia awareness --

1 Q You can talk directly to your mike. I have a
2 monitor. I can see you. Thank you.
3 A Okay. Anesthesia awareness is the phenomenon of
4 supposedly being under full general anesthesia. And the
5 brain surges and this anesthesia cocktails does not work.
6 So you are paralyzed totally. You have some pain
7 medication which works on different degrees but your brain
8 is absolutely awake and aware, and you are in a dead body,
9 you cannot move, you cannot talk, cannot communicate with
10 anybody.
11 Q Okay. I'm going to ask you to keep your voice
12 up. I'll be these gentlemen are having a hard time
13 hearing you.
14 A Okay.
15 Q Okay, have you written anything about anesthesia
16 awareness?
17 A Yes, I have written several brochures and
18 pamphlets, and publications.
19 Q Okay. Have you spoken to any groups or
20 organizations about anesthesia awareness?
21 A Yes. I give grand rounds in teaching hospitals,
22 and I have spoken as a keynote speaker at an international

1 conference on memory awareness and anesthesia. I've had
2 various television, newspaper, radio, and magazines
3 articles.
4 Q And what are some of the hospitals were you have
5 addressed their doctors?
6 A Johns Hopkins University in Baltimore, Maryland,
7 University of Virginia in Charlottesville, West Virginia
8 University in Morgan Town, Fairfax Hospital in Fairfax
9 Virginia among others.
10 Q Okay, are these primarily anesthesiologists you
11 are speaking to when you go to these hospitals?
12 A These are anesthesia grand rounds where all the
13 anesthesiologists are required to attend.
14 Q Okay, have you ever testified in court about
15 anesthesia awareness before?
16 A Yes, I have.
17 Q Okay, where about?
18 A Louisiana, Tennessee, Virginia, here --
19 Q Okay.
20 A -- and I have done some other (inaudible).

1 Q Okay, and what caused you to get involved in
2 anesthesia awareness as an issue and to found the
3 Anesthesia Awareness Campaign?
4 A I was one of those unfortunate people who was
5 left awake during surgery while they removed my eye. I
6 was absolutely aware, as I am right now, but could
7 communicate in no way that I was awake, fearful, terrified
8 and in pain.
9 Q Okay, when was this surgery, to remove your eye?
10 A January 24, 1998.
11 Q Okay, and tell the court what happened?
12 A I went into surgery in a very good frame of mind
13 because removal of my eye was my only hope for relief from
14 intractable pain. So I did not have a high fear factor.
15 The anesthesiologist was the last person to arrive. He
16 took a very quick, less that five-minute history, using my
17 stomach as a piece of furniture to write on. I went into
18 the operating room very shortly thereafter. And did go to
19 sleep and then woke to hearing disco music, and trying to
20 figure out why my surgeon was listening to disco music.
21 And then, I heard him say, "Cut deeper. Pull harder," and
22 I realized that it was not done it was just beginning

1 Q When you say it was just beginning, you mean the
2 surgery had just begun?
3 A They were -- the surgeon was instructing a
4 resident how deep to cut and how hard to pull.
5 Q Okay.
6 A So it was just beginning.
7 Q Could you move?
8 A No way, I was screaming at the top of my lungs,
9 but I knew no sound was coming out. I was trying to move
10 an eye, my face, I got a cloth over my face, my head, it
11 would not move. I tried a finger, and toe, and an arm and
12 a leg, and nothing moved, until twice I did hear the
13 surgeon tell the anesthesiologist, "She's moving".
14 Q Now, from what you could hear, could you tell if
15 the doctors knew that you were aware that you were
16 conscious?
17 A No.
18 Q Okay. Now, these doctors are right beside you.
19 A Yes, sir.
20 Q And they were, of course, touching you.
21 A Yes, I could feel instruments on my chest, I
22 knew who was standing where, at one point the

1 anesthesiologist was playing with the tube in my throat,
2 and I don't know what I moved. All I know is that for my
3 efforts, I received two more doses of the paralytic drugs.
4 Q Okay, what did that paralytic drug feel like
5 when it was injected?
6 A Absolute fires of hell.
7 Q Okay. Now, so they were touching you. They
8 were operating on you. And these were, of course,
9 professionally trained medical people.
10 A Yeah, absolutely.
11 Q They were medical doctors.
12 A Yes.
13 Q Okay. And from what you could -- from what you
14 could hear, and from what you could feel, they couldn't
15 tell that you were conscious?
16 A No. In fact, I felt the automatic blood
17 pressure cuff go off at one point and thought that this
18 will surely tell them I'm awake, and nothing was done
19 about it.
20 Q Okay. How long did this last?
21 A From what I remember, and how long it takes,
22 somewhere, between 45 minutes and two hours. I was fully

1 awake when they cut the optic nerve. I saw this eye go
2 blind.
3 Q Okay. Can you describe what the pain was like?
4 A My pain was not of the cutting nature. 25 to 50
5 percent of the victims of awareness feel that, but I did
6 feel tremendous pulling as if it were a tooth and I could
7 not turn my head, as though with the pressure. I felt
8 instruments on my chest, thighs, feet. The vaporizer went
9 out at one point and the anesthesiologist was pulling on
10 the tube in my throat, and I felt the need to gag and
11 couldn't decide which was worse, the need to gag or the
12 pulling on my eye. And then, the first shot that burned,
13 which at that time I did not know what it was, but it was
14 a paralytic drug. I, at first, thought well, they have
15 cut the optic nerve. I know that I am blind now, and that
16 I am -- well, I was covered maybe I'm following the heat
17 of the proverbial light of heaven. I wanted to die. And
18 when they gave me the second shot, which was even more
19 painful, the second time I moved. I wondered if I were on
20 the coals of hell, and being a person of great faith, that
21 confidence was there that I was going to sell my soul to
22 just get off that table. But I wanted to die. It was the

1 worst thing in your life. You are absolutely pinned and
2 of course, you cannot move, but you are a 100 percent
3 alert.
4 Q Okay.
5 A You know.
6 Q If you could just speak up a little bit.
7 A It's terrible. You feel like you're a dead
8 person but you are wide awake.
9 Q Okay. Now, through your work as the Head of the
10 Anesthesia Awareness Campaign, do you know about how
11 frequently they estimate this occurs?
12 A Recent studies that have been published in
13 medical journals have indicated awareness of --
14 SPEAKER: Objection, Judge. Do we have these
15 studies? Are they going to present these to us.
16 MR. SHOUSE: No, Judge. But she can certainly--
17 she has reviewed as part of her work heading up this
18 campaign
19 SPEAKER: But we need to be able to see these
20 studies, she's going to referring to studies.
21 SPEAKER: And we will, of course, have an
22 anesthesiologist here this afternoon.

1 THE JUDGE: Well, I'll allow it this time. Go
2 ahead.
3 BY MR. SHOUSE:
4 Q So about how of frequently does this occur?
5 A It's been recorded at 100 times per day in the
6 United States. We know that under reported and under
7 estimated we think by about as much as a third and a new
8 research study indicates that this happens, four to six
9 times more often in pediatric patients.
10 Q Okay. Now, you told your doctors about this
11 after the surgery?
12 A While I was still in the operating room.
13 Q Okay, and was the anesthesiologist aware of this
14 happening in other cases?
15 A He never told me that one way or the other.
16 Q How about the surgeon?
17 A My surgeon was not aware of awareness, which was
18 not uncommon at that time, to be aware of it nor had my
19 corneal specialist.
20 Q They never heard of it?
21 A Well, my corneal specialist --
22 SPEAKER: Objection. Hearsay.

1 SPEAKER: I’m going to -- I’m going to have to -
2 -
3 BY MR. SHOUSE:
4 Q Have you met other people who have experienced
5 this?
6 A Yes, I have spoken personally on the phone with
7 2500 or more victims of awareness. I’ve sent out packets
8 to well over 10,000 people, and I have a web site.
9 Q Okay, just one second. That’s all I have.
10 THE JUDGE: Right.
11 SPEAKER: Ma’am, these gentlemen over --
12 THE JUDGE: Mr. Judy, you going to ask --
13 SPEAKER: Yes, Judge.
14 SPEAKER: You want to approach the witness so
15 she can --
16 SPEAKER: Thank you, Your Honor.
17 CROSS EXAMINATION
18 BY MR. JUDY:
19 Q Good morning.
20 A Good morning.

1 Q So you just testified, you are not attacking the
2 drugs that were used in your procedure. You are attacking
3 the doctor who took your history, correct?
4 A I'm attacking to the fact that paralytic drugs
5 are given to people when they are not asleep.
6 Q So by saying you are attacking the doctor for
7 being negligent putting.
8 A In my particular case, yes.
9 Q And you underwent a surgical procedure, correct?
10 A Yes, I did.
11 Q And you did not receive a 3 g dose of sodium
12 thiopental, correct?
13 A I do not know how much I received. But I
14 believe it was actually Pancuronium that I received.
15 Q But it was not an equivalent dose of 3 g.
16 A I don't believe so, no.
17 Q And you did not receive a 50 mg dose of
18 Pancuronium Bromide, or an equivalent paralytic agent.
19 A I don't know what dosage I received but I
20 certainly received paralytics.
21 Q And you did not receive and 240 mEq dose of
22 Potassium Chloride, during this procedure?

1 A I don't think I would be here if I had.
2 Q Okay. Anyway, you testified earlier that you
3 given testimony in Louisiana, Virginia, and in Tennessee
4 as well as here. In Louisiana, you testified on behalf of
5 the condemned inmate, again, didn't you?
6 A Yes, I did.
7 Q It does seem you testified on behalf of the
8 condemned inmate, correct?
9 A Yes, I did. I testified because the law says
10 that inmates are to be properly anesthetized and I don't
11 believe they are.
12 Q So in every case that you testified you have
13 always testified on behalf of condemned inmates, correct?
14 A Yes.
15 Q Okay. Your January 1998 eye surgery --
16 A Yes.
17 Q This is your 18th eye surgery?
18 A Yes, it was.
19 Q And this anesthesia awareness did not occur in
20 any of the other 17 surgeries did?
21 A No, it did not.

1 Q You stated on direct that the doctor had never
2 indicated that he had any indications that you were
3 unconscious, correct?
4 A He never stated that he was aware that I was
5 awake. However, after the surgery every word that I told
6 him that had happened in the operating room, he confirmed
7 was verbatim truth.
8 Q I know you are -- according to Mr. Shouse, you
9 are almost blind in your left eye?
10 A Correct.
11 Q Can you read?
12 A Can read a little bit.
13 MR. JUDY: Your Honor, If I may--
14 THE JUDGE: Yes.
15 BY MR. JUDY:
16 Q You testified in Tennessee --
17 A Yes.
18 Q -- correct? And during your testimony you were
19 asked, "Were you able to move any part of your body?" And
20 your answer was --
21 SPEAKER: (inaudible).

1 SPEAKER: -- and your answer according to the
2 transcript is, "The surgeon said that I moved once but I
3 don't remember being able to."
4 A I don't recall that specific answer, but I do
5 know that I moved twice, I received two separate
6 injections of paralytic drugs.
7 Q Okay.
8 A And I do not know what I moved.
9 Q And you testified that you've done research.
10 A Yes, sir.
11 Q And you spoken to anesthesiologists.
12 A Yes, I'm probably considered the lay-expert in
13 the world, on anesthesia awareness.
14 Q Are you aware of a study published in 2004,
15 called incidents of awareness during anesthesia in
16 (inaudible) center of
17 SPEAKER: Your Honor, I object to the studies.
18 THE JUDGE: Well, we've gone down this road and
19 we'll want to keep going, so go ahead.
20 SPEAKER: What are (inaudible)
21 SPEAKER: I think it was three.

1 THE WITNESS: In fact, that was one of the
2 articles I was referring to when Mr. Shouse was examining
3 me.
4 MR. JUDY: Okay.
5 THE WITNESS: In -- I mean, is that -- I've got
6 this.
7 SPEAKER: Okay.
8 SPEAKER: Are you moving to admit?
9 SPEAKER: Yes, Your Honor.
10 THE JUDGE: Mr. Shouse.
11 MR. SHOUSE: We object Your honor, on basis --
12 not turned over to us prior to the testimony.
13 THE JUDGE: Well?
14 SPEAKER: We argued that this cross-examination
15 is perfect for impeachment. And they have any obligation
16 to turn it over under the scope of discovery 'cause this
17 is not how it --
18 THE JUDGE: Well, I am going to allow it's
19 admission based on the fact that the witness testified
20 that she has relied upon the studies and that this is one
21 of the studies that she relied upon.
22 BY JUDY:

1 Q On the first page, on the second column that --
2 maybe I'll read it for you --
3 A I don't know that --
4 THE JUDGE: You can read it.
5 MR. JUDY: And that was more for the court
6 dealing with all of that --
7 THE JUDGE: She didn't think it is familiar, go
8 ahead.
9 BY MR. JUDY:
10 Q It's the very first sentence. The study says
11 "these occurred at a rate of one to two patients per
12 thousand patients at each site."
13 A One to 2000 per patient in general anesthesia,
14 period, I believe.
15 Q Actually, it says one to two cases for a 1000
16 patients.
17 A That's what I meant to say. Yeah.
18 Q And the very last sentence that I think relevant
19 here is, "Assuming the approximately 20 million
20 anesthetics are administering nine states annually--
21 A Right.
22 Q -- we can expect approximately 26000 cases to

1 occur each year."

2 A Correct. And from that they got a 100, I guess.

3 Q And then starting at the page 836 --

4 SPEAKER: Where are you?

5 MR. JUDY: 837, sir.

6 BY MR. JUDY:

7 Q Under discussions it says, "Awareness during

8 anesthesia therefore appears to be a ubiquitous phenomenon

9 that occurs at an estimate of one to two cases per 1000,

10 irrespective of geographical locations, and for clinical

11 differences in anesthetic techniques," would you agree

12 with that, with the finding?

13 A I agree that the finding and also probably it

14 would state somewhere in here that there are high -- high

15 -- people that you expect a higher rate in anesthesia

16 awareness like, trauma, OBGYN, and heart -- open-heart

17 surgery. Those are high-risk surgeries.

18 Q But when we are dealing with an execution, we

19 are not about therapeutic doses of anesthesia, are we?

20 A No. But we are talking about the law that says

21 that they should be unaware of what's happening to them.

22 Q But would you agree based upon your studies a 3

1 g dose --

2 A I am not a Pharmacologist.

3 Q -- would --

4 A I don't know about the basis of --

5 Q Yes. Finally, at the very last page, the last

6 sentence it says "For some reason, incidence of awareness

7 during general anesthesia in the U.S. was 0.13 percent, it

8 occurred at the rate of one to two for a thousand patients

9 interviewed at each site.

10 A Right. That was a long-term study in more

11 (inaudible) country that is --

12 Q So basically, around the world this is an

13 extremely uncommon occurrence in surgical performance this

14 2004 study?

15 A It depends on what you call uncommon. If you

16 are one of the few of the thousands, or you're one of the

17 100 a day, you will never forget it.

18 Q But if you are one of the 998 patients?

19 A Then you are lucky.

20 Q Thank you.

21 THE JUDGE: Mr. Shouse.

22 MR. SHOUSE: Yes sir, thank you.

1 REDIRECT EXAMINATION

2 BY MR. SHOUSE:

3 Q Hi, Ms. Weihrer. I think I'll have to stand a

4 little further away from him, because I have a big bunch

5 of papers in my hands. Okay?

6 A All right.

7 Q We're supposed to talk about that testimony down

8 there in Tennessee. Mr. Judy read you the part, question:

9 were you able to move any part of your body? And then he

10 read you the part that said, "The surgeon said that I

11 moved once but I don't remember being able to." Okay?

12 A I didn't know what I moved. Yeah.

13 Q Do you recall that the very sentence after that,

14 in your answer to that question when you were on the

15 witness stand in Tennessee was, "I just remembered using

16 every ounce of my strength to try to move everything, and

17 I realized that they could not hear me, or see me move

18 anything. I am believing that as much effort as I was

19 using something had to be moving, but knowing in reality,

20 nothing was." You remember that being your full answer to

21 that question.

22 A I don't remember verbatim, but yes. To that

1 effect.

2 Q Okay. That was your full testimony in

3 Tennessee.

4 A Yes, sir.

5 THE JUDGE: The full testimony is in there.

6 MR. SHOUSE: Well, it's in response to that

7 question.

8 THE JUDGE: Okay.

9 BY MR. SHOUSE:

10 Q Okay. Let's talk a little bit about this study

11 Mr. Judy talked about.

12 A There are also other studies, and other

13 requirements that have been formed as a result of the work

14 of the Anesthesia Awareness Campaign, looking at the --

15 Q Okay. I understand. I am going to -- We'll

16 talk about the other studies in a minute. We'll talk

17 about this one for just a second, though. Well before we

18 get into studies, let's speak on specifics. You had --

19 you anesthesiologist and I don't want to get into anything

20 about civil suits or anything like that, but he had a

21 medical degree?

22 A Yes he did.

1 Q And he had monitoring equipment, to monitor your
2 level of anesthesia?
3 A He had some monitoring equipment. He did not
4 have the brain activity monitoring, but he had the normal
5 ventilating machines and monitors.
6 SPEAKER: How would she know?
7 BY MR. SHOUSE:
8 Q No, it’s her personal experience. Now, you said
9 on direct examination that you felt that the blood
10 pressure cuff --
11 A Yes I did.
12 Q Okay so, they at least had a blood pressure
13 cuff.
14 A An automatic one.
15 Q Okay. They had a tube down your throat.
16 A Absolutely.
17 Q Okay. What other safeguards are you aware that
18 they had?
19 A I was strapped down --
20 MR. JUDY: Excuse me, Your Honor. I’m sorry to
21 interrupt, ma’am. We are talking about a surgical
22 procedure which is vastly different from what is being on

1 trial here. So, I think it's irrelevant for us to be
2 getting into what took place in the witness's surgery
3 procedure which I --
4 THE JUDGE: I think what Mr. Shouse is getting
5 to is which monitoring situations, and what they had to do
6 to prepare her for surgery. I understand what the
7 differences are in it, that's open for argument. Go ahead
8 Mr. Shouse.
9 BY MR. SHOUSE:
10 Q Thank you. Do you know what other monitoring
11 devices they had?
12 A They had electric cardiogram
13 Q Uh-huh.
14 A Blood pressure, pulse oximeter, which is also
15 relatively new. I was strapped down. I had a heart-rate.
16 But my anesthesiologist kept no record for three and a
17 half hours, so we don't know exactly what --
18 Q Okay, but he was -- this trained
19 anesthesiologist was unaware you were conscious?
20 MR. JUDY: Objection your honor, she can't
21 testify for that.
22 THE JUDGE: I presume she is being testified for

1 what she is aware of or I'll presume there was a suit for
2 negligence.
3 BY MR. SHOUSE:
4 Q Thank you. Let's talk about this study for a
5 minute that Mr. Judy talked about. The very next sentence
6 after the first sentence he read there about the sight of
7 relatively increase in occurrence, awareness of
8 significant concern to patients. Two; and it is often
9 associated with significant adverse psychological sequelae
10 including symptoms associated with Post Traumatic Stress
11 Disorder. Are you aware of that?
12 A First hand.
13 Q Okay. Now, also throughout this document which
14 mentions the incidence of this phenomena. Okay?
15 A Yes.
16 Q You are familiar with this study. Are you aware
17 that through out this document there are references to
18 something called a BIS monitor?
19 A Yes, I am.
20 Q What is a BIS monitor?
21 A The BIS monitor is a specific brand of a generic
22 monitor that is called a brain activity monitor, and it is

1 similar to --

2 MR. JUDY: Objection judge, she does not have a

3 medical background. She cannot testify

4 THE JUDGE: I think he asked he what it is that

5 she knows. Go on then.

6 MS. WEIHRER: I forgot where I was.

7 BY MR. SHOUSE:

8 Q What's a BIS monitor?

9 A The BIS is a specific brand name by Aspect

10 Medical Systems of a generic machine called the brain

11 activity monitor. They have been endorsed by the FDA.

12 They are being fought tooth and nail by the American

13 Society of --

14 THE JUDGE: Well I think she can describe what

15 it is. We don't need to get into it --

16 MR. SHOUSE: Okay.

17 THE JUDGE: We don't need to get into it --

18 BY MR. SHOUSE:

19 Q You say it's a generic monitor. What does it

20 monitor?

21 A It monitors your brain activity much like an

22 Electroencephalogram. And it gives a simple readout of

1 zero which means you are dead. A 100 which means you are
2 wide-awake. And the general safety range for full general
3 anesthesia is 40-60.
4 Q 40-60. Okay. So you are familiar with this
5 study. This study on the incidence of anesthesia
6 awareness, talks about it in a hospital setting. Is that
7 correct?
8 A Yeah.
9 Q Talks about it in a hospital setting in which
10 medical --
11 A For surgical anesthetic --
12 Q Exactly. Hospital surgery what medical doctors
13 are performing the anesthetic procedure.
14 A Yes, sir.
15 Q And where BIS monitors are in operation?
16 A They are not in operation in nearly enough
17 hospitals.
18 Q Okay, but in this study BIS monitors --
19 A -- were used. They were given to those people
20 to use.
21 Q By medical doctors?
22 A Yes.

1 Q Thank you. Okay what other study that you were
2 aware of then?
3 A One in particular --
4 MR. JUDY: Objection to these, Judge. Unless
5 she's going to produce these, and we are going to receive
6 copies of these, just like we --
7 THE JUDGE: We are not going to describe the
8 study.
9 BY MR. SHOUSE:
10 Q Yes, sir. One final question. No, two final
11 questions. Your surgery in which you were conscious, was
12 performed by medical doctors?
13 A Correct.
14 Q And this study, studies the incidence of
15 anesthesia awareness in a hospital setting?
16 A Yes, sir.
17 Q Thank you. That's all I have, sir.
18 THE JUDGE: Mr. Judy, anything else?
19 MR. JUDY: Just a couple of question, Your
20 Honor.
21 THE JUDGE: All right.
22 RE-CROSS EXAMINATION

1 BY MR. JUDY:

2 Q You probably filed a malpractice claim as a

3 result of surgery?

4 A Yes, I did.

5 Q And that claim was settled for how much?

6 MR. SHOUSE: Objection.

7 MS. WEIHRER: I am not allowed to say.

8 BY MR. JUDY:

9 Q But you settled?

10 A Pardon me?

11 Q But you settled it?

12 A It was settled because the judge in the case,

13 after we had done all of the work preliminarily said, “I

14 have never heard such a ridiculous story in my life.”

15 MR. SHOUSE: Objection, Judge.

16 THE JUDGE: I’m going to sustain that.

17 MR. JUDY: No further questions, Your Honor.

18 THE JUDGE: Anything further, Mr. Shouse?

19 MR. SHOUSE: No, sir.

20 THE JUDGE: Thank you Ms. Weihrer, you can step

21 down. Mr. Shouse you want to help Ms. Weihrer?

22 MR. SHOUSE: Yes, I will. May she stay in court

1 with us?

2 THE JUDGE: She may. She’s not going to be

3 recalled, I believe. And probably she is --

4 MR. SHOUSE: Can we take a five-minute break while I

5 help her --

6 THE JUDGE: Sure, lets take ten minutes. And

7 we’ll be back 10:30.

8 (Recess)

9 MR. SHOUSE: My next witness here is Dr. Dennis

10 Geiser. I just want to renew my motion. They – we just

11 put him on our witness list, and the defendant saw a

12 motion at (inaudible) claiming the evidence was

13 irrelevant. The court sustained that motion. I just want

14 the record to reflect that we --

15 THE JUDGE: This is on the --

16 MR. SHOUSE: Dr. Geiser’s testified subjectively

17 THE JUDGE: All right. Well, I am just going to

18 sustain their motion. He an testify. I’ll allow it.

