NORTH CAROLINA IN THE GENERAL COURT OF JUSTICE

ORANGE COUNTY SUPERIOR COURT DIVISION

FILE NO. 04-CVS-2114

THE ESTATE OF [PATIENT], [HUSBAND], Administrator; [HUSBAND], Individually; [PATIENT'S MOTHER], Individually; [PATIENT'S FATHER], Individually, Plaintiffs,

v.

[DOCTOR #1], Individually; [DOCTOR #2], Individually; [Doctor #3], Individually; JAMES R. [DOCTOR #4], Individually; Defendants.

VIDEOTAPE DEPOSITION UPON ORAL EXAMINATION

OF PHILIP G. LEAVY, JR., M.D.

TAKEN ON BEHALF OF THE DEFENDANTS

Norfolk, Virginia

July 12, 2005

TAYLOE ASSOCIATES, INC.

Registered Professional Reporters

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Appearances:

On behalf of the Plaintiffs:

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On behalf of the Defendants:

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Also present:

BRIAN COLEMAN, Videographer

I N D E X

E X H I B I T S

Videotape deposition upon oral examination of PHILIP G. LEAVY, JR., M.D., taken on behalf of the Defendants, before Kristi R. Weaver, RPR, a Notary Public for the Commonwealth of Virginia at Large, commencing at 9:45 a.m., July 12, 2005, at the offices of Tayloe Associates, Inc., 253 West Bute Street, Norfolk, Virginia.

(Documents were marked as Exhibits 30, 31, and 32.)

THE VIDEOGRAPHER: We are on video now if you want to do anything, and then I'll start the slate.

MS. CHENEY: Okay. This is Lee Cheney speaking, attorney for [Doctor #1], [Doctor #2], [Doctor #3], and [Doctor #4]. And this is in the case of the Estate of [Patient], [Husband], Administrator; [Husband], Individually; [Mother], Individually; and [Patient's Father], Individually against the defendants that I just named.

This case is being taken pursuant to the North Carolina Rules of Civil Procedure and pursuant to notice and agreement of counsel and will be governed by the North Carolina Rules of Civil Procedure with formalities waived with respect to --

to any -- any rules about the witness reading and signing before this particular court reporter or anything like that.

Right?

MS. LORANT: Yes.

MS. CHENEY: And, Dr. Leavy, you have a right to read and sign your deposition after it's been transcribed, or you may elect to waive that right. What is your preference?

THE WITNESS: I'll waive it.

MS. CHENEY: Okay. So the witness has agreed to waive. And is that okay with you, Ms. Lorant?

MS. LORANT: It's his choice.

MS. CHENEY: Okay. Witness has agreed to waive his right to read and sign.

And that being the case, we can proceed with the deposition.

THE VIDEOGRAPHER: Okay, great. We are on record at 9:49 a.m. on Tuesday, July 12th, 2005. This is the videotape deposition of Dr. Philip Leavy at 253 West Bute Street, Norfolk, Virginia. This deposition is being taken on behalf of the defendants in the matter of the Estate of [Patient], [Husband], Administrator, et al versus [Doctor #1], et

al, File Number 04-CVS-2114, pending in the General Court of Justice, Superior Court Division, North Carolina, Orange County.

My name is Brian Coleman with the firm of Tayloe Associates, Incorporated, located at 253 West Bute Street, Norfolk, Virginia, 23510. I'm the video technician for this deposition.

The court reporter is Kristi Weaver of Tayloe Associates, Incorporated.

Will counsel please introduce themselves for the record and state whom they represent.

MS. CHENEY: I'm Lee Cheney, and I represent the defendants.

MS. LORANT: I'm Bree Lorant. I represent all the plaintiffs.

THE VIDEOGRAPHER: Please swear in the witness.

PHILIP G. LEAVY, JR., M.D., called as a witness, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MS. CHENEY:

Q. Good morning, Dr. Leavy.

A. Good morning.

Q. As you just heard, my name is Lee Cheney, and I represent the defendants in this action. It's my understanding that you have been designated as an expert witness expected to testify on behalf of the plaintiffs in this case. Is that also your understanding?