19 MR. SHOUSE: Yes, sir.

20 THE JUDGE: Okay.

21 MR. SHOUSE: Yes, sir.

22 THE JUDGE: All right.

1 MR. SHOUSE: Then Dr. Geiser. Oh, I would like
2 the court official -- would like the court to take
3 judicial notice about two statutes in a Kentucky
4 administrative regulation
5 THE JUDGE: All right let me get the docket and
6 then you can --
7 Whereupon,
8 DR. DENNIS RICHARD GEISER
9 was recalled as a witness and, having been previously duly
10 sworn, was examined and testified further as follows:
11 THE JUDGE: All right, Mr. Shouse. What is it
12 that I --
13 MR. SHOUSE: What I'd like the court to take
14 judicial notice of is KRS 221 07. KRS 321 990 and --
15 THE JUDGE: This like a penalty statute. Go
16 ahead.
17 MR. SHOUSE: And -- it is. KAR 201 KAR 16090.
18 THE JUDGE: Any Objection?
19 MR. SMITH: No, Your Honor.
20 THE JUDGE: All right. So ordered.
21 DIRECT EXAMINATION
22 BY MR. SHOUSE:

1 Q Good morning, sir.

2 A Good morning.

3 Q Could you please state your name, and spell your

4 last name for the record?

5 A Yeah my name is Dennis Richard Geiser. Last

6 name is G-e-i-s-e-r.

7 Q Okay. And how are you employed, Mr. Gieser?

8 A I am a professor in a college of Veterinary

9 Medicine at the University of Tennessee

10 Q I am sorry it's Dr. Gieser, isn't it?

11 A Yeah.

12 Q Okay. Could you tell the court about your

13 educational background?

14 A I did my undergraduate work at Colorado State

15 University and received BS degree in microbiology. I

16 received my doctors of veterinary medicine at the

17 University of Illinois. I practiced for two years in

18 California. Went back to Michigan State did a residency

19 in Equine medicine and surgery. Practiced two years in

20 Florida, and have been on the staff at University of

21 Tennessee since them.

22 Q Okay. Do you have any specialized area of

1 practice in Veterinary Medicine?

2 A Most of them --I did both small and large

3 animals most of my time. And practice was in Equine

4 specialties but since 1985, I have done nothing but large

5 animal anesthesia at the University of Tennessee.

6 Q Okay. Do you have any board certification?

7 A I am board certified in the American Board of

8 Veterinary Practitioners.

9 Q Okay. Are you a member of any professional

10 associations?

11 A I am member of the American Veterinary Medical

12 Association.

13 Q Okay. How about the American Association of

14 Equine practitioners?

15 A Yes I am a member there as well.

16 Q Okay. What your teaching -- your primary

17 teaching responsibilities at the University of Tennessee's

18 Veterinary medicine school?

19 A My primary teaching responsibilities are in

20 anesthesia, and Equine respiratory diseases.

21 Q Okay.

22 A And clinical, in the clinical aspect as well.

1 Q Okay. Have you published any thing on
2 Veterinary anesthesia?
3 A Yes, I have.
4 Q Okay. Could you just acquaint the court with a
5 few of those publications?
6 A Some of those publications were on anesthesia in
7 colts, and pain management, those types of things.
8 Q Okay. Judge, I submit that Dr. Gieser's resume
9 be introduced in the records as Plaintiff's Number 10.
10 THE JUDGE: Well, do you want to do this as
11 (inaudible)? Let's do it that way.
12 (Plaintiff's Exhibit No. 10 was marked
13 for identification)
14 MR. SHOUSE: Yes, sir.
15 THE JUDGE: Alright. Thank you
16 MR. SHOUSE: Thank you, sir.
17 BY MR. SHOUSE:
18 Q Okay. Doctor, now, you said you were a member
19 of the AVMA, is that correct?
20 A Yes, sir.
21 Q What is the AVMA?
22 A The American Veterinary Medical Association is

1 the organized veterinary body, the national organized
2 veterinary body that sets standards, certifies colleges of
3 the veterinary medicine. But is the main body of the
4 profession.
5 Q Is it like the AMA, but for the Veterinarians?
6 A Yes, sir.
7 Q Okay.
8 A Right.
9 Q Are you familiar with this report? The report
10 of the AVMA panel on euthanasia.
11 A Yes, sir.
12 Q Okay.
13 MR. SHOUSE: Judge, I'd like to mark and enter
14 this 2000 report of the AVMA panel on Euthanasia as
15 Plaintiff's file number 2.
16 (Plaintiff's Exhibit No. 2 was marked for
17 identification.)
18 THE JUDGE: (inaudible).
19 MR. SHOUSE: Yes, sir. Thank you. We are out
20 of stickers.
21 THE JUDGE: Well, I can't do anything about
22 that, I didn't bring it in. Some people do somehow, I

1 know, down the hall. You want me to go get it for you?
2 MR. SHOUSE: No, thank you, sir. No, thank you,
3 sir. Can I just write Plaintiff's file number 2 on the
4 document though?
5 THE JUDGE: Yes, we will get a sticker on it
6 later. Thank you.
7 BY MR. SHOUSE:
8 Q Does the American Veterinary Medical Association
9 issue a lot of reports and publications and things like
10 that for veterinarians?
11 A Yeah, they have two journals that they publish.
12 One is the American Journal Veterinary Medical
13 Association, and the other one is a research journal.
14 Q Okay. And where did this report originally had
15 come?
16 A This report was in the Journal of the American
17 Veterinary Medical Association.
18 Q Okay. Now -- and you've read this report?
19 A Yes, sir.
20 Q Okay. How often does the AVMA issue a report on
21 euthanasia?
22 A I think they have issued actually three reports

1 and I think one is in ’78, and I don’t remember exactly
2 the date of the second one, and the last one was 2000.
3 Q So this is the current report on euthanasia?
4 A The most current, yes.
5 Q Okay. What does the word euthanasia mean?
6 A Euthanasia comes, I believe, from Greek origin
7 meaning a good death.
8 Q A good death?
9 A “Eu” meaning good and “thanatos” meaning death.
10 Q Okay. How many animals do you think you’ve
11 euthanized in your career, Doctor?
12 A I have been a veterinarian for nearly 34 years.
13 You know, I don’t know the exact number, but probably
14 hundreds.
15 Q Hundreds?
16 A I don’t know the exact number.
17 Q And does that span the gamut from very small
18 animals up to horses?
19 A Yes.
20 Q Okay. Okay, now referring to this AVMA report
21 for just a moment, what does the report say about the use
22 of neuromuscular dose backup? What is a neuromuscular

1 blocking agent?

2 A A neuromuscular blocking agent is a drug that

3 prevents the transmission of nerve impulses from the nerve

4 to the muscle in the periphery, meaning not in the spinal

5 cord or brain, but out in the periphery where the nerve

6 actually patches to the muscle, and so neuromuscular

7 blocking agents block the chemical that causes muscles to

8 contract.

9 Q Okay. Does it affect consciousness in any way?

10 A It has no effect on the brain or the spinal cord

11 to decrease brain functions, but it does not affect

12 consciousness at all.

13 Q Does it have any analgesic properties

14 whatsoever?

15 A No analgesic properties.

16 Q Okay. What does the -- what is the AVMA’s

17 position on the use of neuromuscular blocking agents in

18 euthanizing animals?

19 A Neuromuscular blocking agents, according to the

20 report, cannot be used as sole euthanizing agents, and

21 cannot be used in combination with barbiturates.

22 Q Okay. Can’t use them alone, can’t use them in -

1 - and why is that? Why does the AVMA take that position?
2 A The AVMA takes that position to rule out the any
3 potential that there might be a bad death, in other words
4 that there might be pain, suffering or stress from the
5 procedure. Since that -- since neuromuscular blocking
6 agents have no central effect, they don't depress the
7 brain, it is potentially possible that an animal given
8 neuromuscular blocking agent, because it doesn't depress
9 the brain, would feel pain and suffering. And they want
10 to make sure that we don't produce any potential for that
11 to happen.
12 Q Okay. So they are banned for euthanizing
13 animals?
14 A That's right.
15 Q Okay. What is pancuronium bromide, also known
16 as Pavulon?
17 A Pancuronium bromide is one of the neuromuscular
18 blocking agents. The neuromuscular blocking agent is a
19 class of drug. There are several drugs in that class, and
20 pancuronium is one of those drugs.
21 Q All right. Would you ever use pancuronium
22 bromide or Pavulon to euthanize an animal?

1 A I have never, no.

2 Q Okay. Would you ever use it in conjunction with

3 potassium chloride?

4 A The two together? No.

5 Q Okay. Would you ever use it in conjunction with

6 those two and sodium thiopental or so?

7 A No.

8 Q Okay. And why not?

9 A Well, first of all, the use of neuromuscular

10 blocking agents is not approved by the AVMA in combination

11 with barbiturates. The two drugs, pancuronium bromide and

12 potassium chloride, are not anesthetic agents. They --

13 again, they do not depress the brain. Therefore, they

14 would open the possibility up of pain and suffering. Also

15 if you give a neuromuscular blocking agent, you mask any

16 signs of anesthesia from other drugs. In other words, you

17 can't tell of the anesthetic death of an animal once it

18 has been given a neuromuscular blocking agent, and so even

19 though, you know, you might give something like thiopental

20 or pentobarbital, you have difficulty in deciding that the

21 animal is anesthetized, and those two drugs cannot be

22 given unless an animal is in the surgical plane of

1 anesthesia.

2 Q Okay. You have -- in preparation for your

3 testimony today, did you review the Kentucky protocol on

4 execution by lethal injection?

5 A Yes.

6 Q Okay. Would you follow the portion of that

7 protocol that outlines the injection of sodium thiopental

8 followed by saline injection followed by injection of

9 pancuronium bromide followed by a saline injection

10 followed by an injection of potassium chloride? Would you

11 use such a procedure to euthanize an animal?

12 A I would not.

13 Q Okay. And again why not?

14 A Because, number one, it has a neuromuscular

15 blocking agent associated with the barbiturate. The other

16 -- the third cause, again, it's not an anesthetic, so that

17 would also not be helpful in producing anesthesia.

18 Thiopental, although it can produce anesthetic -- it has

19 the anesthetic property, it does depress the brain with a

20 short acting barbiturate. And, again, because of the AVMA

21 guidelines, I wouldn't use a barbiturate after derivative,

22 and a neuromuscular blocking agent.

1 Q Okay. What are ways in which you monitor an
2 animal to determine what plane of awareness that animal is
3 on?
4 A I think there is two areas there, one -- I mean
5 it's both an art and a science, and probably the main way
6 we monitor an animal to determine anesthetic death is
7 through physical characteristics such as eyelid reflexes,
8 corneal reflexes, response to stimuli and that type of
9 thing. And the second way is through mechanical devices,
10 science, monitors and that type of thing. However, the
11 most reliable way of monitoring anesthesia is through the
12 physical parameters, the physical characteristics.
13 Q And what are some of those physical parameters
14 and characteristics?
15 A Again, lid reflexes, whether they blink, if you
16 touch the cornea whether their lids close; response to a
17 stimulus, if you pinch a toe or there is a surgical
18 stimulus; movement of the animal jaw tone; muscle
19 relaxation and there is a variety of parameters that we
20 use.
21 Q Okay. Is Pavulon a paralytic?
22 A Pavulon paralysis skeletal muscles.

1 Q Okay. Would any of those physical parameters
2 you just discussed work in animals or under the influence
3 of Pavulon?
4 A There are several that wouldn't. The lid
5 reflexes wouldn't work. The cornea reflex wouldn't work.
6 Response, although if some pinched a toe let's say on an
7 animal, they wouldn't be able to withdraw it because those
8 are paralyzed, but yet they might precede the painful
9 stimulus. So they would be very -- it's more difficult to
10 monitor an animal that had received a neuromuscular
11 blocking agent.
12 Q Okay, okay. So if the Pavulon were masking
13 these physical parameters (inaudible), it would be as if
14 the animal were put to -- paralyzed?
15 A Right, they would be paralyzed.
16 Q Okay. And that's effectively the same as using
17 just the potassium chloride and the Pavulon without the
18 thiopental?
19 A Yes. I mean, you would get the same effect.
20 You get a paralysis. The potassium chloride doesn't
21 necessarily produce paralysis, but its effect is to stop
22 the heart if it's given in a saturated solution. So you

1 don’t add any anesthetic value to it by adding potassium
2 chloride to Pavulon or pancuronium bromide.
3 Q Okay. Thiopental, that’s not an analgesic?
4 A It has limited analgesic effects, very, very low
5 analgesic effects.
6 Q Okay. Is Pavulon an analgesic?
7 A No.
8 Q And is potassium chloride an analgesic?
9 A No.
10 Q Okay. Now, in an animal, again, you have
11 reviewed the Kentucky lethal injection protocol?
12 A Right.
13 Q Without the Pavulon, all right, if you remove
14 that and we are just going to use the sodium thiopental
15 and the potassium chloride, what would you expect to see
16 in an animal subjected to the protocol?
17 A It would depend on the depth of anesthesia. Our
18 guidelines state that you can use potassium chloride in
19 combination with an anesthetic agent as along the patient
20 is in a surgical plane of anesthesia. Even -- at least it
21 has been my experience with large animals, that even when
22 there are surgical planes of anesthesia, you still get

1 occasionally muscle articulations, gas things, after the
2 administration of potassium chloride. So if there were no
3 -- if the patient wasn't in a surgical anesthetic plane,
4 then I would expect to see muscle -- a lot of muscle
5 articulations and chronic contractions that type of things
6 when the potassium chloride was administered.
7 Q Okay. I'm not -- what is that -- what are some
8 of the --
9 A Well, shaking the muscle articulations, little
10 contractions that you might see.
11 Q Okay.
12 A It's a very saturated solution --
13 Q Okay.
14 A -- and very irritating.
15 Q Okay. Why do you use sodium -- why do you use
16 sodium thiopental?
17 A We used sodium thiopental mainly as what we call
18 an induction agent, which is the agents that initially
19 produce anesthesia -- short-term anesthesia in a patient
20 to get a tube to incubate them, to carry them to the room
21 where we put them on gas anesthetic machines and maintain
22 anesthesia with gas anesthesia, or to maintain anesthesia

1 with other drugs. So it's mainly a -- we would use that
2 as an induction agent.
3 Q Okay. Now, you said that the -- that monitoring
4 an animal's anesthetic plane is both an art and a science.
5 A Right.
6 Q Let's just talk about the science for a minute.
7 A Okay.
8 Q What are some of the equipments that you use?
9 A Well, we use pretty much I think what they use
10 in people, but from the veterinary aspect we monitor heart
11 rate, respiratory rate. We monitor -- we have an EKG or
12 ECG, we monitor inside carbon dioxide concentrations,
13 inside oxygen concentrations. We measure -- if they are
14 an inhalant anesthetic, we measure the expired inhalant
15 anesthetic concentrations, and then we also so do pulse
16 oximetry, which measures hemoglobin saturation in the
17 blood with oxygen. That's pretty standard. We have
18 monitors that do all those things in one monitor.
19 Q Okay. Would you rely solely on an EKG to
20 determine anesthetic plane on an animal?
21 A The heart rate can be used indirectly, but it
22 does not tell you by itself anesthetic death. In other

1 words, a patient can be very deep under anesthesia and
2 have a high heart rate, or vice versa, they can be very
3 awake and have a very low heart rate depending on what the
4 condition of the patient is, and so if you just have that
5 monitor to try to determine anesthetic death, you would
6 not be accurate most of the time.
7 Q Okay. Now, in preparation to your testimony
8 here today, did I also ask you to take a look at some
9 Kentucky statutes?
10 A Yes.
11 Q Okay. And I know you're not lawyer, and I'm not
12 going to ask you about the law. I'm just going to ask you
13 about some scientific language that appears in these
14 statutes.
15 A Right.
16 Q Okay. Now, you looked at a statute that talked
17 about the certification of animal control agencies and
18 animal euthanasia specialists.
19 A That's right.
20 Q Okay. Have you had occasion to look at similar
21 laws from the state of Tennessee?
22 A Yes, I have.

1 Q Okay. Is there -- about what Tennessee has,
2 better or worse.
3 A Actually, I think it's better.
4 Q Okay.
5 A That's more detailed.
6 Q Okay. I understand. But do you recall it
7 saying that a certified animal control agency then employs
8 a certified animal euthanasia specialist, who may
9 purchase, possess and administer sodium pentobarbital or
10 other drugs that the Board approved for the use of
11 euthanasia of animals.
12 A Yes.
13 Q Do you remember that?
14 A Yes.
15 Q Okay. And we will set aside this penalty
16 statute for now. And then, did you look at a Kentucky
17 administrative regulation?
18 A Yes.
19 Q Okay. And within that regulation -- does that
20 regulation say how animal euthanasia specialists are
21 legally required to euthanize animals in Kentucky?
22 A Yes, it did.

1 Q Okay. Now, I just want to talk about the very
2 last part of that statute, approved methods are -- excuse
3 me, the administrative regulations, number 5, approved
4 methods of euthanasia. A certified animal euthanasia
5 specialist shall perform euthanasia by means of lethal
6 injection on an animal by use of sodium pentobarbital or
7 sodium pentobarbital with lidocaine in a manufactured
8 dosage form is only indication for euthanizing animals.
9 Do you recall that part of that regulation?
10 A Yes, sir.
11 Q Okay. Does the Kentucky lethal injection
12 protocol you reviewed comport with this regulation, are
13 those chemicals the same?
14 MR. SMITH: Objection, Judge. That's asked and
15 testified and answered as a part of law.
16 MR. SHOUSE: That's right, because --
17 MR. SMITH: They are asking him to be an
18 attorney in this situation.
19 MR. SHOUSE: I'll restate that.
20 BY MR. SHOUSE:
21 Q Are the chemicals used in Kentucky's lethal
22 injection protocol, the sodium thiopental, the Pavulon and

1 potassium chloride, are those the same kinds of chemicals
2 as sodium pentobarbital or sodium pentobarbital with
3 lidocaine?
4 A They are not exactly the same. Thiopental
5 sodium -- sodium thiopental and sodium pentobarbital are
6 in the same class of drugs, but they are not the same
7 drugs.
8 Q Okay. What's the difference?
9 A The difference is that sodium thiopental is an
10 ultra-short acting barbiturate -- at least it's classified
11 as an ultra-short acting barbiturate, which means that it
12 has a very short period of anesthetic producing anesthesia
13 and restrain, whereas sodium pentobarbital is a short-
14 acting barbiturate, which has a lot longer action.
15 And the difference there is probably due to the
16 fact that sodium thiopental is the reason a patient wakes
17 up in sodium thiopental is that it's redistributed from
18 the brain to the blood to the muscle. Whereas,
19 pentobarbital has to be metabolized by the liver,
20 therefore, it takes longer for it to be metabolized,
21 therefore it's a longer-acting barbiturate.
22 Q Okay. In your medical opinion, does this

1 Kentucky administrative regulation guarantee an euthanasia
2 of an animal in conformity with this AVMA report?
3 A Yes, it does.
4 Q Okay. Is this a manner in which you would go
5 about euthanizing an animal?
6 A Yes, it is.
7 Q Okay, and again, I think, because it comports
8 with your professional standards as promulgated by the
9 American Veterinary Medical Association?
10 A Yes, sir.
11 Q Okay. Just one second. Oh, I've been throwing
12 around these words, what is analgesic?
13 A Analgesic is a substance that release the pain
14 or prevents pain.
15 Q Okay. Would you expect -- you talked about the
16 muscles contract anything. Would you expect this -- the
17 result to be the same in human when you talked about that?
18 MR. SMITH: Objection, Judge.
19 THE JUDGE: I'll -- okay. Yeah, we've had
20 testimony about -- about that and I don't believe we show
21 people that you don't testify what's happening.
22 MR. SHOUSE: Yes, sir. I understand.

1 BY MR. SHOUSE:
2 Q Well, just one final question. Would you
3 euthanize my dog under the Kentucky protocol?
4 MR. SMITH: Objection.
5 MR. SHOUSE: It's a medical opinion, Judge.
6 It's a medical opinion.
7 THE JUDGE: All right, go ahead.
8 BY MR. SHOUSE:
9 Q Would you euthanize my dog under the Kentucky
10 protocol?
11 A No.
12 Q And why not?
13 A Because it contains a neuromuscular blocking
14 agent.
15 Q Thank you. That's all the questions I have.
16 THE JUDGE: We'll go to --
17 MR. SMITH: I'll ask, Your Honor.
18 THE JUDGE: Mr. Smith.
19 MR. SMITH: May I proceed?
20 THE JUDGE: Yes, you can.
21 CROSS EXAMINATION
22 BY MR. SMITH:

1 Q Okay. Good morning, Dr. Geiser.
2 A Good morning.
3 Q I believe we've met before. I'm David Smith
4 with the Attorney General's office. I have a -- I have a
5 few questions.
6 A Okay.
7 Q Doctor, are you the same person who testified a
8 while back in that Tennessee case, in which the death row
9 inmate was claiming to be a domesticated animal. That's
10 Jim Jones also known as Abdur'Rahman.
11 A I testified in the Tennessee case. I'm not sure
12 that he claimed to be that.
13 Q Okay. You testified about the Tennessee
14 veterinarian statute in that case?
15 A Yes, the same similar laws that we just talked
16 about.
17 Q Okay. And if you know, did the Court accept or
18 reject any claim of the defendant in that case?
19 MR. SHOUSE: Objection, Judge.
20 THE JUDGE: I'll --
21 BY MR. SMITH:
22 Q Doctor, what is a penetrating captive bolt?

1 A A penetrating captive bolt is a way of stunning
2 an animal to produce euthanasia.
3 Q Okay. And thoracic compression?
4 A Yeah, thoracic compression is -- is a way of --
5 I think that -- I'm not totally familiar with thoracic
6 compression other than it's a way, I know, of euthanizing
7 small animals in a chamber.
8 Q Okay. Surgical dislocation?
9 A Yes, it's the way that was used to -- I know a
10 way to use -- to euthanize rats.
11 Q Okay. Is that -- does that mean removal of the
12 head?
13 A It means at least severing of the spinal chord.
14 Q Okay. Referring to Appendix 3 of this 2004
15 report of the AVMA panel on euthanasia, there is a listing
16 of acceptable manners of euthanizing animals. And would
17 you agree or disagree that those methods include and are
18 not limited to blow to the head, cervical dislocation,
19 decapitation, electrocution, gunshot, penetrating captive
20 bolt, and thoracic compression.
21 A I may not -- I mean, I don't remember the report
22 word for word. Appendix 1 was ways of euthanizing animals

1 by species. Appendix 2, I believe, was acceptable modes
2 of Euthanasia. Appendix 3 was those are that were
3 between, those that are acceptable with an organization,
4 and Appendix 4 was those that are unacceptable.
5 Appendix 3 was those that could be used, I
6 think, in certain circumstances depending on the species,
7 and that type of things -- I could be wrong on that. I
8 didn't memorize it, so I'm not --
9 MR. SMITH: Your Honor, may I approach the
10 witness?
11 THE JUDGE: Yes, go ahead.
12 BY MR. SMITH:
13 Q I'll show you this. The language appearing
14 immediately under the notation --
15 A It says -- yeah, it does. And then it says,
16 "Conditionally acceptable agents --
17 Q Right.
18 A -- and methods of euthanasia." So I was
19 correct.
20 Q Correct. And those -- those methods are -- that
21 I just rattled off there, you see where I've checked those
22 there.

1 A Yes, sir. Uh-huh.
2 Q So those do appear on the appendix.
3 A Yes.
4 Q All right.
5 A Yes they do --
6 Q Now --
7 A -- as conditionally accepted.
8 Q All right. Thank you. Now, let's talk about
9 this sodium thiopental.
10 A Uh-huh.
11 Q Would you agree or disagree that 3000 milligrams
12 or 3 grams, if you prefer, is a -- is a rather large dose?
13 A Depending on the size of the patient.
14 Q Or the -- okay. So if I had six pounds Fluffy
15 the Cat here and gave it 3 grams of sodium thiopental,
16 that -- that would knock him out, wouldn't it?
17 A Yes, it would.
18 Q In fact, it would knock him out for a really
19 long time.
20 A Probably.
21 Q It would probably kill him, wouldn't you agree?
22 A Chances are if it was given intravenously, it

1 would.

2 Q Okay. Now, suppose you had an animal 275 pounds

3 in weight, and you gave that same dosage, 3 to 4 grams of

4 sodium thiopental intravenously, would that not induce

5 unconsciousness for a substantial period of time?

6 A It's -- I don't know the dose on people. I

7 don't work on people obviously, but I would -- I would --

8 my opinion would be that it would knock him out dead.

9 Q Okay. For an hour, 15 minutes? Can you give us

10 an opinion?

11 A I -- I could guess, I have no idea --

12 Q I don't want you to guess.

13 A -- and a lot of -- a lot of it depends upon the

14 size of the person, the build of the person, are they fat,

15 are they skinny, you know, that type of things, because

16 again, it's one of those drugs that we absorb into the

17 muscle and fat. So I don't know. But it probably would

18 knock a -- a 200 pound individual out for quite a while.

19 Q Okay. What -- and again, I'm not asking about

20 humans, I'm trying to ask within the realm of your

21 expertise.

22 A Right, okay.

1 Q And I know this all through your CV that you
2 have vast experience with large animals.
3 A Yes, sir.
4 Q There is mention of elephants, giraffes, horses
5 --
6 A Correct.
7 Q -- and the like.
8 A Right.
9 Q So suppose you have a 250-pound animal, say a
10 primate.
11 A Right.
12 Q And all at one time, you gave 3 g of the sodium
13 thiopental intravenously to that 250-pound primate, do you
14 have a medical opinion as to how long that primate would
15 be unconscious?
16 A I have an opinion.
17 Q All right, and what is that opinion?
18 A A recommended dose of thiopental in an animal
19 generally produces restrain and short-term anesthesia for
20 about 5 minutes.
21 Q Okay. That's a recommended dose, which I assume
22 is less -- substantially less in 3 grams.

1 A The three grams is an -- is a total amount, not
2 a dose. So again, for a 200-pound animal -- I don't know
3 the dose in primates off the top of my head, but for a
4 horse, it would be 3 milligrams per pound. So yes, that
5 would be a substantial dose and I'm purely speculating on
6 how long it would last, but, say 15 minutes, 20 minutes.
7 Q Okay. On a horse?
8 A Well, I'm going to the original question.
9 Q Okay. Well, again, what would be a therapeutic
10 dose for a 250 pound animal?
11 A That would depend on the species.
12 Q Primates.
13 A I'm going to say -- I don't know. I honestly
14 don't know.
15 Q Okay.
16 A I'm not an exotic animal veterinarian. I'm not
17 sure. I can, you know, talk to you about large animals
18 all day.
19 Q Okay.
20 A I don't want --
21 Q But it's --
22 A -- I don't want to say something that's wrong.

1 Q -- it’s certainly less than 3 grams.

2 MR. SHOUSE: Objection, Judge. He said he

3 doesn’t know.

4 THE JUDGE: He said he doesn’t know. I’ll try

5 to set things. It is 3 milligrams per pound in a horse,

6 correct, is what you said? And there are thousands of

7 milligrams or thousands of grams, I’m not sure.

8 THE WITNESS: Yes.

9 BY MR. SMITH:

10 Q Yes, and what’s the physical weight of a horse?

11 A Thousand pounds.

12 Q Okay. So that would -- that would come in right

13 at 3 grams then --

14 A Yes.

15 Q -- for a 1000-pound horse.

16 A Yes.

17 Q And that would induce unconscious for --

18 A Five minutes.

19 Q Five minutes. It will not be a while ago when

20 you said 15 or 20 minutes?

21 A I’m sorry. When you were talking about a three

22 -- I was, again, I extrapolating. You were talking about

1 a 3 gram dose to a 200-pound primate --

2 Q Yes.

3 A -- I'm trying to extrapolate things.

4 Q Okay.

5 A That's three times the dose, and I did say, I

6 did not know.

7 Q Okay, okay. Could it be -- Could it be fatal in

8 a 200 pound primate?

9 A Could be.

10 Q Now, in order to euthanize an animal to become a

11 vet tech or whatever the terminology is, what kind of

12 training is required?

13 A And again, I can't -- I don't remember

14 everything. I know there --

15 MR. SHOUSE: Objection, Judge. Now, they are

16 asking him to talk about the law.

17 MR. SMITH: (inaudible).

18 THE JUDGE: No -- no complaint is required in

19 order to --

20 MR. SHOUSE: Under the Kentucky statute, Your

21 Honor.

22 THE JUDGE: Well, he is asking, not -- just

1 generally.

2 THE WITNESS: Okay, well the three groups that

3 are currently allowed to perform euthanasia are

4 veterinarians who don't have to go through a certifying

5 course in order to do euthanasia, because that -- that's

6 training they received during their education. Veterinary

7 technicians receive the similar training -- obviously, not

8 veterinarians, but they receive similar training in

9 institutions where they get their vet tech.

10 They are also certified as veterinarian

11 technicians by states in most instances. There may be

12 some states that would even require a veterinary

13 technician to have a special program or special training,

14 and then there are certified euthanasia specialists that

15 are trained. And they go -- and I'm not sure, I think in

16 Kentucky, it's 16-week course or 6-week course or

17 something like that, where they are trained in the drugs,

18 the pharmacology, how to administer them, how to restrain

19 the animal, and then they pass an exam.

20 However, as I read that, they also have to be

21 employed in order to be able to euthanize an animal.

22 Veterinarian technicians have to be under the direction of

1 a veterinarian, whereas, I think, the reason we have
2 euthanasia specialists is so that places like animal
3 shelters, et cetera, can also perform it.
4 BY MR. SMITH:
5 Q That's fair enough, fair enough. Doctor, during
6 your direct testimony, Mr. Shouse, here introduced the --
7 as an exhibit, I believe, KAR 201 Chapter 16, Board of
8 Veterinarian Examiners.
9 A Yes, sir.
10 Q Could you have that --
11 MR. SHOUSE: You have to bring those in Court.
12 THE JUDGE: Did you just speak -- are we
13 speaking of judicial notes?
14 MR. SMITH: All right. Okay.
15 THE JUDGE: So, I mean --
16 MR. SMITH: Those judicial notes.
17 THE JUDGE: All right.
18 MR. SMITH: May I approach the witness?
19 THE JUDGE: Yes, you may.
20 BY MR. SMITH:
21 Q Let me show you item number 7 there. How many -
22 - how many hours of training does a vet tech has to have

1 in order to use --

2 A Yeah, it says 16, I knew there were 16 in there

3 somewhere. I didn't know it was 16 hours.

4 Q Okay, 16 hours, okay.

5 A That's right.

6 Q All right. Sorry. And let me -- let me return

7 to that -- that 2000 report of the AVMA panel on

8 euthanasia. I asked you about these neuromuscular

9 blocking agents. It is recommended in the literature that

10 those are not to be used in isolation. Is that correct?

11 A It states that in, I think, two places in that

12 document.

13 Q Yes.

14 A But it also states in one place under

15 barbiturate acid derivative that they're not to be used in

16 combination with pentobarbital.

17 Q Okay, okay. Your Honor, may I approach the

18 witness?

19 THE JUDGE: Yes please.

20 BY MR. SMITH:

21 Q Let me show you page 681 of this document and I

22 ask you to basically just read aloud that -- that part

1 under the fourth paragraph?

2 A "Unacceptable injectable agents. When used

3 alone, injectable agents listed in Appendix 4," that gives

4 the list, it says, "(strychnine, nicotine, caffeine,

5 magnesium sulfate, potassium chloride, cleaning agents,

6 solvents, disinfectants and other toxins or salts, and all

7 neuromuscular blocking agents) are unacceptable and are

8 absolutely condemned for the use of -- as euthanasia

9 agents."

10 Q Okay. Now, where does it tell us in that study

11 that a neuromuscular blocking agent cannot be used in

12 connection with sodium thiopental?

13 A It says, on page -- I can't see the page number

14 here. "A combination of pentobarbital with a

15 neuromuscular blocking agent is not an acceptable

16 anesthesia agent." Now, it does say sodium pentobarbital.

17 However, it's under the -- it's -- sodium pentobarbital is

18 a longer-acting agent than sodium pentothal, but they're

19 both the same class of drug. And so if you can't use it

20 with sodium pentobarbital, you can't use it with sodium

21 thiopental, because it's actually a shorter-acting

22 barbiturate. And so it would be against this policy by

1 using any type of barbituric acid and a neuromuscular
2 blocking agent.
3 Q Now, are we talking in -- in combination as a
4 mixture, or are we talking about in a sequence?
5 A In a sequences.
6 Q Okay. Now, isn't it true though that if the
7 dosage is large enough that even a short-acting chemical
8 such as sodium thiopental becomes a long acting?
9 A Yeah. I mean, it was -- it would last longer or
10 potentially last longer than if you gave the recommended
11 dose. Now, whether it would be classified or would not be
12 classified pharmacologically as a long-acting barbiturate
13 because it gave more control.
14 Q But it would have that effect --
15 A Well, it would -- it would have --just by virtue
16 of the fact that there's more drug in the system, it would
17 last longer.
18 Q Okay, okay. May I (inaudible)?
19 THE JUDGE: Sure.
20 BY MR. SMITH:
21 Q I want to be very sure, Doctor. Your testimony
22 is that you do not consider yourself qualified to testify

1 about the effects of any of these drugs on human beings.
2 A Not directly on human beings, no.
3 Q Okay. That's all I have. Thank you.
4 THE JUDGE: Mr. Shouse?
5 MR. SHOUSE: Yes, sir.
6 REDIRECT EXAMINATION
7 BY MR. SHOUSE:
8 Q Okay, Doctor. Let's talk about some of those
9 appendices that Mr. Smith talked about, for instance
10 thoracic compression.
11 A Yes, sir.
12 Q Of the birds, isn't it?
13 A Yeah, I think it is. I -- like I say, I have
14 very little knowledge of the use of thoracic compression.
15 Q Well, will you trust me if I tell you that on
16 Appendix 3 it says, "Small-to-medium sized freeranging
17 birds"?
18 A Yeah.
19 Q Okay. Under "Inhaled anesthetic" on that same
20 chart, does it say "nonhuman primate"? Is that your
21 recollection?
22 A I think so, yes.

1 Q Okay. Under “Blow to the head,” does it say
2 “Young pigs, less than three weeks old”?
3 A I believe it does. I -- like I say, I haven’t
4 memorized it, but --
5 Q Okay. Under “Cervical dislocation,” does that
6 say, “Poultry, birds, and laboratory mice”?
7 A Yes, sir.
8 Q And under “Decapitation,” does it say,
9 “Laboratory rodents”?
10 A Yes, sir.
11 Q “Electrocution,” does that say, “Sheep and
12 swine, foxes and minks”?
13 A Yes.
14 Q Okay. Three grams of sodium thiopental could
15 anesthetize an animal, right?
16 A Yes, sir.
17 Q It could also kill an animal?
18 A Yes, sir.
19 Q Isn’t it so?
20 A (inaudible).
21 Q Exactly. But you got to get the 3 grams into
22 the animal for it to work?

1 A Yes, sir.
2 Q Okay. If 1-1/2 g get in, it's only half as
3 effective.
4 A That's right.
5 Q Two grams, only two-thirds is effective.
6 A Correct.
7 Q One gram, a third is effective. You got to make
8 sure you get it all into the animal.
9 A That's right.
10 Q Okay. Now, you talked to me about this Kentucky
11 Administrative Regulation. So let me show you part of
12 that. Now, this is Kentucky Administrative Regulation
13 16:090. I don't think I have another copy. So, may I
14 approach the witness?
15 THE JUDGE: Yes.
16 BY MR. SHOUSE:
17 Q Okay. This talks about what you have to be to
18 be a certified animal -- animal euthanasia specialist, is
19 that right?
20 A Yes.
21 Q Okay. And all the training and things that are
22 required.

1 A Yes, sir.

2 Q If you look under Section 2 and read here and

3 then "A".

4 The judge: Go ahead.

5 THE WITNESS: Section 2 says, "Euthanasia

6 Specialist Training Course Curriculum. The curriculum for

7 the 16 hour euthanasia specialist course shall be -- shall

8 provide information on the following subjects." Under A,

9 "Pharmacology, proper administration and storage of

10 euthanasia solutions that shall consist of a minimum of

11 eight hours."

12 BY MR. SHOUSE:

13 Q Okay. So, before we have the training to

14 euthanize animals in Kentucky **--**

15 MR. SMITH: Judge, objection as to the lead in

16 (inaudible). I don't know where is this going on but --

17 BY MR. SHOUSE:

18 Q Is eight half of 16?

19 A Yes.

20 Q Okay. Does eight -- does this require eight

21 eight hours of study in pharmacology, the administration

22 and storage of drugs?

1 A Yes, sir.

2 Q That’s all I have, Judge.

3 THE JUDGE: Anything further?

4 MR. SMITH: Nothing further, Your Honor.

5 THE JUDGE: Thank you, Doctor. You can sit

6 down. You’re excused.

7 MR. BARRON: Judge, I do have one final motion.

8 That is may I have further testimony; I want to renew my

9 motion to have Dr. Geiser’s testimony considered for the

10 substance of the matter, not by vow.

11 THE JUDGE: I can never hear (inaudible) the

12 testimony as it confirmed my conclusion that it would not

13 be entered into direct testimony, it would be introduced

14 as a vow testimony.

15 MR. BARRON: Yes, sir. That’s all we have for

16 the morning.

17 THE JUDGE: That’s fine, that’s not -- you know,

18 I don’t object to that. You have anything to take up? I

19 assume we’ll reconvene at 1:00 o’ clock.

20 MR. BARRON: Yes, sir.

21 THE JUDGE: Well be here close to that time.

22 MR. BARRON: I’m hoping they’ll be here in about

1 an hour.

2 THE JUDGE: Okay. So we'll -- we'll reconvene

3 at 1:00 o' clock.

4 MR. BARRON: Thank you.

5 THE JUDGE: Thank you.

6 (Whereupon, a luncheon recess was taken.)

1 A F T E R N O O N S E S S I O N

2 (1:00 p.m.)

3 THE JUDGE: All right. Doctor, raise your --

4 come forward to be sworn in please.

5 Whereupon,

6 MARK JOHN SHERMAN HEATH

7 was called as a witness and, having been first duly sworn,

8 was examined and testified as follows:

9 THE JUDGE: Be seated.

10 THE WITNESS: Thank you, Judge.

11 DIRECT EXAMINATION

12 BY MR. BARRON:

13 Q Could you please state your full name for the

14 record, spelling your last name?

15 A My name is Mark John Sherman Heath. And the

16 last name is spelled as H-e-a-t-h.

17 Q What is your profession?

18 A I'm an anesthesiologist.

19 Q How long have you been an anesthesiologist?

20 A I started my training in 1988.

21 Q Where did you go to medical school?

22 A University of North Carolina in Chapel Hill.

1 Q Are you currently licensed to practice medicine?
2 A Yes, I am.
3 Q In what state?
4 A New York State.
5 Q When did you receive that license?
6 A I believe, in 1989.
7 Q Do you belong to any professional organization?
8 A International -- IARS, the International
9 Anesthesia Research Society.
10 Q Do you hold any board certifications?
11 A Yes, I do.
12 Q In what?
13 A In anesthesiology.
14 Q When did you receive that certification?
15 A Maybe 1991.
16 Q In what?
17 A In anesthesiology. I am also being credentialed
18 for echocardiography, certified in echocardiography.
19 Q What is that?
20 A It's using of sound waves to study the activity
21 of the heart. I'm cardiac anesthesiologist mostly.
22 Q Let's talk a little bit about your current

1 employment. Where do you work?

2 A I work at Columbia University -- Columbia

3 University Medical Center.

4 Q What do you do there?

5 A I -- it's a mixture of activities. I've --

6 clinical anesthesiology is the main one. I also do

7 laboratory research and I teach in the hospital. So much

8 of my time is spent teaching medical students and

9 residents and fellows.

10 Q If you have any surgical procedure at Columbia

11 University, where would you physically be located?

12 A Usually, within a couple of feet of the

13 patient's head.

14 Q What is your function as an anesthesiologist in

15 giving those surgical procedures?

16 A But it's a pretty complex activity that

17 basically my job is to make sure that the patient is

18 unconscious during the procedure and that they survive the

19 procedure with a minimum of complications.

20 Q You mentioned anesthesiology and anesthesia a

21 few times. Can you tell us --

22 THE JUDGE: Can you speak up a little bit Mr.

1 Barron now?

2 MR. BARRON: Yeah. Can you tell us --

3 MR. SHOUSE: Can you hear him?

4 THE JUDGE: I think I can, yes. And you should

5 speak towards him. I have a monitor, that's fine. Thank

6 you.

7 MR. BARRON: Okay.

8 BY MR. BARRON:

9 Q Can you tell us what the anesthesia is?

10 A Anesthesia -- I'll break up the word, esthesia

11 is the like word esthetics, it means to sense or to feel

12 things. And when you put the letters a-n, or "an" in

13 front of a word, it means the opposite of it. So,

14 anesthesia means a state where one cannot sense or

15 perceive anything.

16 Q Approximately what percentage of your time is

17 dedicated to administering anesthesia in the operating

18 room?

19 A About 40 percent.

20 Q You mentioned earlier that you also train

21 residents. Can you tell us what you're training them on?

22 A I'm training them how to be good

1 anesthesiologists. It involves an elbow to elbow
2 supervision of the procedure that is associated with
3 anesthesia and surgery, how to induce anesthesia, how to
4 maintain anesthesia, how to emerge patients from
5 anesthesia at the end of an operation, how to avoid
6 complications.
7 Q Approximately, how much time do you spend
8 training these residents?
9 A Many hours per week. It's hard to put a number
10 on it, a lot of time.
11 Q Now, in addition to your clinical practice and
12 your teaching, do you have any other responsibilities at
13 Columbia?
14 A I run a research lab.
15 Q What do you research?
16 A I study neurotransmitters that are involved in
17 signaling pain and stress responses.
18 Q And how do you go about that research?
19 A Mostly in animals, mostly in rodents. During
20 that behavioral studies in making genetic changes in mice
21 to see how that affects their behavior and how it affects
22 their response to stress and injury.

1 Q How does the research on animals interrelate to
2 that upon human beings?
3 A A large part of what we know about how mammals
4 work is based on animal research. Most of what we know
5 about how mammals or humans don't work is based on humans.
6 We see what goes wrong in people and then we use animals
7 to figure out why some thing goes wrong and how we can
8 treat it?
9 Q Who funds your research?
10 A The National Institutes of Health.
11 MR. BARRON: Your Honor, may I have permission
12 to mark Dr. Heath's curriculum vitae as Plaintiff's
13 Exhibit 10.
14 THE JUDGE: Yes.
15 MR. MIDDENDORF: No objections, Judge.
16 THE JUDGE: No objection. You wanted to move to
17 admit. Go ahead.
18 MR. MIDDENDORF: Maybe we don't have any
19 objection, but let me make sure it is the same one.
20 THE JUDGE: Okay.
21 (Plaintiff's Exhibit No. 10 was moved

1 into evidence.)

2 MR. BARRON: Thank you.

3 BY MR. BARRON:

4 Q Dr. Heath, let's talk a little bit about

5 consciousness. Are there different levels of

6 consciousness?

7 A Yes, one doesn't have to be a doctor to know

8 about that. We all know that one can be wide awake or

9 completely unconscious to the point where one doesn't even

10 respond to any kind of stimulation, we can't wake somebody

11 up. And there are other steps in between. So, you could

12 talk to them on being wide awake, to being awake but kind

13 of drowsy or sedated, to being barely awake in the middle

14 of the night, kind of twilight zone, between awake and

15 asleep. One can also be lightly unconscious. I would

16 tell it to mean that you are not conscious, but if someone

17 stimulates you, shakes your shoulder or causes pain, you'd

18 wake up. And then finally, there is a state of

19 unconsciousness where one is unarousable, one doesn't

20 respond to any kind of stimulation at all.

21 Q What is that last state called?

22 A If it's induced by drugs, we call it general

1 anesthesia. If it's induced by brain injury, for example,
2 we call it a coma.
3 Q Would a higher dose of anesthesia for an
4 individual patient be needed to achieve general anesthesia
5 and these other kinds of anesthesia you mentioned?
6 A Absolutely. To render somebody completely
7 unresponsive to all stimuli requires a significantly
8 higher dose of anesthesia. You could think a bit like
9 alcohol. It might take one beer to make somebody a little
10 bit dizzy. It might take 12 beers to make them
11 unconscious so that they did not respond to any
12 stimulation.
13 Q What is an analgesic?
14 A An analgesic is a drug that blocks pain. It
15 doesn't do -- strictly speaking, it does not affect
16 consciousness or anything else. It's just a pain killer.
17 For example, you all know Tylenol, the analgesic drug.
18 Q What is the difference between an analgesic and
19 an anesthetic?
20 (Tape interruption).
21 A -- earlier anesthesia refers to the blocking of
22 all sensation and experience. That would mean blocking

1 consciousness, memory, pain, anxiety, pleasure, everything
2 would be blocked with anesthesia. Analgesic blocks pain
3 but it does not block consciousness or anxiety or any
4 other reasonably subconscious experience.
5 Q What is a barbiturate?
6 A A barbiturates is a drug that is derived from
7 barbituric acid and it is used to suppress the central
8 nervous system.
9 Q What type of barbiturate is this?
10 A One way of classifying then is to take them in
11 their duration of action. There are some barbiturates
12 that will last for a day and some barbiturates that will
13 last for a minute. So we talk about long acting
14 barbiturates, intermediate acting barbiturates, ultra
15 short acting barbiturates.
16 Q In a surgical setting, what is the difference
17 between the long, short, ultra short barbiturates that you
18 just mentioned?
19 A Well, generally in a surgical setting the only
20 one, in most surgical settings the only that will be used
21 will be an ultra short acting barbiturate. It would be
22 rare to use a long acting barbiturate. Although there are

1 cases when that might be warranted.

2 Q How long do they, ultra short acting

3 barbiturates, usually last?

4 A Well, the way they are used in -- as, for

5 anesthesia in surgery, it only lasts for a couple of

6 minutes.

7 Q Do you use ultra short acting barbiturates by

8 themselves?

9 A That would be very, very rare. One would only

10 use an ultra short acting barbiturate by itself, if one

11 were providing anesthesia for an ultra short procedure.

12 Q Why is that?

13 A Well, one needs to -- as anesthesiologists one

14 of the things we do is: we talk to the surgeons, we know

15 about the operation, we come up with an understanding of

16 how long the procedure will probably take, and we design

17 our anesthetics based on how long we expect it to take.