A. Yes, ma'am.

Q. I'm going to hand you what's been marked as Deposition Exhibit 30 and let you just -- and just represent to you that this is the notice of deposition for your deposition here today. And let me just ask you if you have seen that document before?

A. I don't believe I've seen this. I was told by counsel what -- what to do, though.

Q. Okay. And have -- if I can just call your attention to the last page, the Exhibit A to that -- to that notice of deposition appears to be a list of documents that you were asked to bring with you today. Have you brought any documents in response to that request?

A. Yes, I have.

Q. Okay. Tell me what you've brought with you today.

A. I brought a copy of the hospital record,

the ED visit in particular from 11-24-03 of [Patient] . This also includes the [Community Hospital] ED record, as well as office records from Patrick Goodwin, the labor and delivery admission, and the specialty care -- Women's Specialty Care Clinic prenatal care.

Q. Okay.

A. In addition to that, I have brought some articles. One is, actually, a copy of some pages from the Emergency Medicine text written by -- or editor in chief is Judith Tintinalli.

Also, a similar copy of some literature from Rosen's textbook on Emergency Medicine.

Q. Okay. Let's, first of all, get the -- what you brought by Tintinalli, the Fifth Edition Emergency Medicine, marked as Exhibit 33.

(The document was marked as requested.)

MS. CHENEY: And the Rosen's Emergency Medicine as Exhibit 34.

(The document was marked as requested.)

BY MS. CHENEY:

Q. Any other copies of medical literature that you brought with you today?

A. I have copies of some literature that was actually sent to me to review, and you can have --

these are just abstracts, really, of some articles.

Q. Okay. And these were sent to you to review by whom? Who sent these?

A. Bree.

Q. Okay. The plaintiffs' counsel sent you these?

A. Plaintiffs' counsel.

Q. And there -- one, two, three, four, five, six -- there appear to be seven articles off of PubMed that comprise this group of documents you just handed me, correct?

A. Actually, the abstracts from the articles.

Q. Abstracts. And have you read the full articles from these abstracts?

A. I haven't read every single article. I couldn't find some of them.

Q. Okay. Which ones have you read?

A. Oh, boy. I don't know.

Q. Let's --

A. I didn't bring them.

MS. CHENEY: Let's get these collectively marked as Exhibit 35.

(The documents were marked as requested.)

BY MS. CHENEY:

Q. And if I just hand you what's been marked -- now marked as Exhibit 35, are you able to look through those and tell me which of the complete articles you've read and which ones you haven't read?

A. I did not read the complete article on "Streptokinase and Heparin versus Heparin Alone."

Q. Who's the author on that one?

A. Jerjes Sanchez.

Q. Okay.

A. I have read this article prior to the -- being involved with this case. This is the article on "Should thrombolytic therapy be used in patients with pulmonary emboli."

Q. And you read that not necessarily in connection with this case, you had read it previously --

A. Right.

Q. -- is that correct?

A. Yeah, yeah.

That's from the American Journal of Cardiovascular Drugs.

Q. Okay.

A. The third abstract is "Treatment of acute massive/submassive pulmonary embolism" by Tayama, Circul -- journal of Circulation.

From the American Journal of Cardiology, the "Relation of duration of symptoms with response to thrombolytic therapy in pulmonary embolism." Author is Daniels. That's July of '97. I read that one.

Q. Okay.

A. Let's see. Another one is "Massive pulmonary embolism" by Tidsskr, T-I-D-S-S-K-R. I don't know -- I don't know where that one came from. It was in Norwegian. I didn't read that one.

Q. Okay.

A. The next one was thrombolytic -- journal of Thrombolytic Hemostasis I think it is, "Submassive and massive pulmonary embolism: A target for thrombolytic therapy?"

Q. Did you read that article?

A. No.

Q. Okay.

A. And the last one was from the New England Journal, October of 2002, "Heparin plus alteplase compared to heparin alone in patients with massive (sic.) pulmonary emboli."