18 An ultra short acting barbiturate would ware off if one

19 were to try to use it for a long procedure. It's

20 technically possible to do it. On a desert island, you

21 could do it but there would be all kinds of problems in

22 trying to do it.

1 Q What type of anesthetic do you usually use in
2 your surgical procedures?
3 A Well, I rarely use ultra short acting
4 barbiturates, now. I use a different -- more recently
5 added drug called propofol, and that is the drug that I
6 use to induce anesthesia and then as the surgery proceeds
7 we use drugs to maintain anesthesia and that's usually a
8 combination of inhaled gases and analgesics and sedatives
9 and that's the drugs. Then, for the end of anesthesia,
10 when we'd like the patient to wake up and start moving
11 again, there are drugs that we use to reverse the effects
12 of some of the drugs that we give.
13 Q Are barbiturates also used to treat seizures?
14 A Yes, they are but they are out of my scope of
15 expertise. That's something that neurologists would know
16 a lot more about but, yes. They can be used for that.
17 Q How many surgical procedures have you
18 participated in as an anesthesiologist?
19 A A lot. A couple of thousand, a few thousand,
20 I'm not really sure.
21 Q In what proportion of the entire surgical
22 procedure was an anesthesiologist present?

1 A Just -- always an anesthesiologist or a nurse
2 anesthetist is present during the conduct of anesthesia.
3 Q Why is that?
4 A It’s like driving. You have things will go off
5 track in seconds and constant adjustments and titrations
6 of the medication are needed depending what is happening
7 during surgery. Just as one couldn’t climb into the back
8 seat of your car when you are driving down the Interstate,
9 you can climb into the back seat of your car for a couple
10 of minutes, you can’t leave the operating room for a
11 couple of minutes when conducting an anesthetic.
12 Q Are you aware of the term intra-operative
13 awareness?
14 A Absolutely, yes.
15 Q Is it, for the clarification of the court, is it
16 also know by any other name?
17 A Intra-operative awareness, conscious paralysis,
18 like being awake during anesthesia, or awake during
19 surgery, to remember it is a lay term for it.
20 Q Can you explain what that is?
21 A I guess I can. During a general anesthetic, the
22 kind of anesthetic where the patient is supposed to be

1 completely asleep, very often the anesthesiologist would
2 administer drugs that would paralyze a patient. Those
3 drugs have no effect on consciousness or the ability to
4 experience pain. But they stop the voluntary muscles from
5 working. So if for some reason, if the problem with the
6 administration of anesthetic drugs, the drugs that block
7 consciousness and pain and sensation, then a patient can
8 wake up in the middle of surgery or might not even go to
9 sleep. They'd be paralyzed and nobody in the operating
10 room would realize that this is going on.
11 Q How often does this occur?
12 A No one really knows the answer to that. There's
13 estimates of one in 500 cases. That I think it is also
14 widely recognized in the literature we've put those
15 estimates are -- probably be anesthetic awareness is under
16 reported. Most of the time it is reported it does not get
17 turned into a case report. Or is something that would be
18 captured in record keeping.
19 Q Has this type of situation occurred in any
20 surgical procedures you have been involved with?
21 A It has, yes.
22 Q Tell us about that.

1 A A number of situations come to mind. There are
2 times when depending on the nature of the surgical
3 procedure or the illness the patient has where one is --
4 one can’t give a lot of anesthesia. If one gave a lot of
5 anesthesia, it could lower the blood pressure or stop the
6 heart and that would obviously be bad for the patient. So
7 we would have to give them what we call a light
8 anesthetic. So sometimes patients after that have vague
9 memories of things. Just also -- a kind that comes to
10 mind where I was working with a resident who made a
11 medication error. And I was having him inject the drugs.
12 He injected the drug that he thought was an anesthetic
13 drug but actually, it was a blood-thinning drug. It had
14 no effect on consciousness or on the brain. And he then
15 injected the paralyzing drug when we tried to incubate the
16 patient which means putting in the breathing tube, we
17 realized the patient wasn’t anesthetized because the blood
18 pressure went very, very high and the heart rate went very
19 high. And we figured out that a medication error had
20 occurred.
21 Q In light of the concerns you just mentioned, why
22 would a paralyzing agent ever be used in surgery?

1 A Well, that's a good question. And indeed the
2 recommendations now, by the JCAHO is to only use
3 paralyzing agents when absolutely necessarily. But there
4 are times when the risk of intra-operative awareness is
5 outweighed by the benefit to the patient. One example
6 would be when the surgeons are operating on a very
7 delicate structure like say, the eye or the middle of the
8 brain or the very small bones in your ear, even a tiny
9 motion on the part of the patient, a hiccup or a cough or
10 a (inaudible) could be catastrophic. There is no
11 situation -- most anesthesiologist would agree that it is
12 very important to strongly paralyze the patient. Another
13 reason that we often use paralyzing drugs is, for surgery
14 on the abdomen.
15 It allows the surgeon to make a relatively small
16 incision and the need to retract or to stretch the abdomen
17 out to enlarge the incision, if we didn't use paralyzing
18 drugs there would be reflex -- reflex contractions of the
19 abdominal muscles that would stop the surgeons from
20 opening up the incision. They'd have to make a much
21 longer incision and that's associated with a higher risk
22 of infections and pain afterward.

1 Q In your opinion if a person was conscious would
2 the use of a paralytic agent cause pain?
3 A I'm not sure if pain is exactly the right word.
4 It would cause a agony. If a person is paralyzed with one
5 of these paralyzing drugs that we use, but not
6 anesthetized, they are unable to breath and so they
7 suffocate. And along with that -- you all agree that
8 suffocation when it comes, which is the endpoint, is an
9 agonizing experience. Along with that -- with the terror
10 of his -- the person would not be able to communicate that
11 they are experiencing this. There is a -- their legs and
12 arms are cuffed and they would realize that the people in
13 the room did not realize that they are awake. That is an
14 awful -- if a patient should experience that it is an
15 absolutely experience.
16 Q Is that an opinion you hold to a reasonable
17 degree of medical certainty?
18 A With a very high degree of medical certainty.
19 Q Would a layperson be able to observe that a
20 person is conscious if they are paralyzed, just by looking
21 at them?
22 A No, they would not be able to. It would be

1 difficult for a professional to tell just by looking the
2 person.
3 Q Would an anesthesiologist be able to tell by
4 looking at them?
5 A Well, there is an array of cues or clues that
6 might indicate it but none of them actually prove it. But
7 there are things that we look for to help us gauge
8 anesthetic depth. So for example, people who are
9 paralyzed can still create tears and those tears can still
10 run out of their eyes and down the side of their face so
11 if we see what we call laceration, which is in another
12 word tearing, and that's an indication that a person might
13 be inadequately anesthetized. There are other things that
14 we look for are elevations in blood pressure, elevations
15 in heart rates, these things would happen to a person who
16 is not paralyzed and in pain or suffocating and may happen
17 to a person who is paralyzed and in pain or suffocating.
18 Q That's a lot of information. I'm going to try
19 to break it down --
20 A I'm sorry.
21 Q --one by one.
22 A Yes.

1 Q How would a paralyzed person be able to shed a
2 tear?
3 A The paralyzing drugs don't affect all muscles.
4 In fact, they don't have the muscles that we have no
5 control over. They only affect the muscles that we
6 control. The paralyzing drugs don't paralyze our hearts.
7 If they did paralyze the heart, you couldn't use them in
8 surgery. Paralyzing drugs don't paralyze muscles that
9 cause the intestines to contract. Paralyzing drugs don't
10 paralyze the uterus or the cervix. And similarly they
11 don't paralyze the muscles that help the -- promote
12 laceration. They don't paralyze the glands from releasing
13 tears.
14 Q Would a conscious person who is paralyzed always
15 shed a tear?
16 A No, I don't believe so. I'm not quite -- I'm
17 not certain about that. I expect that some people don't.
18 Q Why is that?
19 A I'm only discovering on my experience now, I
20 don't have any literature to -- to prove that assertion.
21 But I believe that probably many people would -- would
22 shed tears but not all people.

1 Q How does a blood pressure cuff help you monitor
2 whether somebody is conscious?
3 A When somebody is conscious, and if somebody were
4 extremely -- or could be conscious and paralyzed, there'd
5 be various grey areas there. If they were in surgery,
6 they would be in great pain. Or if they were not on a
7 ventilator, they would be suffocating. And when those
8 horrible things were occurring, in most people the blood
9 pressure goes up and the heart rate goes up. So the blood
10 pressure cuff which tells us -- or blood pressure monitor
11 which tells us the both heart rate and blood pressure will
12 be very informative.
13 Q What are the other ways to monitor?
14 A Monitor --
15 Q Well, conscious paralysis?
16 A There's the EKG which tells us about the heart
17 rate. Look at the patient's skin, people -- because a
18 person who is not paralyzed if they are in pain or are in
19 terror, tend to sweat. A person who is awake in the
20 operating room under surgery, but paralyzed will generally
21 still sweat. Also, their pupils tend to enlarge, just
22 that a person who is not paralyzed, fear and pain make the

1 pupils get bigger and so we can check for that, too.
2 There is also some relatively new devices that monitor the
3 electrical activity of the brain and allow us to make --
4 when people are interested about those, measuring
5 conscious or the depth of anesthesia.
6 Q What is that monitoring device that you just
7 mentioned called?
8 A There are several different companies that make
9 them. There's -- probably the best -- well known one is
10 the BIS monitor. B-I-S monitor.
11 Q Specifically, how does that monitor help you
12 determine if somebody is consciously paralyzed?
13 A There are electrical leads that are attached to
14 the head. They monitor the electrical activity of the
15 brain. And there are some characteristic changes in the
16 electrical activity of the brain that correlate with the
17 level of consciousness. So the BIS monitor provides what
18 is called an index that in many instances -- like can be
19 used to give an indication of the depth of anesthesia.
20 Q What kind of training would be necessary to
21 operate a BIS monitor?
22 A First of all one would have to be familiar with

1 the literature surrounding this instrument. Because it
2 needs to be interpreted in the right context. One also
3 has to be instructed in how to apply the equipment, how to
4 attach the leads, how to read the output of the equipment,
5 how to separate the facts of which there are many, from
6 useful readings. To understand the limitations of the
7 device when it works and when it doesn't work. When it
8 can be used and when it can't be used. Takes a little bit
9 of training.
10 Q Would an EMT with no additional specialized
11 training know how to operate a BIS monitor?
12 SPEAKER: Objection, Your Honor. It's -- how is
13 he going to speculate on what an EMT or a layperson, for
14 that matter --
15 SPEAKER: Well --
16 SPEAKER: -- would know or perceive?
17 SPEAKER: Well, he can speculate or at least
18 give his opinion on what someone who is -- if he knows
19 what the EMT training consists of, what a doctor's
20 training --
21 SPEAKER: And I further object to the -- this
22 line of questioning. This device. I haven't heard any

1 foundation about is it dominant in the scientific
2 community, and so forth.
3 THE JUDGE: I’m going to allow him to answer, go
4 ahead, Mr. Barron.
5 MR. BARRON: I can repeat the question.
6 THE WITNESS: Repeat the question, please.
7 BY MR. BARRON:
8 Q What -- let me back up for one second, first.
9 Do you have experience working with EMTs?
10 A I do, yes.
11 Q Have you had any experience training EMT’s?
12 A I have, yes.
13 Q Now, would an EMT with no additional specialized
14 training be able to interpret the results of a BIS monitor
15 based on your knowledge in working with EMTs?
16 A I don’t think anybody without specialized
17 training can -- using a BIS monitor, should be trying to
18 use one. An EMT or not, physician or not, layperson or
19 not. It requires a significant amount of study and
20 training.
21 Q If you learnt during a surgical procedure that a
22 patient is constantly --

1 SPEAKER: I want to ask a significant amount
2 means what? How much? Weeks? Days?
3 THE WITNESS: I think it's -- ideally one would
4 (inaudible) in the context where a person who is very
5 familiar with the machine explains it to a group of people
6 who -- don't yet know how to do this and might take like
7 an hour (inaudible) and then some elbow-to-elbow
8 experience at pulling it, toughing it out, you know,
9 watching the curves change faces, go up and down and
10 talking to colleagues about what is happening. So before
11 probably being anesthetized, I would want the
12 anesthesiologist to have spent quite a few hours working
13 with a BIS monitor, if they were actually going to use one
14 on me.
15 Q If you learnt that a person is conscious during
16 surgery, what would you do?
17 A Few things. I would as quickly as possible
18 administer drugs to stop them from -- to render them
19 unconscious. And while I was doing that I would talk to
20 the person and explain to them that I think that they are
21 -- I know that they are awake and that -- it is helpful to
22 do because one of the most scary things about that

1 situation is the patient believes that nobody in the room
2 knows that they are awake. So I say that I know that you
3 are awake and that I am giving you drugs right now, that
4 will make you go back to sleep.
5 Q What if any precautions or preparations do you
6 take prior to the surgical procedure -- the procedure
7 beginning to ensure that conscious paralysis would not
8 occur?
9 A A large array. Many different things. From
10 having all the right equipments properly set up in
11 operating room to taking a careful history and physical of
12 the patients, to understand what their medical issues are.
13 And what their weight is, their -- how they will respond
14 to drugs, other drugs that might influence their
15 sensitivity to anesthesia. It is a very large array of
16 things that one has to synthesize to make that
17 determination.
18 Q I believe I heard you mention weight. What does
19 a person's weight have to do with this?
20 A Oh, I think it is common sense that a large
21 person required more of virtually every drug, any drug
22 including anesthetic drugs than a small person. So we --

1 mostly what we do -- many of the drugs we give are --
2 doses are rated.
3 Q What would happen if you gave someone too much
4 anesthesia?
5 A The biggest problem with that is that many
6 anesthetic drugs tend to lower the blood pressure, lower
7 the heart rate, and if one drug is too much it can cause
8 hemodynamic collapse and even death. Another problem with
9 giving too much anesthesia is that it can take too long
10 for the patient to wake up at the end of the procedure.
11 Q What would happen if you gave too little?
12 A If the patient is not paralyzed then they will
13 jump off the operating room table and scream. If the
14 patient is paralyzed then they will experience intra-
15 operative awareness which is a heinous thing.
16 Q Now, let's move on to lethal injection. Have
17 you testified in court before on lethal injection?
18 A Yes, I have.
19 Q In what State?
20 A In Georgia, Tennessee, Louisiana, and Virginia.
21 Q What caused you to become interested in lethal
22 injection?

1 A Just chance really. I, one day, I looked in
2 your lounge, caught between cases, happened to be reading
3 an article, I think, in *USA Today*, or another regular
4 newspaper, describing the drugs, the list of the drugs
5 that were going to be used on the Timothy McVeigh
6 execution and it -- I was amazed at the very bizarre
7 choice or selection of drugs. And I remember asking a
8 couple of people that I was sitting with in the lounge
9 drinking coffee, you know, why would they use pentothal,
10 why pancuronium, it would have -- and everybody was like -
11 -
12 SPEAKER: Wait -- wait.
13 SPEAKER: Just go ahead and let him testify. Go
14 on.
15 SPEAKER: You asked why would they use that,
16 okay.
17 THE WITNESS: I asked my colleagues too and we
18 had a discussion about it. And that was the beginning of
19 my interest in checking out what -- how much of --
20 BY SPEAKER:
21 Q Dr. Heath, what is it about those chemicals that
22 seemed peculiar to you?

1 A Many things. As anesthesiologists we tend to --
2 how to group our drugs by calculation of it's action and
3 it doesn't -- and ultra short acting barbiturates,
4 thiopental, or Pentathol as it is often called, very short
5 acting drugs combined with a very long acting drug,
6 pancuronium, that's generally not how one would want to do
7 things. They've also chosen as the drug for stopping the
8 heart, the potassium which is an extremely painful way of
9 stopping the heart. There are many non-painful ways of
10 stopping the heart, that would achieve the same end.
11 Q When you prepared for your testimony today, what
12 documents concerning lethal injection in Kentucky have you
13 reviewed?
14 A I've read several different iterations of -- I
15 guess, what might be called the protocol or protocols of
16 lethal injections and the most recent being in December
17 2004. And I read some documents from the Harper
18 execution. And some EKG tracings, things like that
19 related to that execution.
20 Q You recall how many chemicals Kentucky uses in
21 lethal injection?
22 A I do, yes.

1 Q How many?

2 A They use three different chemicals.

3 Q What are the names of those chemicals?

4 A The first one is called thiopental. It is also
5 called know as pentathol. Sodium thiopental. The second
6 drug is called pancuronium, and it is also know as Pavulon
7 and the third chemical or drug is potassium chloride.

8 Q I notice that the same drugs that you believe to
9 be peculiar from you research into the McVeigh execution.

10 A It is the same set of chemicals that -- yeah,
11 attracted my attention.

12 Q Have you administered any of these chemicals in
13 a surgical setting?

14 A Depends on what you would call a surgical
15 settings.

16 Q Under what type of circumstance?

17 A Many, many times. For providing general
18 anesthesia for surgical cases. I've given thiopental for
19 inducing anesthesia and pancuronium for maintaining
20 paralysis during anesthesia. And potassium chloride is in
21 the IV fluid, the salts that is in the IV fluid that
22 virtually every patient gets.

1 Q Do you give them in combination in surgery?
2 A I'm not sure --
3 Q I mean --
4 A They are never given at exactly the same time.
5 But they will all of them in the same surgery, during the
6 same procedure. But not at exactly the same time.
7 Q Okay. Let's break each one of these chemicals
8 down a bit, one by one. The first chemical in Kentucky,
9 what is that one again?
10 A Thiopental or pentothal.
11 Q What is the general purpose of it in surgery?
12 A But it is rarely used now. 15 years ago, when I
13 began my training it was used (inaudible) 22:19. But now,
14 we can -- the area of the country where I work and
15 probably the whole country very rarely uses it now. But
16 it is used for what we call the induction of general
17 anesthesia. Taking the patients from being awake to being
18 anesthetized.
19 Q Why is it rarely used today?
20 A It's been supplemented by a different drug
21 called propofol that has go so much more safer and
22 convenient and, you know, better attributes.

1 Q You say safer, in what way?

2 A That is highly more convenient time course of
3 onset and offset and the set time of vital signs and
4 things like that. And it is just a little bit of an
5 easier drug to work with. It is also, unlike pentathol it
6 has to be mixed up, reconstituted from powder, because
7 extra steps, and can slow things down and it is an
8 opportunity for causing -- for having errors or mistakes.
9 Propofol comes premixed so you can't -- it is more rapidly
10 drawn up into a syringe and there's really no possibility
11 or an error being made or much less possibility of an
12 error being made.

13 Q What would happen if thiopental came in contact
14 with another chemical such as pancuronium bromide?

15 A The solution, the thiopental pancuronium mix is
16 a phenomenon called precipitation where the thiopental
17 can't stay a solution anymore and instead of being
18 dissolved like sugar is in water, it comes out of solution
19 so that you see white, I guess not exactly crystals, but
20 like a powder in a solution.

21 MR. BARRON: Your honor, may I ask permission to
22 make a document with instructions on how mix and label

1 pentathol for identification purposes?
2 THE JUDGE: Sure.
3 MR. BARRON: Thank you.
4 SPEAKER: Well, I never --
5 MR. BARRON: May I approach?
6 SPEAKER: Judge, I don’t ever recall seeing this
7 in discovery.
8 SPEAKER: It’s still part of discovery.
9 SPEAKER: If he is going to rely on this
10 document, we should have received this during discovery
11 and at disclosure. I don’t ever recall seeing this
12 document.
13 SPEAKER: Your Honor, May I reply?
14 THE JUDGE: Sure.
15 SPEAKER: I just actually, received this
16 document today, and it is actually --
17 SPEAKER: Objection, Judge.
18 SPEAKER: -- results in response to testimony
19 that came out earlier in the proceedings yesterday. It
20 actually also corresponds and refers to -- in reference to
21 documents that they disclosed on their own involving the
22 rebuttal and how to mix the chemicals. And on the

1 document, there is actually one question or one sentence
2 that I am going to ask him about.
3 THE JUDGE: Does the one sentence -- well, don't
4 you just ask him without admitting the document. You
5 haven't provided it to them and so you can't admit the
6 document. So --
7 SPEAKER: Okay. That's fine.
8 BY MR. BARRON:
9 Q Dr. Heath, are you familiar with how sodium
10 thiopental, otherwise known as pentathol is mixed?
11 A I am. Yes, and I have to say this, seeing as I
12 rarely use it now, so I'm not what I call well-oiled or
13 highly proficient in it's mixture but yes, I am familiar.
14 Q What kind of experience and training would be
15 necessary to mix it?
16 A I am going to have to the first day of my
17 anesthesia training, the person who was teaching me showed
18 me exactly how to do it, you know, hands on, elbow-to-
19 elbow.
20 Q Would somebody who doesn't have experience with
21 intravenous anesthesia be able to mix pentathol, without
22 any difficulty?

1 SPEAKER: I object. Speculation.
2 THE JUDGE: I will allow that. Go ahead.
3 THE WITNESS: It depends who the person is and
4 most people in this room don't have experience
5 administering intravenous anesthesia. I think they would
6 have a hard time mixing up this drug up reliably without
7 somebody telling them exactly what to do.
8 BY MR. BARRON:
9 Q Now, let's move to the second chemical used in
10 Kentucky's lethal injection procedure. In fact, I'm
11 sorry, let me just back up for one second.
12 A Sure.
13 Q Is thiopental an analgesic?
14 A Interesting question. It is so much debated in
15 anesthesiologists -- by anesthesiologists. Technically,
16 it is not, it is an anesthetic drug. It basically, turns
17 the nervous system of the brain off. Some people would
18 say that when the brain is turned off they can't
19 experience pain. And so therefore, it has analgesic
20 property. In very low dosage, some people believe and
21 there is literature that it actually increases pain. So
22 it also is an analgesic but it increases pain levels.

1 Q What kind of chemical is the second chemical,
2 pancuronium bromide?
3 A Pancuronium bromide is a paralytic drug. It is
4 also called a neuromuscular blocker. It can block the
5 signal that comes from a nerve or a neuro signal that goes
6 to a muscle. It blocks that signal. So the nerve sends
7 the signal and the muscle never hears the signal and
8 doesn't respond.
9 Q What is the purpose of pancuronium bromide in a
10 surgical setting?
11 A I think I've already said that --
12 SPEAKER: You've made some --
13 THE WITNESS: -- earlier on. You can --
14 SPEAKER: Okay.
15 BY MR. BARRON:
16 Q How long is pancuronium bromide in a 50-mg dose
17 last?
18 A 50 mgs? I don't think any clinician would ever
19 have experience with that. I mean to extrapolates. I'll
20 tell you this. To induce an adult -- to paralyze an
21 adult, I was taught to give 7 mg and you expect that to
22 last for a couple of hours. So extrapolating, 50 mg is a

1 little more than 7 times 7 mgs. It would last for many,
2 many hours.
3 Q How long does a surgical dose of thiopental
4 last?
5 A For the dosage that we use to induce general
6 anesthesia typically, lasts for a couple of minutes.
7 Q And if that begins to ware off, would a person
8 start to feel pain at that point?
9 A They -- that would be -- have an IV in, that's
10 why we do -- suppose the pentathol wares off, to give
11 additional drugs or inhaled gases and things to keep --
12 make sure the patient is asleep, when they are paralyzed.
13 Q Does pancuronium bromide relieve pain?
14 A Absolutely not.
15 Q Do you any medical -- an opinion to a reasonable
16 degree of medical certainty as to whether pancuronium
17 bromide in a conscious person will cause pain?
18 A Again, I'm not sure I want to use the word pain.
19 It would cause agony. It would be the experience of
20 suffocating, of being locked into one's body unable to
21 draw breath, despite desperately craving to draw breath.
22 It would be terrifying presumably locked in. Strictly

1 speaking, it depends whether or not you think suffocation
2 is pain or not, but I think we all agree that it is agony.
3 Q And now, narrowing to the chemical in Kentucky's
4 lethal injection, pancuronium bromide and sodium
5 thiopental, could a person under the influence of those
6 two chemicals in combination regain consciousness?
7 A Absolutely, yes.
8 Q And why would that be?
9 A Again, if insufficient or inadequate pentathol
10 was administered or was circulating in the blood stream,
11 then the person would by definition be -- would not be
12 unconscious, they would be awake. And if there were
13 sufficient pancuronium to paralyze them, then by
14 definition they would be paralyzed. But you have the
15 logical conclusion and a way to paralyze them.
16 Q And going to the Kentucky execution protocol,
17 did you review both the 2004 revision and the lately
18 redacted portion that is revised by the plaintiffs?
19 A I think I understand your question. I assume
20 that -- I think, two -- I read three documents, I believe.
21 Two -- I think, earlier ones and then the one from
22 December 2004. And I forget which ones were redacted but

1 there was paragraph of redaction.

2 Q Based on your review of those protocol, and your

3 medical expertise, do you believe that Department of

4 Corrections uses the proper equipment to monitor for

5 conscious paralysis during an execution?

6 A No, I don't.

7 Q What equipment do you believe would be

8 necessary?

9 A I don't want to be in a situation of advising

10 exactly how this should be done but I will say this. In

11 an operating room situation, to monitor the depth of

12 anesthesia, the American Society of Anesthesiologists

13 requires that certain monitors be present including a

14 blood pressure cuff, an EKG and also the ability to be --

15 by a trained professional who knows how to assess

16 anesthetic depth, being present at the bedside.

17 Q And where is an EKG? Where should that be

18 located if it is going to be used to monitor for

19 consciousness?

20 A Well, it needs to be located where it is visible

21 to a person who is -- understands how to use it to help

22 guide estimation of the level of consciousness. I mean,

1 visible to a person who is able to intervene if there is a
2 problem to intervene and ascribe it by giving more
3 anesthetic drugs.
4 Q Would the EKG monitor being outside the
5 execution chamber be sufficient to do that?
6 A No, everything should be right at this -- what I
7 call the bedside, I guess, the gurney, everything should
8 be right there. So that the personnel can interpret, view
9 the monitors, interpret them, make any inferences that are
10 warranted about the level of consciousness and then
11 intervene as required.
12 Q And to a lay witness, to any witness actually,
13 observing the execution, if you used pancuronium bromide
14 as the only chemical, how would that appear to the person
15 watching it?
16 SPEAKER: Your Honor, I object to the relevance
17 of that question.
18 THE JUDGE: Using only pancuronium bromide?
19 SPEAKER: Yes.
20 THE JUDGE: I'll sustain that.
21 SPEAKER: There's no evidence that that will be
22 the only drug that's used. I mean, as a matter of fact

1 they have even sought for that so --

2 MR. BARRON: Let me rephrase that then, please.

3 BY MR. BARRON:

4 Q With the sodium thiopental and the pancuronium

5 bromide, and I'm taking prior to the injection of the

6 potassium chloride, at that point how would it appear to a

7 lay witness?

8 A You are asking me if a lay witness who would be

9 observing after the pentathol and after the pancuronium

10 but before the potassium?

11 Q Yes.

12 A Well, any person or animal whose been given

13 pancuronium, they are going to appear serene and tranquil

14 and peaceful and comfortable. Regardless of whether they

15 are in fact, awake and in agony or whether they are deeply

16 unconscious. The appearance could be virtually identical.

17 If somebody was very close, they might notice sweating.

18 But you have to be close to the person to be able to do

19 that.

20 Q The third chemical?

21 A You might also notice tearing. That could only

22 be seen from a few feet away, but that -- at that -- I

1 don’t think that always happens in patients, you know,
2 when people are paralyzed but conscious.
3 Q Could that be seen if you are 11 feet away, the
4 tearing?
5 A Perhaps. But it could be easily missed.
6 Certainly, one should not be standing that far away. One
7 should really be right at the head of the bed, or the head
8 of the gurney.
9 Q Yeah.
10 A Again, one should -- you would have a reasonable
11 things one can do to optimize ones ability to discern the
12 depth of anesthesia. So it is reasonable to be close.
13 There’s no harm in being close. So one would be close.
14 Q The third chemical, potassium chloride, what
15 kind of chemical is that?
16 A Potassium chloride is a salt. You also call it
17 an electrolyte when it is in water or in the blood. And
18 it is a salt that our body regulates very closely because
19 it’s -- if the concentration of that potassium gets too
20 high or too low, it will start the heart from working
21 properly.
22 Q What kind of reaction does potassium have within

1 the body?

2 SPEAKER: Objection. Asked and just answered.

3 MR. BARRON: You know, I think we should go on

4 to some levels -- I mean, you said something else. He

5 said is it too high or too low --

6 BY MR. BARRON:

7 Q Let me ask, would it be -- if -- would potassium

8 chloride in a person who I conscious be painful?

9 SPEAKER: What?

10 THE WITNESS: You are exactly right. It depends

11 on the concentration. We all have potassium chloride in

12 our bodies, right now. We all have the right amount of it

13 and our hearts are all working nicely. If the

14 concentration -- a high concentration of potassium enters

15 the body when -- if there are nerves in that area, it

16 would cause a tremendous amount of pain. That, for

17 example, injecting concentrated potassium into a vein,

18 causes an extraordinary amount of pain. That is well

19 documented in medical literature.

20 BY MR. BARRON:

21 Q Would 240 mEq cause pain?

22 A In concentrated form, it would be extremely

1 agonizing.

2 Q To a reasonable degree of medical certainly

3 could the dose of potassium chloride administered in

4 Kentucky lethal injection be sufficient in and of itself

5 to cause death?

6 A Yes, it would.

7 Q Even without using sodium thiopental?

8 A Absolutely, yes.

9 Q Even without using pancuronium bromide?

10 A Yes.

11 Q So in your opinion, to a reasonable degree of

12 medical certainty, in Kentucky lethal injection, with

13 their three chemical combination, what chemical is the

14 killing agent?

15 A Potassium chloride, or specifically the

16 potassium in the potassium chloride.

17 Q So to a reasonable degree of medical certainty,

18 what is the purpose of pancuronium bromide as used in

19 Kentucky's lethal injection?

20 A I don't think it has a legitimate purpose. It

21 has -- my understanding is, the goals in an execution are

22 number one, to render the condemned inmate dead, and

1 number two, to do so in a humane fashion. The drug that
2 renders the inmate dead is the potassium and the drug that
3 is supposed to make it humane is the pentothal. The
4 pancuronium achieves neither of those things. It can't
5 possibly make it more humane and it is not the drug that
6 kills the inmate.
7 Q To a reasonable degree of medical certainty
8 would using thiopental and potassium chloride be more
9 painful than using the three chemicals that are currently
10 used in Kentucky's lethal injections?
11 A No, it would not be more painful.
12 Q Would it be less painful?
13 A Certainly the potential -- in some situations it
14 would be much better to have not given the pancuronium so
15 yes. Again, I would use the word agony more than pain.
16 SPEAKER: What is that again?
17 THE WITNESS: You are asking about permitting
18 pancuronium, if that would eliminate the possibility of
19 conscious paralysis.
20 SPEAKER: I'd like to show you a copy of what's
21 already been entered into evidence as Plaintiff Exhibit
22 number 1, which is the 2004 revisions of Kentucky's

1 execution protocol. May I approach the witness?

2 THE JUDGE: Yes, go ahead.

3 BY MR. BARRON:

4 Q Can you tell me have you seen that document

5 before?

6 A Yes, I have.

7 Q Did you review it in preparation for your

8 testimony today?

9 A I did, yes.

10 Q I'd like to refer you to page 5 of the section

11 entitled 'Lethal Injection.' In fact, page 5 of 9.

12 SPEAKER: How far back in the package is that?

13 SPEAKER: Actually, I have two of them.

14 SPEAKER: Could we refer to that?

15 SPEAKER: Oh, I have to go back to page 4, but I

16 -- or that. That's it.

17 SPEAKER: Okay.

18 BY MR. BARRON:

19 Q I'd like you to look at number 16. Can you tell

20 us if that section lists the chemicals that are used in

21 Kentucky's lethal injections?

22 SPEAKER: You know, I don't know -- what he said

1 --

2 SPEAKER: Yes.

3 SPEAKER: He already knows the chemicals that
4 are used. We've already asked it three or four times and
5 he has testified about it. So I --

6 SPEAKER: I was trying to make sure that --

7 SPEAKER: Well, I think we all know it. If we
8 didn't know it we wouldn't be here today. So let's go
9 ahead.

10 SPEAKER: Okay.

11 BY MR. BARRON:

12 Q After the first chemical is administered, does
13 number 16 mention saline?

14 A Yes, it does.

15 Q What concentration of saline is being
16 administered?

17 A Well, it says to give 25 mg or 25 mgs of saline
18 -- 25 mg but that's absurd. So I can't believe that
19 that's really happening in the procedure.

20 Q Absurd? Why is that?

21 A A milligram is one 1000th of a gram. They are
22 trying to give milliliters, here. 25 milliliters of

1 saline, I'm pretty sure. And 25 mg would be 1/40 of that
2 amount. This is rough calculation, 40th and what I think
3 they are trying to do. And it is also, problematic
4 because one needs to inject many cc'es of saline between
5 the pentathol and the pancuronium or the precipitation
6 problem will occur as we were discussing earlier.
7 Q What would happen if they precipitated?
8 A It could pile up the IV probably and the
9 pentathol wouldn't -- you know, it would screw up the
10 whole rest of the procedure with the precipitation.
11 Q Does that mention of the 25 mg of saline appear
12 again in the green -- pancuronium bromide and potassium
13 chloride?
14 A Yes, it does.
15 SPEAKER: Thank you.
16 SPEAKER: Read the document.
17 BY MR. BARRON:
18 Q Well, Dr. Heath, I'd like to talk to you a
19 little bit in more about detail about the EKG. Can you
20 tell us what that is used for?
21 A Sure. EKGs are a device for monitoring and
22 recording the electrical activity of the heart.

1 Q What training have you received in reading EKGs?
2 A Quite a bit. We were taught in medical school
3 and then virtually, in the great majority of cases that I
4 care for have EKGs. I'm constantly watching EKGs during
5 surgery, during anesthesia. The training is extensive.
6 It's actually -- I'm a cardiac anesthesiologist.
7 Q In preparation for your testimony today, did you
8 review a DoC document stating the time these chemicals
9 were injected into Mr. Harper?
10 A Yes, I did.
11 MR. BARRON: Your Honor, may I approach the
12 witness?
13 THE JUDGE: Please.
14 MR. BARRON: Let the record reflect that I'm
15 showing him what's been previously entered into evidence
16 as Plaintiff's Exhibit number 3.
17 BY MR. BARRON:
18 Q Take a moment. Tell us, did you review that
19 document?
20 A Yes, I've reviewed all three of these pages.
21 Q Does one of those pages mention the time those
22 chemicals were injected into Mr. Harper?

1 A Yes.
2 Q Tell us what time thiopental was administered?
3 A It looks like it was administered -- it says
4 first round and second round, starting at 7:16 -- it's
5 been some scribbling there but it is pretty -- it's 7:16
6 p.m., obviously, we know from when the inmate entered the
7 execution chamber. And another round at 7:18 p.m. So
8 that is over a two-minute interval. Perhaps a bit longer
9 than two minutes.
10 Q Any significance to the difference in time, the
11 two-minute lapse between the two?
12 SPEAKER: What?
13 THE WITNESS: I'm not sure what kind of clock
14 they are looking at but it usually should have taken well
15 over a few minutes to still have recorded these times.
16 It's a -- if they are injecting pentothal over a very long
17 time period.
18 BY MR. BARRON:
19 Q What time was the pancuronium bromide
20 administered?
21 A At 7:19.
22 Q And just for clarification, pancuronium bromide

1 is referred to by any other name?

2 A Pavulon.

3 Q And how is it referred to in that document?

4 A Pavulon.

5 Q What time was the third drug, potassium chloride

6 administered?

7 A Again, the same thing. It show and e-pocket

8 from 7:20 p.m. and 7:22 p.m.

9 Q In preparation for your testimony, did you also

10 review an EKG printout from the Harper execution?

11 A I did. Yes.

12 MR. BARRON: Your Honor, may I approach the

13 witness?

14 THE JUDGE: Please.

15 MR. BARRON: Let the record reflect that I am

16 showing Dr. Heath what is already in evidence as

17 Plaintiff's Exhibit 5, Harper's EKG.

18 BY MR. BARRON:

19 Q Can you tell us if you reviewed that document?

20 A I have, yes. I think it was a, actually, a

21 better copy than this, but I have.

22 Q Based on that EKG, what time did Eddie Harper

1 die?

2 A -- a few seconds after 07:21 p.m., 19:21; 07:21

3 p.m.

4 Q Would -- does that mean that the thiopental,

5 pancuronium bromide, and potassium chloride all entered

6 his body at that point, in some quantity?

7 A We know from the record that there was the

8 administration of the other drugs prior to -- to the

9 potassium because it -- the record at face value. What we

10 see here is that -- the thiopental going in, the

11 pancuronium going in, not a whole lot happening to the EKG

12 tracing, and then shortly after the onset of the potassium

13 administration, that there are major changes in the EKG

14 tracing, that makes that basically means the heart has

15 stopped beating.

16 Q Can you describe for us what changes, if any,

17 occurred at 07:19 p.m. on the EKG?

18 A Nothing stands out. There's -- there are minor

19 irregularities in anybody's EKG tracing of heart rate

20 unless they have the pacemaker and that's -- those minor

21 irregularities continued through 07:19.

22 Q Can you tell us what, if any, changes occurred

1 in his heart activity up until the pancuronium bromide was
2 injected?
3 A Well, sir, the pancuronium was at 07:19. Do you
4 want to know before then?
5 Q Before then, yes.
6 A I'm only looking at half of the pages here, but
7 things are basically pretty steady up through 07:19,
8 through the administration of the Pavulon, the
9 pancuronium.
10 Q What if any changes occurred when the potassium
11 chloride was injected?
12 A The potassium chloride was injected at 07:20,
13 and it's pretty to see, shortly thereafter, the tracing
14 starts to change shape and it -- basically the rhythm
15 rapidly deteriorates and collapses into a rhythm that
16 would not be compatible with pumping blood.
17 Q So to a reasonable degree of medical certainty,
18 which chemical killed Eddie Harper?
19 A Potassium chloride. It's really the potassium
20 in the potassium chloride.
21 Q Until what point in this execution of Mr. Harper
22 could he have been revised?

1 A He definitely could have been revised before the
2 potassium -- at any point before the potassium was given.
3 Once the potassium was given, I -- it's certainly possible
4 that he could be revised, but with less certainty than
5 before the potassium is given. It's much more difficult
6 to revise somebody who's been given a large dose of
7 potassium.
8 Q So you're saying the effects of sodium
9 thiopental are reversible?
10 A I -- one can allow sodium thiopental to wear off
11 and when it wears off, then the person recovers completely
12 from it. There are medical situations that we give --
13 take several grams of thiopental, the same dose that's
14 been used in this -- in the Kentucky Execution Protocol,
15 and they recover in time from it.
16 Q How quickly must someone act in order to save
17 any inmate's life once the first two chemicals have been
18 injected?
19 A One would need to act pretty quickly, within
20 seconds. Remember that thiopental and the pancuronium
21 both stop breathing, and we all know that after several
22 minutes of not breathing the brain starts to get

1 irreversibly injured. Thus, one would not want to delay
2 at all, one would want to be ready to act immediately.
3 Q What would a person need to do to reverse those
4 chemicals?
5 A You're just talking about the Pentothal and the
6 pancuronium?
7 Q Yeah.
8 A Well, ideally when we have more than a --
9 personnel, when we have a team of people who are trained
10 in how to deal with a situation like this and they'd be
11 certified in what's called ACLS, which is Advanced Cardiac
12 Life Support, they have a large array of equipment and
13 drugs to resuscitate the person who -- the patient or
14 inmate.
15 Q What about to revise them or resuscitate them
16 after the potassium chloride has been injected?
17 A One would need a lot more things to do that.
18 One would want to have drugs that are specifically helpful
19 in lowering blood potassium concentration. One would want
20 to have the dialysis machine and the personnel to run that
21 and all the associated supplies and equipments. It's not
22 unreasonable to have a cardiopulmonary bypass system. We

1 give those to the potassium (inaudible) just like it's
2 done during heart surgery, that is, when a patient's on a
3 heart lung machine, it's survivable, it's not a problem.
4 Q Based on your experience in the medical field
5 and specifically anesthesiology and surgery would an EMT
6 with no further training know how to reverse the effects
7 of these chemicals?
8 A No.
9 Q What about reviving?
10 A No.
11 Q A doctor of general medicine?
12 A No, they would need specialized training in
13 anesthesiology or perhaps some people who -- physicians
14 who work as intensivists in intensive care units, a few --
15 some pulmonologists, but generally one would need to have
16 formal training in anesthesiology to know how to reverse
17 these drugs.
18 Q What about a psychiatrist?
19 A No.
20 THE JUDGE: If that person has had formal
21 training in anesthesiology?
22 THE WITNESS: One should be an intensivist to

1 learn how to deal -- I mean, work with an
2 anesthesiologist, to understand how to resuscitate
3 somebody from these drugs.
4 BY MR. BARRON:
5 Q Dr. Heath, have you ever reviewed the portions
6 of the 2004 Kentucky revision that talks about the
7 training of the phlebotomist and the EMT?
8 A I have, yes.
9 Q Do you recall that text?
10 A I recall it's there. I don't recall -- I'm not
11 sure what the details you're going to ask about that.
12 Q What -- Your Honor, may I approach?
13 THE JUDGE: Please.
14 BY MR. BARRON:
15 Q Again, I'm showing you a copy of the 2004
16 revision. If you could you take a moment and turn to the
17 page that says "Execution Team Qualification"?
18 A Can you give me a hint as to where in this copy
19 that is?
20 Q In my copy it's right after the "Execution
21 Lethal Injection" section that has nine pages.
22 A Execution Team Qualifications.

1 Q Can you tell me -- well, take a moment and look
2 at that a little better.
3 A Okay.
4 Q Can you tell us, based on what you've read
5 there, if any of the information on that portion of the
6 Protocol tells you that the EMT or phlebotomist has
7 training specifically in how to reverse the effects of
8 these chemicals?
9 A It doesn't state that.
10 Q What kind -- let me take that back for a second.
11 What kind of equipment would be necessary to have, in a
12 crash cart, to reverse these chemicals?
13 MR. MIDDENDORF: Judge?
14 THE JUDGE: Yes.
15 MR. MIDDENDORF: We object to it. They are
16 talking about a chance of a stay on -- somewhere in the
17 middle. That is such a remote possibility, but we're
18 going down 10, 15 minutes of questioning on this. I mean,
19 it's --
20 THE JUDGE: Mr. Barron --
21 MR. MIDDENDORF: -- pure speculation.
22 THE JUDGE: I think he's about finished with

1 this area, so before you -- I understand it's speculation.
2 I also understand that there is a provision in the
3 Protocol as to what happens if there is a stay. So go
4 ahead.
5 BY MR. BARRON:
6 Q Dr. Heath, what kind of equipment would be
7 necessary in a crash cart to reverse the effect of these
8 chemicals?
9 THE JUDGE: I think -- you know, I've gathered
10 from this testimony that the only thing that's available
11 is a major (inaudible) University of Kentucky or
12 University of (inaudible).
13 MR. BARRON: Your Honor, what I'm getting at is
14 that there was testimony earlier today about a specific
15 type of crash cart --
16 THE JUDGE: Okay.
17 MR. BARRON: -- that would be there. And this
18 is just laying the foundation to get to the question
19 pertaining to that crash cart --
20 THE JUDGE: Okay.
21 MR. BARRON: -- and what that --
22 THE JUDGE: Why don't you ask him about this

1 crash cart and ask him whether that (inaudible) do that
2 without asking what needed to be in the crash cart?
3 BY MR. BARRON:
4 Q Dr. Heath, have you (inaudible) 4-800 or 8000
5 crash cart? Have you heard of that before?
6 A At lunch today when you were trying to figure
7 what it was because apparently it was raised in testimony
8 earlier on today and we were -- (inaudible) to try to find
9 out what is in that crash cart, but that's the first time
10 I've heard of one.
11 MR. BARRON: Your Honor, I request permission to
12 mark for identification a document that was disclosed by
13 the Defendant that lists three chemicals and information
14 on how to reverse them.
15 THE JUDGE: All right.
16 MR. BARRON: And I believe that would be number
17 12.
18 THE JUDGE: Well, let me ask you -- do you want
19 to do -- would you want to take and make this 11 and make
20 the 11 2 by-avowal? Do you want to put that in the by-
21 avowals?
22 MR. BARRON: Yes, that would be great.

1 THE JUDGE: All right. Why don't you make this
2 next one 11, we'll take the Pentothal claim and make that
3 2 by-avowal. Pardon?
4 MR. MIDDENDORF: I think that's 3, Judge, and
5 that's avowal --
6 THE JUDGE: Is this 3? Avowal 3?
7 SPEAKER: Yeah.
8 THE JUDGE: Okay. Yeah.
9 (Plaintiff's Exhibit No. 11 was marked for
10 identification.)
11 MR. BARRON: Your Honor, may I approach? Let
12 the record reflect I'm showing the witness a copy of
13 Plaintiff's Exhibit 11.
14 BY MR. BARRON:
15 Q You've seen that document before?
16 A I have, yes.
17 Q Can you tell me what chemicals are listed in
18 bold?
19 A It lists the three chemicals that are used for
20 lethal injection in Kentucky, thiopental, pancuronium, and
21 potassium chloride.
22 Q Does it talk at all about reversal of the

1 chemicals?

2 A Yes, it does. It has the word "Reversal" in
3 each of the sections, and talks about how long it takes to
4 wear off, for the drugs to wear off, what would be done or
5 what might be needed to achieve reversal or resuscitation.

6 Q What can you tell us about this document as to
7 whether it would be sufficient to instruct or inform
8 somebody on how to reverse these chemicals?

9 A It's got a small -- some amount of the
10 information that might be helpful to a person who had not
11 thought about it beforehand. There has been instructed
12 information but if someone is (inaudible) give you an
13 example, for potassium chloride, you want to have sodium
14 bicarbonate, (inaudible) glucose and insulin, dialysis.
15 And I agree that one needs to have all those things ready
16 to treat potassium intoxication, but it falls very far
17 short in terms of providing a comprehensive list of
18 equipment or drugs or personnel or anything else that it
19 warranted if (inaudible57:45) situation.