Q. And have you read that article?

A. Uh-huh, I have read that one.

Q. Now, are -- are Circulation and the American Journal of Cardiology journals that you

regularly review in your practice?

A. No. They're -- they're more content specific. If it has to do with cardiovascular treatment in the ER, I would read it.

Q. Okay. How do the -- how do these articles that may be contained in journals such as Circulation and the American Journal of Cardiology come to your attention?

A. Usually in discussions with the cardiologists about newer treatments or reviews of older treatments.

Q. Okay. And how about the New England Journal of Medicine, is that one that you regularly review in your practice?

A. I really don't read that on a regular basis. I read it occasionally.

Q. If there were something that were relevant to your practice that was brought to your attention, you would then review that article?

A. If it was brought to my attention, yes. And the same with the other journals.

Q. Okay. And there -- I notice there is some highlighting on these printouts. Is that your highlighting, or was that highlighting already on there when you received them?

A. That's mine.

Q. Do you know what the purpose of -- for what purpose these abstracts were sent to you?

A. I would have to ask the -- the sender that. It -- it just sort of confirmed what information I had in my mind about the use of -- of t-PA in certain cases.

Q. Okay. Any other material that you've brought with you today?

A. Sure. A copy of my affidavit, the initial letter from Lorant Law Group, some more information about the -- the ER visit to North -- to [UNIVERSITY HOSPITAL], including a bill, a procedure note, an MICU attending note, and a CPR record.

Q. Okay. Let me just take a look at that stuff.

I don't know about this bill. The bill, do you know for what purpose that was sent to you?

A. I just guess for more information than I had.

Q. Uh-huh. What information did you get from this bill about -- that had to do with your opinions in this case?

A. Nothing, really.

Q. And these -- the procedure --

A. I'm sorry. There was a little conflicting things, but some of the fluids that didn't -- that may or may not be given. I couldn't tell, really, if some of the orders were followed. Some of them were charged for and some of them weren't, so it really made me more confused as to exactly what went on than helpful.

Q. Okay. So you're saying that the bill, there were charges on the bill for fluids that you're not certain were given?

A. That's correct.

Q. Okay. And what is the basis of your uncertainty that they were given?

A. I didn't see where the orders were checked off or where it was recorded that they were given.

Q. Okay. And specifically which fluids that are contained on the bill are you not sure were given?

A. Let me see. I was specifically interested in whether t-PA was ever given, and that's given with the fluids.

Q. You -- oh, so you were looking at it specifically to see if t-PA was ever given?

A. Right.

Q. And did you ever find any -- any

information that t-PA was given?

A. I couldn't tell. I think it's listed under pharmacy, and there's a large charge for pharmacy. I know t-PA is very expensive.

Q. Uh-huh.

A. So I presume it was -- they were charged for it.

Q. Did you read the code note where it documented that t-PA was given?

A. Yeah.

Q. Oh, okay. So you did find some evidence that t-PA was given to this patient?

A. There was a note that it was, yeah.

Q. Okay. Do you doubt that it was?

A. No.

Q. Okay. Then the other three pages of the pages you just handed me are an MICU attending note by [Doctor #4], a procedure note by [Doctor #2], and a CPR record from. Are these documents that were not contained in the original set of medical records that you reviewed?

A. They were sent to me separately. I'm not sure if they -- if they were -- if they were in here or not.

Q. Okay. Do you know for what reason they

were sent separately to you?

A. I believe I asked for them.

Q. Oh. Why did you ask for them?

A. Well, because there were notes in here that were -- that seemed to indicate, for example, that [Doctor #2] did the intubation. And usually when you do that, there's a dictated note or a written note, and I didn't find one.

Q. I see. So these were things that you may have asked for because you didn't find them in the record?

A. Right. I mean, they may be there. I just didn't find them.

Q. Uh-huh. And is it the case that the highlighting that is present on the note by [Doctor #4] is your highlighting?

A. Yes.

MS. CHENEY: Okay. So let's get the -- marked as Exhibit 36 this group of documents that comprises the bill, which is three pages; a one-page note by [Doctor #4]; a one-page note by [Doctor #2]; and a one-page cardiopulmonary resuscitation record.