20 SPEAKER: -- retrieve the documents.

21 BY MR. BARRON:

22 Q I'd like to go back a little bit to your

1 research and work with animals. Have you had any
2 experience in euthanasia of animals?
3 A Yes, I have.
4 Q What experience did you have?
5 A For my -- as a necessary part of the research,
6 animals are euthanized. Again, it's mostly mice. Also,
7 in order to be permitted by Columbia University or any
8 university to conduct animal research, one has to take --
9 I think federally requires to take a course in animal
10 care, for the animal euthanasia, humane treatment of
11 animals. One is required to take a -- and I took a test
12 or examination certifying that I knew what is needed to
13 take good care of animals and provide them with a humane
14 death.
15 Q How many animals have you euthanized?
16 MR. MIDDENDORF: Your Honor, I object. This has
17 no relevance to this proceeding.
18 MR. BARRON: Your Honor, may I be heard?
19 THE JUDGE: You -- what is it's relevance?
20 MR. BARRON: Dr. Heath has already testified
21 about research in animals to determine the effect of
22 chemicals on human beings. I'm laying the foundation to

1 establish that he has knowledge and has experience
2 euthanizing animals. I'm trying to establish that the
3 effect that would occur there based on his expertise and
4 training would be indicative of the effect that would
5 happen with those chemicals being used in humans.
6 THE JUDGE: Go ahead.
7 BY MR. BARRON:
8 Q How many animals have you euthanized?
9 A Probably thousands.
10 Q What kind of animals?
11 A Mostly rodents; mice and rats.
12 MR. MIDDENDORF: Judge, we object again to that.
13 I think he just said mice and rats. That has nothing to
14 do with the size of a human being, so his experience as to
15 euthanizing something that might weigh two pounds has
16 nothing to do with a 180-pound individual.
17 MR. BARRON: Your Honor, may I be heard?
18 THE JUDGE: Yes.
19 MR. BARRON: What we're talking about here is
20 the effect of what the chemical does on the body, for
21 instance, the effect of pancuronium bromide in an animal
22 and what that effect would be in a human. It is our

1 contention that that effect would be against -- and occur
2 no matter what the concentration or amount that is
3 administered.
4 MR. MIDDENDORF: Your Honor, their own witness,
5 their own avowal witness this morning, Dr. Geiser,
6 testified that -- well, because all he knows about was
7 animals that he couldn't even venture an opinion on human
8 beings because it's, to paraphrase him, "apples and
9 oranges." Well, now, we're turning around hearing the
10 opposite thing from the same side of the law here.
11 MR. BARRON: Your Honor?
12 THE JUDGE: Yeah.
13 MR. BARRON: Drugs are tested in animals. Dr.
14 Geiser's avowal testimony said that he had no specific
15 experience with the effect in humans. Dr. Heath on the
16 other hand has testified that he has studied the research
17 with the animals and the effect that that would have on
18 humans to learn how these chemicals would affect humans.
19 So while Geiser may not have the knowledge, Dr.
20 Heath does.
21 THE JUDGE: I'll let you continue for a few
22 moments till we confirm what the relevance is. Go ahead.

1 BY MR. BARRON:

2 Q Do you know if thiopental is used in the

3 euthanasia of animals?

4 A Very, very rarely, if ever.

5 Q Why is that?

6 A There are much better drugs for achieving the

7 goal in euthanasia than thiopental.

8 Q Are you -- do you know if there are any risks

9 associated with using thiopental to euthanize an animal?

10 A Well, one of the issues is that it's a short-

11 acting drug. That's certainly a concern and it makes much

12 more sense -- and what is done is to use is a much longer-

13 acting drug.

14 Q Does that concern you just mentioned also fit

15 for human beings using thiopental?

16 A Yes, it does.

17 Q What about using pancuronium bromide to

18 euthanize an animal?

19 A That's prohibited. One of the things I have

20 learned about is the thing called the AVMA Guidelines.

21 AVMA stands for American Veterinary Medical Association,

22 and as somebody who does animal research I'd have to

1 understand what their guidelines say about euthanasia.
2 And paralyzing an animal without it giving it anesthesia
3 is, I think, actually criminal.
4 MR. MIDDENDORF: Judge, we object. I don't
5 believe that's what the testimony was.
6 THE JUDGE: I will -- well, what I'll
7 (inaudible) anyway. But he can testify as to what he
8 knows about it.
9 THE WITNESS: It's my understanding in many
10 states it's against the law to do that. Certainly, no --
11 nobody would ever do that on purpose unless they wanted to
12 be cruel to the animal.
13 BY MR. BARRON:
14 Q Do you know how animals are euthanized?
15 A I --
16 THE JUDGE: Are you familiar with (inaudible)
17 how humans are euthanized?
18 THE WITNESS: Yes. It depends on the animal and
19 the situation. If one, for example, was doing a surgical
20 experiment on a dog or a sheep and at the end of the --
21 that surgical experiment one wants to euthanize the
22 animal, typically a large dose of a longer-acting

1 barbiturate like pentobarbital is given in combination
2 with a drug that painlessly stops the heart.
3 Q Now, you said a few moments ago that you are
4 familiar with the American Veterinary Medication
5 Association.
6 A Not so much the Association but the document
7 about euthanasia.
8 Q And again, how did you become familiar with
9 that?
10 A When we do animal research, we have to know
11 about animal care and part of animal care is how to end an
12 animal's life humanely when one -- when the experiment is
13 completed.
14 MR. BARRON: Your Honor, may I have permission
15 to mark the DUNA (phonetic) euthanasia report as
16 Plaintiff's Exhibit 12?
17 MR. MIDDENDORF: Objection, Judge. That came in
18 by avowal. He is a physician; he is not a veterinarian.
19 This is a backdoor trying to --
20 THE JUDGE: He can testify as to what he knows.
21 He -- we're not going to admit the document -- we'll --
22 the document is saying by avowal that -- that's all.

1 Unless you want to Defendant to ask him about killing
2 sheep by shooting in the head, (inaudible).
3 BY MR. BARRON:
4 Q What do the American Veterinary Medical
5 Association standards say about using a barbiturate and a
6 neuromuscular agent together?
7 A If the barbiturate you talk about is
8 pentobarbital, that's because there is no occasion to use
9 another -- to use thiopental. If they give it
10 pentobarbital and a neuromuscular blocker such as
11 pancuronium, it cannot be used for animals for euthanasia.
12 I think they say it's to be condemned or some such strong
13 language. I forget exactly.
14 Q To a reasonable degree of medical certainty, do
15 you believe Harper's execution was conducted in
16 conformance with the AVMA standards?
17 MR. MIDDENDORF: I object to its relevancy.
18 THE JUDGE: I'll sustain.
19 BY MR. BARRON:
20 Q According to the Kentucky Protocol, how many
21 doses of thiopental are administered?
22 A It's -- usually it's 2 rounds; I believe a

1 single dose one after the other. It depends on semantics
2 whether one would call that one dose or two doses that are
3 immediately connected to each other.
4 Q During a surgical procedure, how many doses of
5 an anesthetic do you administer?
6 A Of an anesthetic or --
7 Q Yes.
8 A We give them multiple -- different kinds of
9 anesthetic typically during a general anesthesia case.
10 And I give a single dose of propofol, which is the
11 replacement drug of Pentothal to induce anesthesia and
12 then give other anesthetic drugs to maintain anesthesia.
13 For example, continuous inhalation of an anesthetic gas or
14 intravenous injections of longer-acting drugs that help
15 support anesthesia.
16 Q Is there ever a point where you stop
17 administering any anesthetic during the surgical
18 procedure?
19 A Yes, there is. That would be the point where
20 one -- actually, it's the point where the surgery is going
21 to be over soon and one stops administering drugs, turns
22 off the gas that's keeping the patient asleep. And those

1 drugs take some time to wear off. One wouldn't turn them
2 off generally or turn them down before the surgery is
3 actually finished. It's sort of like bringing a plane in
4 for a landing.
5 Q So you're saying that up until that point the
6 anesthetic drug is continuously administered?
7 A Yes.
8 Q Do you have an opinion as -- to a reasonable
9 degree of medical certainty as to whether the lack of a
10 continuing flow of thiopental creates an unacceptable risk
11 that an inmate may be conscious during an execution?
12 A Well, it increases the risk.
13 Q Why is that?
14 A If an inadequate dose of Pentothal is
15 administered, it would have to be followed by an infusion
16 of Pentothal that would tend to make the inmate less
17 aware, less conscious. The failure to give a continuous
18 infusion of it -- and if the initial dosage is
19 insufficient the inmate is going to wake up.
20 Q To a reasonable degree of medical certainty,
21 could the risk of pain and suffering be lessened through
22 the use of different chemicals and procedures to carry out

1 lethal injections?

2 A Absolutely.

3 Q How do you know that?

4 A There are drugs that can replace all of the

5 drugs that are being used for the lethal injection that

6 would carry a much lower risk of causing pain or

7 suffering, much lower risk of an error in administration,

8 a much lower risk of things going wrong.

9 Q Dr. Heath, let's talk briefly about inserting an

10 IV needle. Would a person, by merely observing the

11 patient, always know if there is swelling at the IV sites?

12 A To answer this right, one needs to know if the

13 IV is properly inserted into a vein so that any drugs that

14 are injected into the IV would be carried into the vein,

15 into the circulation and delivered to their target organs,

16 whether it be the brain or the heart or whatever. I would

17 think that one can get some information if one can look

18 from a close distance about whether the IV site is working

19 but that's sufficient in and of itself.

20 Q What else would a person need to do?

21 A Well, (inaudible) that we do, opening up the IV

22 fluid or opening up the flow regulator or injecting a

1 fluid, sensing how much resistance there is to injection
2 of the fluid, looking for any swelling or -- around --
3 near the IV site. Feeling for palpitation, which is just
4 another way of saying touching or feeling the site where
5 the IV is to see if it's a different temperature, which
6 happens when the low temperature IV fluid goes into the
7 warm body.
8 Q What kind of problems can go wrong in inserting
9 an IV?
10 A The IV can be not inside the vein. It can be
11 outside the vein, it can be in an artery or in nerve or in
12 fat or muscle surrounding the vein.
13 Q How does, if at all, the size of the catheter
14 used affect it?
15 A I guess that's part of the (inaudible). One can
16 test the patient's veins, (inaudible) and then one kind of
17 sizes up what the ideal catheter is to get into that vein.
18 It's hard to explain just the -- I mean, it comes out of
19 experience.
20 Q How do you monitor for these types of problems?
21 A For which type of problems?
22 Q Problems with inserting IV needles. Once they

1 are -- you stick a needle in the body?
2 A Right.
3 Q How do you monitor at that point to know that it
4 can --
5 MR. MIDDENDORF: I object, Your Honor. I think
6 the man answered this a minute ago.
7 THE JUDGE: How do you monitor whether the
8 solution is going in or not or how do you monitor if it's
9 not going on?
10 MR. BARRON: The first set of questions involve
11 the actual insertion of the IV.
12 THE JUDGE: Okay.
13 BY MR. BARRON:
14 Q I'm moving to the next step. Once the IV is
15 already on the arm, how do you monitor it to make sure
16 that IV has stayed in the vein?
17 A So one needs to be right at the bedside as it
18 were. I'd generally be standing with my -- you know, hips
19 -- if the patient would be on a bed at waist level and my
20 hip would be, you know, within one or two feet of where he
21 -- where the IV site is. So I can look right down on it
22 and see if there is any leaking or swelling to see how the

1 fluid is flowing.

2 MR. BARRON: Your Honor, may I approach the

3 witness?

4 THE JUDGE: Please.

5 BY MR. BARRON:

6 Q For the record, I'm showing you a copy of

7 Defense -- Plaintiff's Exhibit number 1, Kentucky's 2004

8 revisions. Take a moment and turn to page 9 of the

9 section entitled "Execution, Lethal Injection."

10 A Okay.

11 Q Can you look at number 5 and read that out loud,

12 please?

13 A I'm sorry, I'm looking at the wrong page, I have

14 --

15 THE JUDGE: I have noted 27, 28, 29, so I am --

16 THE WITNESS: Yeah.

17 THE JUDGE: -- on Plaintiff's Exhibit 1, on page

18 9.

19 MR. BARRON: One second. I'm sorry, my mistake,

20 on another one, page 2, number 5.

21 THE JUDGE: Page 2 of 9?

22 MR. BARRON: 2 of 9 on Execution, Lethal

1 Injection. We're looking at number 5, the first
2 enumerated part of that document on that page.
3 THE WITNESS: Okay, yes.
4 BY MR. BARRON:
5 Q Can you read number 5 for the Court, please?
6 A Number 5 says, "To best assure that a needle is
7 inserted properly into a vein, the IV team members should
8 look for the presence of blood in the bow of the sited
9 needle."
10 Q Can you explain how that would tell if the
11 needle is inserted properly?
12 A Theoretically, it doesn't make any sense at all.
13 There is no bow in the sited needle and -- well, that's
14 one of the many things one needs to do to help understand
15 if the catheter is in the right place. By itself, it's
16 certainly not sufficient. It's also just a bizarre thing
17 to put in there, to be explaining in this way to the IV
18 team how do we put in the catheter in or how to know where
19 the catheter is. It would be like if I were, you know,
20 pretty much getting on to a school bus and the driver had
21 a sign in front of him saying, you know, to turn right,
22 turn the steering wheel to the right or to brake, press on

1 this pedal. It's just a bizarre thing to put in there if
2 the people doing it are proficient and experienced in the
3 procedure.
4 Q Could you turn to page 2 of the same document,
5 under the section entitled "IV Team Checklist"?
6 THE JUDGE: You're on?
7 THE WITNESS: I'm on page 2 now.
8 MR. BARRON: Well, we have -- the way that's
9 been organized, we have documents that are labeled
10 "Execution by Lethal Injection" which is a -- had 9 pages
11 to it. There is also a separate part (inaudible74:23) put
12 together called IV Team Checklist.
13 THE JUDGE: That's Plaintiff's 2?
14 MR. BARRON: No. I don't -- I believe it's part
15 of Plaintiff's Exhibit 1 because Plaintiff's 2 is 19 -- is
16 it number 2 from 1999?
17 THE JUDGE: Revised 04/09/98.
18 MR. BARRON: Yeah, I'm referring to the one
19 that's revised December 14th, 2004, which should be part
20 of Exhibit 1. And Exhibit 1 has a Execution by Lethal
21 Injection section, a pre-execution medical acts and
22 checklist.

1 THE JUDGE: My Exhibit 1 only has the nine or
2 ten pages of the execution lethal injection revision, 12-
3 14.
4 MR. BARRON: Well, then, I'm -- one second here.
5 THE JUDGE: -- the IV Team Checklist.
6 MR. MIDDENDORF: Your Honor, it may be a part of
7 number 8.
8 MR. BARRON: Your Honor, could I approach the
9 bench, please?
10 THE JUDGE: Uh-huh Put it together.
11 MR. BARRON: I just would like to clarify we
12 have the documents I thought. So --
13 THE JUDGE: This document right here?
14 SPEAKER: That's the old one.
15 MR. BARRON: That's the old one. We're
16 referring to this document.
17 THE JUDGE: It's not under 1 and 8 is whatever 1
18 is --
19 MR. BARRON: 8 is in the (inaudible).
20 THE JUDGE: Yes.
21 MS. BALLIET: The -- what you're looking for
22 should be attached to the back of Plaintiff's 2. If it's

1 not, I think --

2 MR. BARRON: Can you -- I'm sorry.

3 THE JUDGE: That's the back of Plaintiff's 2?

4 MR. BARRON: Plaintiff's 1, I'm sorry.

5 Plaintiff's 2 is the old version.

6 MS. BALLIET: Yes, Plaintiff's 1. And if you

7 didn't get --

8 THE JUDGE: Where it says "Revised 99"?

9 MR. BARRON: Plaintiff's 1 should include only

10 2004 revisions.

11 (Discussion off the record)

12 MR. BARRON: Court's indulgence. We'll provide

13 a copy --

14 THE JUDGE: Fine. We'll go with that, fine.

15 BY MR. BARRON:

16 Q Dr. Heath, does your copy have the section

17 entitled "IV Team Checklist"?

18 A It does, yes.

19 Q Can you turn to page 2 of that?

20 A I don't have the page numbers, so why don't you

21 tell me what section?

22 MR. BARRON: May I approach the witness to

1 clarify that?

2 THE JUDGE: Please, yes.

3 MR. BARRON: Thank you.

4 BY MR. BARRON:

5 Q Look at number 6, please, and read that to the

6 Court.

7 A It says, "The members of the IV team shall

8 prepare two sets of execution chemicals in 60 cc syringes.

9 The syringes shall be properly labeled and stored in a

10 dispensing tray. The syringes shall be guarded by a

11 member of the execution team until they are administered

12 for the condemned."

13 Q Can you explain what a cc is?

14 A Cc stands for a cubic centimeter.

15 Q How does that relate to volume?

16 A To measure -- it's a measure of volume.

17 Q So what does this portion of the protocol tell

18 you about whether the IV has been properly inserted and

19 whether the chemicals are properly injected?

20 A Well, it doesn't tell me what concentrations of

21 drugs are being given. I've looked at protocols from

22 many, many states, almost all the states that do lethal

1 injections, and they usually have a lot more detail about
2 how the drug is made up, the concentration that will be in
3 the syringe, the number of syringes, the volumes of the
4 syringes.
5 Q Why is the concentration that would be in the
6 syringe be important for ensuring that the quantity of
7 chemicals they are trying to inject reaches the inmate?
8 A Well, getting the right amount of chemical is a
9 matter of knowing the concentration and the volume. One
10 has to get the right volume at the right concentration to
11 achieve the right level in the end. Not having
12 instructions about how to do that makes it hard to
13 interpret.
14 Q Let's take the 3 g amount that they currently
15 have in the Protocol. If that -- in case the
16 concentration is mixed improperly based on the section you
17 just read, does that change how much of that 3 g will get
18 into the inmate?
19 A Yes, it would.
20 Q In what way?
21 A Concentration's too low and you get the same
22 volume, then you get a lower amount of drug.

1 Q In what way?

2 A Concentration is too low and you get the same

3 volume then you're giving a lower amount of drug.

4 Q So the concentration, you mean, is that -- would

5 you say that to a medical degree of certainty that

6 concentration of a drug being injected is a factor that

7 should be considered rather than just the gram amount in

8 determining whether the chemical would render somebody

9 unconscious?

10 A Ultimately what matters is how many grams or the

11 quantity that enters the circulation and is distributed.

12 But not knowing -- like I said, most protocols does define

13 the volume and the concentration so that one can know how

14 it's being done and this is very scant and superficial in

15 -- by comparison.

16 SPEAKER: Let me retrieve the documents.

17 BY MR. BARRON:

18 Q Dr. Heath, how long should it take to insert an

19 IV?

20 A Generally, it takes a couple of minutes. In

21 most people it's pretty easy. You should see a vein and

22 put the catheter in, just two or three minutes.

1 Q What would you do if you spent 10 minutes trying
2 to insert an IV and couldn’t get it in?
3 A Well, it definitely happens. I might keep
4 trying after 10 minutes. I might even ask somebody, you
5 know, ask a colleague. Everyone has their own approaches
6 and sometimes their approach might be better than mine for
7 individual patients.
8 Q What about if after 20 minutes you still
9 couldn’t get it in?
10 A I’d be very frustrated and the patient would be
11 in a lot of discomfort or pain and frustrated. I might
12 try to give the patient some inhaled gas through the mask,
13 which I could do without then having an IV in. It can
14 make them more comfortable. I might, you know, ask help
15 from another colleague or whatever, be looking around on
16 the patient’s body for -- trying to find a good IV site.
17 Q What about 60 minutes?
18 A I wouldn’t try putting either a regular
19 peripheral IV in the arms or legs; I really wouldn’t for
20 60 minutes. I would change over to -- you know, depending
21 on the situation, to probably putting in a central line.
22 Q Why would you change over?

1 A Why? You know, after a certain number of
2 attempts, and I can't give you an exact number, but it
3 becomes -- you know, the task of one getting it in, it
4 becomes, you know, exponentially lower. Generally, we go
5 for the good vein that you -- that we can see. And if you
6 blow those, then you kind of -- you don't have a lot of
7 material to work with (inaudible) to get it in. So you
8 need to change strategies.
9 Q You mentioned a central line. Could you tell us
10 what that is?
11 A All right, we talked about peripheral IV access
12 or peripheral intravenous access and central intravenous
13 access. It should be set through the heart, which is the
14 center of where all blood goes to and comes from. So a
15 central IV access is one where the catheter goes into one
16 of the large veins that goes right to the heart, like, the
17 internal jugular vein in the neck or the subclavian vein
18 which is under the collarbone or the femoral vein which is
19 in the groin. And that's contrast with a peripheral IV
20 which is in a more peripheral site to the heart, either
21 the hands or the arms or the feet or the legs.
22 Q Would an EMT with no additional training know

1 how to insert a central line?

2 SPEAKER: I object to that, Your Honor.

3 SPEAKER: Objection, Your Honor.

4 SPEAKER: I don't see -- what's this about a

5 central line? That's --

6 SPEAKER: That's not even a part of the

7 protocol.

8 MR. BARRON: Your Honor, he mentioned what he

9 would do if after 60 minutes had elapsed. And I'm just

10 trying to enquire, based on what he said he'd do, how that

11 would be done, what would go about because the protocol

12 doesn't really state other than asking somebody to

13 reschedule it what to do in that circumstance.

14 SPEAKER: Okay, all right.

15 SPEAKER: And he mentioned that in a medical

16 setting.

17 THE JUDGE: Oh, I see. I think I'm going to let

18 him continue to (inaudible) one more answer and then what

19 could be learned from that. And he can answer as to

20 whether anyone besides the doctor would be able to do

21 this.

22 BY MR. BARRON:

1 Q Dr. Heath, would anyone other than a doctor know
2 how to insert a central line?
3 A Yes, there are some medical professionals who
4 are not physicians who could also insert a central line.
5 They'd to have had, you know, all the extensive training
6 and elbow to elbow supervision before they could do it on
7 their own. Probably a physician's assistant, properly
8 trained can do it. A nurse anesthetist properly trained
9 can to do it. There are a number of different non-
10 traditional medical professionals who, if properly
11 trained, would be able to do it.
12 Q Do you have an opinion to a reasonable degree of
13 medical certainty as to whether 60 minutes of sticking
14 someone with a needle in an attempt to insert a needle
15 would -- insert an IV, I'm sorry, would be painful?
16 SPEAKER: Objection, Judge. He's testified he
17 would try up to an hour before going to a central line.
18 He's already asked him that.
19 THE JUDGE: I don't know that he'd testified
20 that he would try up to an hour. He can testify as to
21 whether it's painful or not, go ahead. I'd say these are
22 (inaudible) is painful, but go ahead.

1 THE WITNESS: I might have misspoken because I
2 think what he said -- that what I said is --
3 THE JUDGE: I think he did communicate that he
4 would not try for an hour.
5 THE WITNESS: I would not try for an hour,
6 that's correct. That's what I was trying to indicate. I
7 can't put an exact time but somewhere -- you know, 20
8 minutes or half an hour or whatever you pretty much reach
9 the end of the line of and -- even to try. And I'm sorry,
10 could you repeat the question that we're trying to get to
11 now?
12 BY MR. BARRON:
13 Q Do you have an opinion to a reasonable degree of
14 medical certainty as to whether spending 60 minutes of
15 sticking somebody with a needle trying to insert that IV
16 would be painful?
17 A It would painful, yes.
18 Q To a reasonable degree of medical certainty, do
19 you have an opinion as to whether Kentucky's lethal
20 injection procedures pose a risk of unnecessary pain and
21 suffering to the inmate?
22 A I do have an opinion, yes.

1 Q What is that opinion?

2 A My opinion is that there is unreasonable or

3 unnecessary additional risks presented by the design of

4 the Kentucky lethal injection protocol.

5 MR. BARRON: May I have a moment, please? No

6 further questions at this time.

7 THE JUDGE: We'll take about a 15-minute recess

8 and then we'll come back for cross examination. Thank

9 you.

10 (Recess)

11 MR. MIDDENDORF: Yes, Your Honor.

12 CROSS EXAMINATION

13 BY MR. MIDDENDORF:

14 Q Good afternoon, Dr. Heath.

15 A Good afternoon.

16 Q I noticed that your C.V. was dated October 6,

17 2003 and that was provided to us by the Defendants. Have

18 you written any other article since October 6, 2003 that

19 needs to become a part of that?

20 A No articles, no, there are some lectures and

21 stuff that I've given that are on there.

22 Q Okay.

1 A They're not on there, that I've given since that
2 date.
3 Q So you haven't written anything since October
4 2003, would that --
5 A I've written -- I've also written abstracts and
6 stuff but not -- no formal articles.
7 Q Just to talk of -- about a couple of things that
8 you mentioned, you mentioned propofol, is that correct?
9 A Yes.
10 Q Then I apologize, I'll probably have some
11 trouble with some of these words. Isn't it true that
12 sodium thiopental is often used as a substitute because
13 propofol can be -- can cause problems to people who are --
14 have allergies to eggs and soy products?
15 A I agree with most of what you say because
16 (inaudible) is so rare that people actually have allergies
17 to egg products that I can't think of a time that it's
18 occurred to me where -- occurred to one of my patients
19 that I couldn't give them propofol. So --
20 Q But sodium thiopental is still a very useable
21 drug?
22 A It's a very useable drug, yes. And it so

1 happens that it’s very rarely used now.

2 Q Okay, what is pharmacokinetics?

3 A Pharmacokinetics is the -- it’s a discipline, a

4 biomedical discipline that studies the -- what happens to

5 drugs when they’re administered or given to a human or an

6 animal.

7 Q Okay, so it has to do with the effects of that

8 drug on that person, is that a fair statement?

9 A It has really more to do with where the drugs

10 go, how they get distributed within the body, where they

11 wind up, how they’re eliminated or metabolized, those

12 sorts of things. But intrinsic to it and the reason why

13 people study pharmacokinetics is to understand better how

14 drugs work and how to use them properly.

15 Q Okay, and what kind of clinical experience do

16 you have in that field?

17 A Pharmacokinetics is not a clinical field but is

18 an element of basic medical training that all doctors have

19 some exposure to and anesthesiologists have a lot of

20 exposure to that in order to --

21 Q But you don’t have any expertise in that

22 discipline, if we can call it that?

1 A I could -- depends how you define expertise in a
2 discipline. All anesthesiologists, they have to be
3 trained and educated about pharmacokinetics in a way that
4 most physicians don't because we use drugs that have
5 relatively rapid time courses compared to the drugs that
6 are prescribed on an allocation basis, these are very
7 fast-acting, very powerful drugs. And we need to
8 understand the time course of various drugs in the body.
9 And so that is pharmacokinetics training. We spend time,
10 you know, modeling how anesthetic gases go in and out of
11 the body and --
12 Q So you learned it in general terms.
13 A Pardon me?
14 Q -- I mean as a physician. You learned it in
15 general terms as a physician.
16 A No, we learn -- all anesthesiologists learn in
17 pretty specific terms, especially about the drugs that we
18 use quite specifically, otherwise it wouldn't be safe for
19 us to use them.
20 Q Okay, have you heard of Dr. Mark Dershwitz?
21 A Yes, I have.
22 Q Would you agree that he has far more experience

1 than you in that field?

2 A Yes, he has more experience in pharmacokinetics

3 than I do, yes. That’s his area of -- part of his area of

4 research.

5 Q And in fact, in Virginia, you even testified

6 that he was the authority and you would defer to anything

7 he would say in that area.

8 A That’s what I said of his books, but I would not

9 defer to -- kind of blanket terms, to anything anybody

10 would say. But, in general, if I had the opportunity to

11 discuss something, I would expect that I’d probably be --

12 in terms of the distribution of drugs in living people or

13 animals, I would probably agree with what he said. That

14 would have a lot of points of disagreement.

15 Q Let’s talk about some of the things that you

16 mentioned. You said about the BIS monitor, can you tell

17 me what that is again?

18 A It’s a device that uses -- monitors the

19 electrical activity of the brain through the skin and

20 performs computations on the waveforms to provide an

21 indication of depth of anesthesia or a level of

22 consciousness, level of sedation.

1 Q And I think what you told me is that somebody
2 could receive one hour of training on that and then
3 practical experience with an anesthesiologist, that would
4 sufficient.
5 A If you had to appropriate -- underline in that
6 sense. So I was saying that -- giving that answer to Mr.
7 Barron in the context of if you were to train
8 anesthesiologists on how to use this device. So in other
9 words, people who fully understand about the medications
10 that are used to generate anesthesia, understand about
11 different levels of consciousness, understand about
12 electrical -- EEGs and all of those things. I was -- I'm
13 predicating that answer on a certain level of
14 understanding about these things. Then, yeah, I think
15 it's then down to the person who -- never had it and check
16 for all the stuff like that, and then, deploy it on some
17 patients and observe a number of anesthetics watch this.
18 The index goes down and then the back up which the
19 patients are to sleep in is set up.
20 Q Okay, and a few other things that you pointed
21 out during your testimony. You said that all three of the
22 drugs were used in Kentucky, were often used during the

1 same time during a surgery and therapeutic studies. Is
2 that correct?
3 A Yeah, I don't think I'll give a very big answer
4 there. All three of those chemicals would be used, or
5 drugs very similar to them I should say, but just like I
6 said, we don't use Pentothal very often, at all.
7 Q I understand that, but what you did testify to
8 is, that those three drugs can be used in combination
9 during one surgery. Correct?
10 A That's correct, not at the same time. I would
11 not give Pentothal and pancuronium at the same time.
12 Q I under stand that.
13 A (inaudible)
14 SPEAKER: Let the witness have it explain --
15 THE JUDGE: Let (inaudible) explain the claim --
16 go ahead.
17 THE WITNESS: Let me clarify. I think we are
18 both agreeing that I want to make sure, in some
19 combination, I would not give them, together at the same
20 time. But I would give them during the same case at
21 different times from each other, during the same case.
22 BY MR. MIDDENDORF:

1 Q It doesn't make a difference if it's five
2 seconds or five minutes?
3 A The Pentothal and pancuronium will make an
4 enormous difference.
5 Q If there was a saline flush in between, it
6 wouldn't make a difference?
7 A If they were therapeutic, but not a saline
8 flush, yes. So I could give them -- I could give
9 Pentothal, and then, I'll give saline flush. And then
10 pancuronium. That is something that I could do during
11 surgery. Yes.
12 Q And we wouldn't have a problem. And you're, and
13 you understand that Kentucky's protocol does use the same
14 (inaudible).
15 A Yeah, I'm clear how much to use as a I can't
16 believe that it uses what it's taken --
17 Q Now, I understand that. Now, I'll show you one
18 of our syringes and a little bit that I show you is
19 labeled 'CCs' I do not want you to say it
20 A We guess that if it is labeled 'CC', it doesn't
21 mean how much drawn up into it.

1 Q Now the EK, -- I think you testified that an EKG
2 machine should be right next to the person. Is that
3 correct?
4 A What I've tried to say if I testified to that
5 is, it is adequate the person who is monitoring the
6 patient, for anesthetic depth, should be right next to the
7 patient if possible.
8 Q So the reading itself isn't going to make a
9 difference.
10 SPEAKER: Objection, since the witness
11 (inaudible) your answer from the (inaudible) before.
12 SPEAKER: Well, I guess he answered my question.
13 THE JUDGE: Let's hear what he's having to say
14 in this. Try not to interrupt although, let's get this
15 sorted, the answers, without going too far into that.
16 Okay.
17 THE WITNESS: We have to keep the (inaudible)
18 right next to the patient, and it's got a very big deal
19 with the monitor, though it should be no close (inaudible)
20 worked because, we put like monitors that are (inaudible)
21 to run. But the point is they had to be very easily

1 visible to person who is responsible for monitoring an
2 aseptic anesthetic gas.
3 Q Okay, but it's not
4 A But it does not really matter.
5 Q It's not more effective to read out, whether the
6 machine is 5 feet away, or 20 feet away. If the monitors
7 are kept properly to the person you are going to have a
8 same reading across the machine whether the person is
9 sitting right next to it, or it's right next to the
10 patient, or 20 feet away, is that a fair statement?
11 A Yeah, the read out that the reader is going to
12 read out, that the reader is right next to the machine,
13 then in effect there's no read out.
14 Q Now, you've testified that you're familiar with
15 Kentucky's drugs. Is that correct?
16 A You mean familiar with -- I know what it; I know
17 what drug it is.
18 Q You are familiar with the drugs that they use in
19 lethal injections?
20 A Yes.
21 Q And you've also been provided with the amounts
22 of the drug Kentucky uses, is that correct?

1 A I have, yes.

2 Q And if I've just made that, the comment, would

3 you agree that these are large, very large amounts of each

4 one of these drugs? Is that fair to say?

5 A With the exception if it -- in most cases, they

6 are large amounts. There are times when we would give

7 that much Pentothal to a patient.

8 Q Okay, and each one of these drugs are actually

9 lethal in itself. Is that a fair statement?

10 A Even now, given by themselves if successfully

11 delivered into the circulation, each one will be lethal,

12 yes (inaudible)

13 Q Now, I believe you also testified in Virginia,

14 is that correct, in the James Rees versus Jean Johnson

15 case, is that a fair statement?

16 A That's right.

17 Q Now, Virginia uses two grams of Sodium

18 Thiopental, is that correct?

19 A I'm not sure what they use.

20 Q When did you testify in that?

21 A In September.

22 Q Of this past year?

1 A Of 2004, yes.

2 Q And you don’t recall what amount they use?

3 A As per the protocols from 30 odd states and I’m
4 wary of stating it affirmatively, but in that case if it’s
5 classified we (inaudible?) keep it some where else.

6 Q Okay and you testified under oath, in that case?

7 A Yes.

8 Q And what was your opinion as to whether two
9 grams were properly administered to the individual, what
10 kind of death would that person experience?

11 A If 2 g where properly administered?

12 Q Yes.

13 A In virtually every case, it would never be a
14 humane death.

15 Q Is it true that a usual dose to induce general
16 anesthesia generally affords a 7 mg/kg?

17 A I’d say, it probably will be a little bit less
18 than that.

19 Q Okay, so what is you opinion?

20 A You know, if I weigh that 70 or 80 kg from the
21 (inaudible), depending on the time of day and a variety of
22 things, yes up to 100 mg.

1 Q That was a compliment or an insult; because, I
2 can't convert that in my head right now.
3 A I would give -- you said four to seven?
4 Q Four to seven --
5 A That's a little heavy.
6 Q That's heavy?
7 A Yeah.
8 Q Just to be safe, let's talk about maybe 6 mg/kg.
9 Would you --
10 A That's heavy, but for some people, I would give
11 them that much.
12 Q Okay. If you were to give a 6 mg/kg dose, would
13 you agree that roughly 50 percent of the population would
14 wake up in seven to eight minutes? Does that sound like a
15 fair statement?
16 A That heavy dose you're expecting to take, I
17 wouldn't generally use a dose that high, and so, that's if
18 I would take about that (inaudible) and you get lot of
19 variability between individuals just like the way if it
20 had been alcohol and (inaudible)
21 Q Okay, and I think during your direct examination
22 you referred to point out Exhibit 3, is that correct?

1 A I just get a little (inaudible)

2 Q And you also looked at the EKG read out, is that

3 correct?

4 A Yes.

5 Q Now, you testified that it appears that the

6 first drug started the infusion at 7:16, is that correct?

7 A I better not, despite my testimony; I have your

8 numbers in front of me.

9 Q Okay.

10 A It's saying is what I said, didn't I --

11 Q Okay.

12 A Then I exactly made a copy after it, I don't

13 know that for sure.

14 Q When you look at the EKG, you testified that he

15 died at 7:21. So 7:16 to 7:21, how long is that?

16 A Five minutes.

17 Q So what you just said, a regular therapeutic

18 dose of Sodium Thiopental would possibly keep that person

19 asleep or unconscious, or really what it took to execute

20 Eddie Lee Harper.

1 A Yes, that's right, it's a ballpark, it might be
2 working out and then it might not be, depending on that
3 individual sensitivity to thiopental.
4 Q And we use 3000 mg, correct?
5 A That's the dosage intended to be delivered into
6 the circulation, is correct. And that's the protocol
7 (inaudible) when I last saw it, okay.
8 Q Would you also agree that a shot properly
9 delivered to the individual would become unconscious
10 within -- certainly 60 seconds?
11 A Yeah, we talked about the slang term, we talk
12 about the 'veins the brain' time that the drug penetrates
13 in the veins had to be carried by the circulation to the
14 brain before it can start having effect. 60 seconds to
15 ballpark, that's how long that may take.
16 Q Have you ever given a three gram dose of sodium
17 thiopental, for purposes of inducing a barbituric coma?
18 A Yes, I have. I don't know if it was three
19 grams, or more or less than you have will.
20 Q There might be reflex in (inaudible) or
21 something?
22 A Exactly that might occur, correct.

1 Q What measures do you have to take to support the
2 patient's circulation with a 3-g dose of sodium
3 thiopental?
4 A They take a few responsive measures, for the
5 most part, one observe the effect of the drug that goes in
6 on what is the big concern is the blood pressure, and
7 treats appropriately. Depends on the when one is in
8 surgery and exactly how it's being done.
9 Q So you would have to take significant measures
10 to keep that person alive given a 3-g dose of sodium
11 thiopental? In that kind of vertical --
12 A Well, what we really taking care is keep the
13 patient alive under anesthesia. We are (inaudible) and
14 maintaining (inaudible) blood pressure all the time. So
15 it'll be a continuation of those things.
16 Q Okay let's assume that you didn't take any other
17 measures and gave a 3-g dose of serving thiopental, what
18 would you expect to happen?
19 A I would expect the blood pressure to drop.
20 Q Would that kill him?
21 A No I wouldn't expect it to cause death.

1 Q How long would you expect him to be unconscious,
2 with no other measures?
3 A Many hours. It depends on how exactly how your
4 body processes have the thiopental, but certainly many
5 hours, after that.
6 Q Yeah. Now the stuff was about infiltration. Is
7 that when the needle that goes through and it wouldn't
8 necessarily go directly into the vein? And is that vein
9 in --
10 A If that configuration if it goes through or not
11 far enough, or it could be in a right place when the vein
12 gets discharged or ruptured so that we can back out of the
13 vein.
14 Q And I know you asked that (inaudible) you know,
15 roughly the amount of chemicals or drugs that we use in an
16 execution here in Kentucky.
17 A I don't know the concentration that is being
18 using at --
19 Q I understand the concentration, but volume.
20 A What you don't -- I know the quantity, but I
21 don't know the concentration, therefore I can't know the
22 volume.

1 Q Okay, but you know it’s a significant amount.
2 A I really don’t know what concentration they are
3 making it up now.
4 Q Would you agree that if we push a great deal of
5 fluid into somebody’s vein, that you would notice swelling
6 around that site?
7 A What do you mean by great deal?
8 Q Enough to be noticed by an ordinary person.
9 A What I mean the toxicology.
10 Q Great deal, how much fluid I think the question
11 is -- 25 milliliters, or whatever -- I’ll just move on.
12 Are you aware -- would you disagree what Dr. Tracy Corey
13 the State’s Medical Examiner that she noticed no
14 infiltration, you have any reason to disagree with that?
15 A I haven’t noticed (inaudible) State Medical
16 Examiner, I sure she’s extremely well qualified, and if
17 she did not see any evidence of infiltration I think it is
18 unlikely that there was infiltration.
19 Q And speaking about the heart resuscitation I
20 think you briefly touched on that during your testimony.
21 Are you aware that everyone in that -- everybody who
22 witnessed that execution said that Eddie Lee Harper went

1 to sleep immediately, and made no movement, for the rest
2 of the execution? Have you read that when you looked into
3 Eddie Lee Harper's execution?
4 A Not aware that everybody said that, but I seen
5 descriptions that says that Eddie Lee Harper appeared to
6 be peaceful and not struggling (inaudible)
7 Q And if somebody were given a three gram and two
8 gram dose of sodium thiopental, is that exactly what you
9 would expect to see?
10 A Yeah, I would expect to see (inaudible) and then
11 for the person to be still.
12 Q Are you familiar with Professor Deborah Denno?
13 A I know her, yes I know her, some of her works, I
14 know Denno.
15 Q Did you have any discussions with her regarding
16 Eddie Lee Harper's execution?
17 A I had quite a deal discussions about lethal
18 injections with Professor Denno and I do not recall any
19 discussion about the Harper execution.
20 Q You know she considered that a proper execution?
21 SPEAKER: Objection, hearsay.
22 SPEAKER: I don't believe there is any --

1 SPEAKER: Objection to the form of question.

2 BY MR. MIDDENDORF:

3 Q And you mentioned, I believe, the execution of

4 Timothy Mcgrain -- in the context of that you mentioned

5 that a possible tear in the eyes is classic sign of being

6 alive under anesthesia, do you recall that testimony?

7 A Yes.

8 Q Who is that witness, that you were talking

9 about, that noticed the tear in Timothy Mcgrain's eye?

10 A It was a reporter from a newspaper in

11 (inaudible) New york. I don't recall his name or the

12 newspaper.

13 Q Was there just witness or did you (inaudible)

14 A I just read that and that's the only one that I

15 recall, that one witness. I think he was a witness to it

16 in the at the site of the (inaudible), witnesses were

17 looking at a video camera which was looking straight down

18 and he was looking from the side

19 Q How do you know that?

20 A I kind of think he was there. I don't know if

21 that -- but I believe --

22 Q You can't verify that?

1 A All the configurations that I’ve seen, the
2 witness are -- started posting the levels as the inmate
3 and the inmates is on your back, so inferring from what I
4 know from all the other executions I’m really sure about
5 that but I’m not certain about that.
6 Q Isn’t it true that other things could cause a
7 tear in the eye, when you are -- when somebody is
8 unconscious?
9 A It is, but I have to tell you when somebody is
10 under anesthesia and we see tearing in the eye, we are
11 very concerned, what they are like under anesthesia.
12 Q But it doesn’t necessarily mean that they are
13 feeling the effects of the -- effect of the drugs like
14 thiopental.
15 A it doesn’t prove it. No, the only way to notice
16 somebody is conscious when they are paralyzed is to ask
17 them once they are not paralyzed. It is the only way to
18 know the difference.
19 Q Are you familiar with an article by Dr.
20 (inaudible) “Monitoring depth of anesthesia”.
21 A No, I’m not.

1 Q Judge, if we could mark this, I believe that is
2 Exhibit 4.
3 THE JUDGE: Are we on 4?
4 SPEAKER: It’s 4.
5 SPEAKER: Your Honor, I’m going to object to
6 this document.
7 SPEAKER: Is it something that’s been provided?
8 SPEAKER: We haven’t seen this before.
9 SPEAKER: Sir, this is information that is
10 reported --
11 SPEAKER: Can we get a copy of it?
12 BY MR. MIDDENDORF:
13 Q Now Doctor, can you read the second paragraph of
14 the highlighted portion?
15 A The highlighted of the second --
16 Q The underlined part.
17 A -- let’s see underlined parts on my --
18 Q On the left side.
19 A Yes. “Awareness during surgery happens. Then
20 in parenthesis, “Awareness during anesthesia is an
21 oxymoron.” close parenthesis. When it’s delivered at
22 inadequate levels of anesthesia is the cause of awareness.

1 Equipment failure is the obvious cause of the inadequate
2 anesthesia. But poor judgment regarding the amount of
3 anesthetic required to counteract the stimulating effect
4 of not just surgical procedures probably the most common
5 cause.”
6 Q So these are doctors that make mistakes. It’s
7 not the drugs. We continue giving the drug but it is
8 actually the doctors, are the ones that might cause this
9 phenomena, is that a fair statement?
10 A Not completely. There are instances where a
11 patient is extremely resistant to anesthetic drugs, and
12 giving a normal or even a high dose produces veritable
13 anesthetic effects. But in general, I would agree that it
14 is the responsibility of the anesthesiologist to monitor
15 and -- all these signs and the equipment and be constantly
16 synthesizing that information to complement their
17 judgment, and that way the patient is properly
18 anesthetized. That was agreeable. But I think they’re
19 asking that errors in judgment, that it is a positive and
20 major cause that the patient staying awake and paralyzed
21 during surgery.

1 Q And what this article talks about is a
2 therapeutic setting, correct not an execution?
3 A I haven’t read it, but I can’t --
4 Q Well, that --
5 A -- I’d be surprised if it is not about a
6 therapeutic setting. But surely it is about a therapeutic
7 setting.
8 Q Now, if you can read the second underlined
9 paragraph on the right side, if you can read that as well.
10 A Yes, “That given that awareness does occur, how
11 can it be prevented? Vigilance is the best advice.
12 Unexplained changes in subjective estimates of light
13 anesthesia, ECG, pulse rate, blood pressure, tears and
14 sweating may be signs of awareness in patient subjects to
15 competitive neuromuscular blockade. However, these signs
16 are not reliable and it is concerned that the anesthetic
17 refers the patient to exhibit an awareness cannot be
18 distinguished from normal patients, when scrutinized by
19 blinded anesthetists.
20 SPEAKER: We would ask that be admitted, Your
21 Honor.
22 THE JUDGE: Any objection to admission?

1 SPEAKER: Just that the one we stated previously
2 that it wasn't shown in discovery.
3 SPEAKER: Oh, Judge, this is --
4 THE JUDGE: I'll order it be moved to 4.
5 BY MR. MIDDENDORF:
6 Q Okay, let's talk about the mixing of Sodium
7 Thiopental, I believe you had touched on that during your
8 testimony. I believe you testified that sodium thiopental
9 is unstable, so you actually mix it yourself? Is that a
10 fair statement? Is that your testimony?
11 A I don't think that I explained why it is that we
12 mix it, I kind of stated that as a point of fact that it
13 comes unmixed, and then we have to mix it.
14 Q Let me ask about -- didn't you testify that you
15 mix it yourself?
16 A Yes. On the rare occasions when I used that,
17 yes.
18 Q And, I believe you testified that you do this
19 because it begins to deteriorate immediately. Is that
20 correct?
21 A I actually don't recall testifying to that
22 today.