MS. LORANT: Just for clarification, the text of the notes, the two notes of the doctors, were transcribed from the text of the depositions of those

doctors. So they're something that we typed up from the deposition because the note in the record was illegible.

MS. CHENEY: Okay. This was based on what the doctor told you the note said?

MS. LORANT: It's the transcript of the deposition.

MS. CHENEY: Okay, thanks.

(The document was marked as requested.)

BY MS. CHENEY:

Q. And then what else do you have in front of you there?

A. Just some geographic information on [area and University Hospital], excuse me, and the [Community Hospital], and some more geographic information on [Community Hospital region].

Q. And where did you get that from?

A. Ms. Lorant sent it to me.

Q. Do you know the purpose for which that material was sent to you?

A. So that I'd be familiar with the area and the hospitals.

Q. Absent that material were you familiar with that area at all?

A. I've been there.

Q. Okay. When have you been there?

A. Went down to see a game.

Q. Okay. You weren't there --

A. Football game.

Q. -- in connection with your practice of medicine, I take it?

A. No.

MS. CHENEY: Okay. Let's -- let's get these collectively marked. And this is easy to do. There's a four-page stapled document about [Community Hospital] a one, two, three, four, five, six-page stapled document about [Community Hospital area] and a six-page stapled document about [University Community]. Why don't we get these marked collectively as 37.

(The documents were marked as requested.)

BY MS. CHENEY:

Q. Okay. And what else do you have --

A. Oh.

Q. -- in front of you there?

A. Let's see. C -- CV of [Doctor #3], a CV of [Doctor #2], of [Doctor #1], and [Doctor #4].

Q. And where did you get those documents?

A. Again, I was sent them.

Q. Okay.

A. Then I've got depositions of [Doctor #3], [Doctor #2], [Doctor #1], and [Doctor #4].

Q. Are those the only depositions you've reviewed in this case so far?

A. Oh, there was one from a nurse, too, I think, [Nurse].

Q. Are those the only depositions you have reviewed in this case so far?

A. Yes, ma'am.

Q. Did you make any notes or highlighting in any of those depositions?

A. Yeah, I highlighted all the way through all the depositions.

Q. Okay. And when you highlighted in those depositions, what was the highlighting supposed to represent?

A. When I go through them a second time, I skip the parts that aren't highlighted.

Q. Okay. So the highlighting is things that you thought were relevant enough to look at a second time --

A. Correct.

Q. -- is that right?

A. Uh-huh.

Q. Okay.

A. There probably are some line -- some lines beside the -- the typed letters as well.

Q. When there are lines beside the typed letters, what is that supposed to mean?

A. It's really important.

Q. So if it's highlighted, it's just important; and then when there's a line beside it, it's really important, right?

A. Correct, yeah.

Q. Okay. And I don't think that that's going to show up well in copying, so let me just take a moment to --

A. There's also some time corrections on some of the pages.

Q. What do you mean?

A. I think there were some mistakes in the Hayden deposition in particular.

Q. You mean when the witness was talking and just got mixed up about a time?

A. Exactly.

Q. And you were just correcting it for your own -- for purposes of your own review, right?

A. Yes, that's exactly right.

Q. Okay. On page 42 of the deposition of

[Doctor #4] you have highlighted the question, "When you evaluated [Patient] throughout the course of the time you spent with her, was she hemodynamically stable?"

And he says, "No."

And then you've got an X by that. So I take it that's something that you thought was really important?

A. Yes.

Q. And then on page 44 you highlighted where he clarified or more specifically stated that she was stable from her admission to the emergency room until at least the time he wrote his note, "which was 1815, when her vital signs were of comparable values over a period of two hours and ten minutes." And you highlighted that, right?