1 Q Okay, do you recall testifying to that in
2 another statement?
3 A No, I don't. I'll state, as a point of fact I
4 agree with it, that it is true.
5 Q Okay. that it deteriorates immediately.
6 A It does begin to deteriorate, it's not stable in
7 solution as compared to many other drugs that can be held
8 as a mixed solutions for months at a time.
9 Q I'd say that, suppose you said, "It begins to
10 deteriorate."
11 A Anything -- if a person talks about a way, it
12 depends on what he means by that, it shouldn't be used
13 more than 24 hours after being mixed up.
14 Q Is it true that some hospitals mix it in liter/
15 gallons -- sorry, in liter bottles that use quite a bit of
16 it, and then would put a 72-hour expiration date on that?
17 A I don't know if that is true. I have never
18 heard of that practice.
19 Q So wouldn't that b a fair amount of time also --
20 A I would state also, I don't believe that there
21 are that many hospitals even using Pentothal in liter
22 quantities per day. I think --

1 Q Let me ask you this, Kentucky's protocols says
2 to mix up at least two hours prior to an execution. Is
3 there any chance of it not being affected by the time it
4 is inserted into the inmate's veins? (inaudible) I
5 understand --
6 A Right, if that happens then everything else
7 could -- deterioration is not going to be a significant
8 problem if it's two hours.
9 Q In fact, there's not going to be any, is it?
10 A If it came up, it means there might be a one in
11 a one, -- 1 in a 1000 drop in (inaudible) or something
12 like that.
13 Q I believe you also testified that sodium
14 thiopental would precipitate with pancuronium bromide, is
15 that correct?
16 A As best as I could -- I wasn't speaking quite
17 clearly. The pancuronium, the solution that the
18 pancuronium is in causes the Pentothal to precipitate on
19 its solution.
20 Q Which one would precipitate?
21 A The Pentothal.
22 Q Would precipitate on an equal ratio, is that

1 correct, equal amounts?
2 A It’s interesting, my -- I think many people
3 think that the pancuronium has molecules, and the
4 Pentothal molecules actually bind together, you know, one-
5 to-one, and come out of solution, but I don’t think that’s
6 what happens. I think what happens is the Pentothal, it
7 splits up and comes out of solution. The solution that
8 the pancuronium is in does not support Pentathol getting
9 dissolved.
10 Q Do you have anything to back that up, that
11 theory?
12 A I have read it in a medical literature.
13 Q Okay.
14 A I don’t have that strictly (inaudible) citation
15 on here.
16 Q If Dr Dershwitz were to testify that if we use
17 3000 mg of sodium thiopental, with 50 mg of pancuronium
18 bromide, if they were to actually come in contact with
19 each other, only 50 mg of sodium thiopental would actually
20 precipitate. Would you disagree with that? So he would
21 be of the opinion that 2950 mg would remain of sodium
22 thiopental.

1 A It’s just -- completely confusing milligrams,
2 and smaller amounts. These molecules have very different
3 molecular weights, and they also don’t precipitate one-to-
4 one, is my understanding, with each other. So I would
5 disagree with what I think you are saying Dr Dershwitz was
6 saying.
7 Q You are saying, your understanding, what is
8 that?
9 A My understanding is that the --
10 Q What is it based on?
11 A It is based on something I read about the
12 interaction between pancuronium solutions and pentathol
13 solutions.
14 SPEAKER: One second, please.
15 MR. MIDDENDORF: May I approach him, please?
16 THE JUDGE: Go ahead.
17 BY MR. MIDDENDORF:
18 Q Are you ready for -- to read what that says?
19 A Yes, I am.
20 Q And it says “cc,” did you testify earlier of
21 saline?
22 A I -- Yes.

1

2 THE JUDGE: Could you let me compare and see

3 that, Mr. Shouse?

4 MR. MIDDENDORF: Sure, Judge, I apologize.

5 SPEAKER: I remember it correctly.

6 THE JUDGE: He just asked, -- did he ask him if

7 that's cc, and he answered "yes."

8 MR. MIDDENDORF: That's all I asked.

9 MR. BARRON: Well, I am going to object because

10 I don't see if any questioning is involved in this.

11 Whatever he happens to be at the moment on the basis that

12 we have no idea, I guess it's something you can't even

13 see, or something that is used in lethal injections here,

14 anyway.

15 THE JUDGE: I assume that when they present

16 their case, it may come forward. It may not --

17 BY MR. MIDDENDORF:

18 Q Would you agree that a phlebotomist is certainly

19 capable of inserting an IV into a vein?

20 A No, not necessarily, not certainly.

21 Q What about somebody with eight years of

22 experience that does it on a daily basis?

1 A Probably they would be, yes.

2 Q Okay. And an EMT certainly -- if they had
3 enough experience could do that?

4 A If they had enough experience then they
5 definitely would be able to do it. Again --

6 Q And if that --

7 THE JUDGE: Let him finish, go ahead.

8 THE WITNESS: If anybody, you know, it's do-
9 able, and like I said, with some people, it's very, very
10 difficult to obtain -- put an IV in so, just to clarify.
11 I wouldn't care to state they certainly do it, because
12 there's some people that certainly nobody can do it for.

13 Q In fact, I think you testified that inserting
14 IVs is basically easy. That was your testimony?

15 A For people for whom it is easy, it is easy.
16 Yeah.

17 Q And you also testified that if you weren't able
18 to do it within a matter of a few minutes you would ask
19 somebody else to do it?

20 A Yeah, it depends on how the patient is
21 tolerating it and stuff, because --

22 Q Are you aware that there are two members in the

1 IV team in Kentucky?

2 A Yeah.

3 Q So if one weren't able to get an IV into one

4 vein, one person could do both of them?

5 A Possibly, yes.

6 Q And I thought you testified that you would try

7 it out up to an hour. Maybe not you personally, but

8 somebody at the hospital, maybe a couple of people might

9 try it up to an hour before you would start a central

10 line.

11 A If I said that, that was not what I meant to

12 say; that would be accepted generally, and you get them

13 going. It depends on the situation and the patient, but

14 after a few attempts and minutes, you've basically

15 exhausted all the potential sites, and there is nothing

16 more to try for, and it just becomes, you know, frivolous

17 and, so one would change tactics, and if the patient

18 really has to have an IV access, which basically all of

19 our surgical patients do, we would -- straight through a

20 central line. But I would not go for a (inaudible).

21 Q Is it true that most hospitals actually have IV

22 technicians, or phlebotomist technicians?

1 A I don’t know if they -- guess it depends on the
2 kind of hospitals.
3 Q What about your hospital; do you have
4 technicians other than nurses and doctors that insert IVs?
5 A There are some that work on the support, yes.
6 Q Is it also true that often they teach medical
7 residents because they are so proficient in it, because
8 they do it?
9 A That’s definitely true, yes.
10 Q Now, you’ve testified, I believe, you stated in
11 many other states, is that correct?
12 A Or at least testified in court in, I think, in
13 four other states.
14 Q Have you ever testified on behalf of the state
15 in an execution? I realize that the people who hired you
16 are state attorneys also, but each time have you testified
17 on behalf of inmates?
18 A Yes.
19 Q If it’s okay, can I refer to Pancuronium Bromide
20 as Pavulon as it might make it a little more easier?
21 A Fine with me.
22 Q The higher concentration of Pavulon, the quicker

1 they would go to sleep. Is that an accurate statement?
2 A No.
3 Q Or quicker they would be paralyzed. Do you
4 disagree with that statement?
5 A Yes, I do. The concentration --
6 Q Well, the higher the milligrams --
7 A It's -- the more milligrams that is given,
8 you're saying the faster the onset?
9 Q Yes.
10 A If you are asking about the actual speed of
11 onset of paralysis --
12 Q The more that I give in milligrams, if I give 50
13 mg, like I do in Kentucky, that individual can become
14 paralyzed quicker than if I gave him2 mg.
15 A Correct, but 2 mg, they wouldn't be completely
16 paralyzed. Yes, that's correct.
17 Q And I believe you testified that they would
18 desperately want to breathe, because they would be
19 suffocating if given 50 mg. Is that an accurate
20 statement?
21 A If somebody were not given an anesthetic drug,
22 instead they were just given 50 mg of pancuronium, yes.

1 Q But Kentucky doesn't do that, do they, from this
2 protocol that you've read.
3 A If protocol is intending to give 3 gm of
4 Pentathol.
5 Q And you would also agree that Pavulon remains a
6 very useful drug in many hospitals. Is that correct?
7 A Yes.
8 Q I believe you testified that the -- I guess,
9 desired effect in an execution is to render the person
10 dead in a humane and dignified fashion. Do you recall
11 testifying to that?
12 A I don't think I said "dignified" but I would, in
13 fact just have said --
14 Q Humane fashion.
15 A -- dead in humane, but I would agree with
16 dignified also.
17 Q And Pavulon is sometimes -- sometimes used in
18 surgeries, or there might be -- I believe you testified
19 "delicate" procedures that needed to be do -- be done like
20 around the spine, you would certainly use Pavulon, or
21 something like that.
22 A Actually not around the spine, but there are

1 places, the eye, the ear, abdominal, there are surgeries
2 when it will be very beneficial to use Pavulon.
3 Q Now, if I used Pavulon on an individual, is
4 there the chance of IV lines being pulled out if there
5 was any kind of involuntary muscle reaction?
6 A I -- the muscle --
7 Q If I weren't giving that drug, is there the
8 possibility that there would be involuntary muscle
9 movement?
10 A Yes. And there is a possibility basically with
11 pancuronium also.
12 Q There is?
13 A I think it's possible, yes.
14 Q Okay. But if I am given that -- but you just
15 testified, I believe, that you use Pavulon to make sure
16 that they don't.
17 A Right, if you don't give concentrated potassium.
18 And concentrated potassium, think it is like, it could,
19 you know, cause muscle contraction even in a person who
20 has been given pancuronium, and that's impossible. Again,
21 we're a little bit out of the realm of what's known
22 because it hasn't been clinically studied.

1 Q But the line is less likely to be pulled out, or
2 come out from an involuntary movement if Pavulon were
3 given to an individual, or administered to an individual?
4 A If Pentathol has been given properly there
5 wouldn't be any involuntary movement any way. If the
6 Pavulon is being given to stop involuntary movement, that
7 means the concerned -- Pentathol hasn't been given
8 properly. And I don't believe -- my understanding would
9 be that the inmate is restrained, so in this particular
10 context, I am not sure what kind of involuntary movement
11 would be capable of dislodging a properly secured IV line.
12 I think that is virtually impossible.
13 Q I believe you talked about the mixing of drugs.
14 Is that correct? At least the reconstituting of sodium
15 thiopental, do you recall talking about that?
16 A That was discussed, yes.
17 Q And I think you testified that it's a difficult
18 thing to do. Does that sound familiar?
19 A All these things were in the context of what
20 one's background is.
21 Q Okay.
22 A I think if I asked you to do it, you would

1 probably botch it up. If I --

2 Q I appreciate that.

3 A Okay. But if I asked a person do it, frequently

4 is a part of their daily clinical practice, the

5 practitioner would use such terms like cc, milliliters,

6 milligrams, and grams, and percentages and stuff like

7 that.

8 Q Have you seen the pictures of how (inaudible) in

9 Kentucky that was provided to you by the Plaintiffs?

10 A I did see it, there are some pictures, yes.

11 Q And sodium thiopental basically comes in, really

12 a little tube of powder, and also a little tube of fluid.

13 Is that correct?

14 A Not exactly. There is a glass bottle that has

15 powder in it.

16 Q Okay, we might disagree on the container, but

17 it's a very small -- two small containers, glass, with a,

18 I guess a little bit of maybe kind of plastic on the top

19 or rubber on the top that you would stick a needle down

20 into, correct?

21 A Yes.

22 Q And then you would pull up the fluid.

1 A Yes.

2 Q Stick it in the powder, and push it in and shake

3 it up.

4 A Yes.

5 Q And I believe our doctor, actually testified Dr.

6 Hass said that it's like mixing Kool-Aid. How difficult

7 is that? I just described it. How difficult is it to

8 pull back on a syringe with the fluid, take it out, put it

9 into the powder, and push the fluid back in and shake it

10 up. Is that difficult to do?

11 A I don't even know what percentage they're trying

12 to make up.

13 Q If I already know that?

14 A That's not a percentage, that's an amount.

15 Q Okay. What -- does it make a difference? If I

16 --

17 A I don't know what the details of your other

18 protocol are, so I don't know how difficult it is to

19 follow it.

20 Q But the actual mixing of the chemical is not a

21 difficult thing to do.

22 A If you have the right amount of powder, and the

1 right amount of water, yes, shaking something is not
2 difficult to do.
3 Q Okay. And if somebody, I think you saw that we
4 have qualifications on our IV team. You spoke about
5 thatbriefly; correct?
6 A That was touched upon, yes.
7 Q Okay, and --
8 A I haven't seen that credential --
9 Q But you understand that we require some kind of
10 medical background with those details?
11 A Yes, there is a list of different possibility
12 for medical courses on various things that could be --
13 Q And those people that are mentioned there, if
14 they had experience, they can certainly take care of that
15 mixing of the drug?
16 A If you read the --
17 Q Or reconstituting that one drug, I should say.
18 A Yes, if you read the package insert for
19 Pentothal, what it says is that it should only be done by
20 individuals who are trained and -- I forgot the exact
21 language, in the administration of intravenous anesthetic.
22 Now given that most phlebotomists -- I think -- I don't

1 think any of the phlebotomists give intravenous
2 anesthetic. In regards to EMTs functioning as
3 anesthesiologists, the answer is no.
4 Because the package insert itself says that the
5 only people who should use this, particularly mixing it
6 up, are people who are trained and experienced in the
7 administration of intravenous anesthetic.
8 Q But would you agree that phlebotomists and EMTs
9 are familiar with CCs and volume and concentration?
10 A Actually phlebotomists don't administer drugs is
11 my understanding, I don't know about Kentucky
12 specifically, but there is no reason for them to be
13 familiar with CCs and milligrams and percentages and all
14 those things. Furthermore, I am not aware of any drugs
15 that EMTs mix up themselves. That could reflect the fact
16 that I'm not an EMT, but generally the drugs that EMTs --
17 MR. BARRON: I don't know if there is a question
18 out there.
19 MR. MIDDENDORF: Well, he is responding --
20 pertaining to EMTs and paramedics question, so go ahead.
21 BY MR. MIDDENDORF:
22 Q Let me ask -- you are talking about mixing up

1 those two bottles, and Dr. Heath has asked about
2 concentration. Is there an amount of water, I guess, is
3 there water that you use with 3 g of sodium thiopental, I
4 mean is there a specified amount?
5 A There is a range of amounts, so it could be made
6 up, I think, as low as two percent. If you go below two
7 percent then that causes problems with the blood and they
8 generally don't talk about going above five percent at
9 least to my knowledge, but generally there is a point well
10 within that range, I think, to be considered normal,
11 depending on the kind of context.
12 Q So the amount of thiopental that's in the one
13 jar, ideally, the water that goes in would be an amount
14 that would equal in 2 percent solution or a 4 percent
15 solution --
16 A Whatever it is, I don't know what the DoC is
17 aiming for. I was just specifying the protocol, the
18 concentration or the volume. It just says -- just
19 announcing the number of grams.
20 Q Okay. When you are actually -- let me ask you
21 this (inaudible) -- when you actually buy the drug, and I
22 think you got provided with pictures, is that correct?

1 A I think I'll stick with data.
2 Q It actually -- the powder actually comes with
3 the fluid in the amounts that they are supposed to be
4 mixed in. So you don't have to measure, to mix at least
5 those two together, you don't have to measure anything
6 else, but what I don't -- it's one-to-one.
7 A Different Department Of Corrections around the
8 country use different concentrations of thiopental and I
9 don't know which one, what the Kentucky DoC has specified.
10 So I don't know they want to be mixed up that way or not.
11 I mean, you can't know that without knowing the volume in
12 which the drug is to be constituted as well as the amounts
13 of drug. It's elementary, not chemistry.
14 Q I just want to go back to one side theme. Going
15 back to -- if we look at the questions regarding the EKG
16 and also the actual time when the first drug was
17 administered, I believe the time period is five minutes,
18 do you recall that?
19 A I think we agreed on that, yes.
20 Q So -- and I believe you testified because I
21 wrote this down, but -- I am sorry -- I can't find the
22 spot. You didn't notice anything out of the ordinary

1 according to the EKG thing or the reading?
2 A Until -- within this hearing?
3 Q Until the potassium chloride comes -- within one
4 minute of the potassium chloride, he is basically dead,
5 correct?
6 A Right. I was just going to say, the rhythm to
7 this section, there's some ambiguity in this (inaudible)
8 gets into a definition of what death actually is. But,
9 yeah, it is that the heart is stopped, and there is no
10 more profusion of blood --
11 Q And if these times are accurate, if somebody
12 came in here and said, now he was alive for 10 minutes,
13 15, minutes, 20 minutes, you would disagree with that?
14 A Well, I -- I forgot, what time was death
15 pronounced?
16 Q You said that the EKG said 7:21 p.m.
17 A But that's not the pronouncement of death.
18 Death as pronounced by --
19 Q 07:28 p.m.
20 A And it started to -- the drug started at 07:16
21 p.m.?
22 Q Yes.

1 A That’s 12 minutes, that’s just -- I think -- I
2 assume death was pronounced by a physician.
3 Q That was pronounced by the coroner. And these
4 are your words. Dr. Highlan who was also there said that
5 it was about eight or nine minutes that they watched the
6 monitor before death was actually pronounced. So if you
7 go by that, he was pronounced dead 7 minutes, I guess
8 after you said he died at 07:21, according to the EKG.
9 A I don’t have the numbers in front of me, but I
10 think that sounds right. Started at 07:16 p.m., death at
11 -- EKG declaration at 07:21 p.m., five minutes later, and
12 then it’s at 07:28 p.m., they actually pronounced death.
13 So it’s a 7-minute interlude between -- so it just sounds
14 like they are saying the same thing, yeah the EKG was --
15 they watched it for a while.
16 Q So your testimony is that after five minutes of
17 these numbers were correct, he was dead.
18 A Yes, the type of death could have been
19 suffocated death. Harper (inaudible) some of them can
20 even be suffocated. Who were suffocated (inaudible), are
21 they dead? Actually, was pronounced --
22 Q Would there be time to resuscitate after that?

1 A My understanding is that there are situations
2 where a stay or commutation or other mechanisms can
3 arrive, that there would be absolutely a need to
4 resuscitate now. There are other states that have fully
5 brought that into play are taking steps to achieve that if
6 necessary.
7 Q How many stays are you aware of taking place
8 during an execution? I mean during all your research.
9 A I believe there is one in California, where they
10 had started the -- this was a gas chamber execution, but
11 they have started to cross-strap the man. That's one --
12 Q So one that you are aware of?
13 A Well, you are interrupting me.
14 Q I am sorry, go ahead.
15 A There is also the situation of regarding Nevada
16 where the volunteer who I think -- and he might have the
17 time to reflect on the -- I am not sure of the legal
18 language that's in. In effect, stay the execution himself
19 by saying they wanted to stop, and they wanted to pursue
20 appeals and just that inmate did that after the protocol
21 was initiated.
22 Q And so you are aware of two that actually

1 happened during an -- during an execution, once the poison
2 had gone through?
3 A (Inaudible) I have looked into formerly, I'm
4 aware of two, yes.
5 Q Are you aware of how many executions took place
6 in the last 10 years by lethal injection?
7 A I don't know the exact number, but several 100.
8 MR. MIDDENDORF: I don't have any further
9 questions.
10 THE JUDGE: Mr. Barron.
11 MR. BARRON: May I approach the witness?
12 THE JUDGE: Yes.
13 REDIRECT EXAMIANTION
14 BY MR. BARRON:
15 Q For the record, I am showing you a copy of
16 what's been entered into as Defendant's Exhibit 4.
17 Referring you to the second column, paragraph that begins
18 with "Objective death," would you read that to the court
19 please?
20 A Yes.
21 Q Go ahead.
22 A "Objective death with anesthesia monitoring by a

1 dedicated monitor for add on to existing equipment, used
2 properly, can potentially help to prevent awareness. The
3 ideal monitor would be a number of criteria including,
4 one, it indicates the state during light anesthesia
5 preceding conscious awareness; two, closely reflects
6 changing concentration with anesthetic agent; three,
7 sensitive to stimuli of different modalities especially,
8 surgical stimulations; four, high temporal resolution with
9 real time presentations of results; and five, (inaudible)
10 of anesthesia for all anesthetics on a common scale."
11 Q Thank you. Dr. Heath, could a person with 3
12 mg/l thiopental in their body, wake up in less than five
13 minutes?
14 A Person with three mg/l of thiopental in their
15 body could be awake at the time they have that
16 concentration.
17 Q Thank you.
18 THE JUDGE: At the risk of prolonging, let me
19 ask a couple of questions. Is the -- BIS monitor, is that
20 the anesthesiological favorite for hospitals for some
21 time?
22 THE WITNESS: That's a very interesting

1 question. There are a lot of anesthesiologists serving us
2 today. There are some who advocate that the common --
3 what we call the standard of care and there are others who
4 are saying that that is not warranted, so you can argue
5 the point but it is not -- for example like the EKG or
6 blood pressure cuff which are considered to be the
7 mandatory standard of care.
8 THE JUDGE: (Inaudible). I'll take it in a --
9 in a malpractice action, would your testimony be that an
10 anesthesiologist who did not need the BIS monitor
11 violating the standards of care?
12 THE WITNESS: (inaudible) double negative. If I
13 were asked -- an anesthesiologist who had a patient like
14 consciousness awareness being to and had not used a BIS
15 monitor, I would not (inaudible) he did not have to find
16 out in the BIS monitor.
17 THE JUDGE: The other area, doctor, you have
18 been very careful in some of your descriptions of your
19 drugs, and you did mention that you thought there were
20 other drugs that would be less painful. Is it your
21 understanding that you would be prohibited by ethical
22 considerations from accepting the contract with

1 Commonwealth (inaudible) who devise a less painful lethal
2 injection system, or could an anesthesiologist do that?
3 THE WITNESS: Another complicated question in
4 this anesthesiologist debate. I believe that legally an
5 anesthesiologist (inaudible) upon it. I believe if you
6 have professional ethics of guideline which would advise
7 or counsel against doing that.
8 THE JUDGE: The other area I have -- what would
9 be in your opinion the reaction, physical reaction of a
10 condemned inmate if that inmate was only given 3 g of
11 sodium thiopental and then the potassium chloride after
12 the poison solution?
13 A It's got to be administered after thiopental has
14 rendered him deeply unconscious to the point where no
15 stimulation, even the very painful stimulation would cause
16 any response. It is possible that the potassium might
17 make the body move involuntarily even though they were
18 deeply unconscious. But again it would not have the
19 experience that it will be there in the 2 to 3 g of
20 thiopental, it would be completely humane.
21 THE JUDGE: Are you saying there would be
22 involuntary movement of the body, or it's your opinion

1 there will be no involuntary movement?

2 THE WITNESS: I actually know the (inaudible) it

3 is quite possible that there would be involuntary

4 movement, but I can't say for sure.

5 THE JUDGE: All right. Anyone have any

6 questions?

7 SPEAKER: No, Your Honor.

8 THE JUDGE: Thank you, doctor.

9 THE WITNESS: (inaudible).

10 SPEAKER: That's all we have for the day.

11 THE JUDGE: For the day.

12 SPEAKER: 9:30 a.m. tomorrow?

13 THE JUDGE: 9:30 a.m. tomorrow. What will be

14 actually the schedule?

15 SPEAKER: We have -- we could be down at a

16 reasonable hour, or you know one way to organizing these

17 (inaudible).

18 THE JUDGE: That's in the afternoon, right?

19 SPEAKER: That's in the morning.

20 THE JUDGE: Oh, in the morning?

21 SPEAKER: (inaudible) for morning and three

22 short witnesses all (inaudible) employees and all DoC

1 employees after that.

2 THE JUDGE: Okay. Let me ask then is it the

3 Commonwealth position that you are just going to call Dr.

4 Dershwitz, or are you going to have other witnesses that

5 are --

6 MR. BARRON: At this time, we will be planning

7 to call Dr. Dershwitz.

8 THE JUDGE: Okay. All right. All right, we'll

9 see tomorrow morning 09:30 a.m.

10 SPEAKER: We'll be down back in the morning. We

11 are not going to place that exhibit.

12 THE JUDGE: You don't want to place the exhibit?

13 SPEAKER: Yeah.

14 THE JUDGE: Okay. Thank you. We will be in

15 recess till tomorrow morning 09:30 a.m., and thank you.

16 (Whereupon, the HEARING was adjourned for the

17 day.)

18

19