A. Right.

Q. So you didn't put a check by that, but that's, I take it, of equal importance to the one that you put an X by?

A. Well, those two statements seem to be conflicting, and -- and I didn't believe the patient was stable during that time.

Q. Okay. But throughout the course of the time he spent with her he said she wasn't stable, but he did say she was stable up until the time he wrote

his note. That's not necessarily a conflicting statement, is it, because he spent time with her after he wrote his note?

A. Okay.

MS. LORANT: Objection.

BY MS. CHENEY:

Q. Right?

A. I didn't think that she was stable --

Q. Okay.

A. -- from the time she hit the door.

Q. Okay. So -- so it's not that his statements conflicted with each other? It's just that his statement conflicted with your opinions; is that right?

A. Well, I agree with one and disagree with the other, so.

Q. Well, if --

A. Yes, I guess -- I guess you're right in a sense.

Q. If she's there from 4 to 7 and at 7 she becomes unstable, it would be true that she was not hemodynamically stable the entire time, right?

A. That's correct.

Q. And so his statement would be correct, right?

MS. LORANT: Objection.

THE WITNESS: Yes.

Of course, he didn't mention the time he was talking about, so I --

BY MS. CHENEY:

Q. Right.

A. -- I really don't know what specifically he was referring to.

Q. Okay. And then there's a line on page 82. The question is, "Was the decision not to give her system" -- I guess that should be systemic -- "thrombolytics prior to the resuscitation based on your advice?"

And his answer, "I don't actually know the answer to that . . . but [Doctor #1] and I discussed that and felt that we should go for what we thought was the best possible therapy for her in that case which was what I wrote in my note which was catheter directed thrombolytics."

And is that the portion of the testimony on that page that caused you to put the line there?

A. Yes.

Q. And what is that -- why is that line there? I mean, what is it about that testimony?

A. I didn't understand what happened and

what the delay in using the thrombolytics was all about, and that -- honestly, I still don't know, because I don't know who really made that decision. I know it was discussed between two attendings, but if -- if the pulmonary critical care specialist had something to do with the decision of delaying systemic treatment, then I think he has some dogs in this fight.

Q. Okay. Let me see. Was there anything about [Nurse] deposition that caused you to put a little line or check out by the side?

A. I think there were some times that -- that I put on there.

Q. Let's see. On page 31, what is that that you've got written out in the margin?

A. A PO2 of 75.

Q. Okay. And what's the significance of writing that out in the margin?

A. Should be -- 77 should be. She was correct. I was in -- incorrect.

Q. Okay. And then on page 38 --

A. I'm sorry. That was really pulse ox, not PO2.

Q. Okay. Page 38, you've got "1710" written out in the margin.

A. Yeah.
Q. Do you remember why that's written?
A. I was getting confused in time, and I wanted to make sure that when I looked back I could see the selective times without reading everything.
Q. Okay. Just for ease of your --
A. I don't know about you, but I have trouble with the military numbers and the clock numbers.
Q. Is the same -- is that the same reason why you wrote "1845" out in the margin on page 43?
A. Yes, ma'am.
Q. And then on page 50 you've got "?1855," and that's down here where somebody refers to the time the 8:55 note. And is that your -- just your clarification that they're really referring to 6:55, not 8:55?
A. Correct. Or 1855, yeah.
Q. Right.
A. You got me going again.
Q. Yeah. So 1855 would be 6:55?
A. That's correct.
Q. P.m., right?
A. Right.
Q. Okay. And then let's see the next one,

please.

A. [Doctor #1]'s deposition.

Q. In [Doctor #1]'s deposition, again, there's a number of things highlighted. On page 18 there's the time "1555" written out in the margin. And, again, is that just to help you keep the time straight as you're going through --

A. Correct.

Q. -- for your second review?

A. Right.

Q. And then you've got an X out in the margin on page 22 by the highlighted testimony, "Did [Patient] require the supplemental oxygen that was being delivered through the rebreather mask throughout the time she was in the emergency department in order to keep her oxygen saturations above 90?"

And [Doctor #1] testified, "To the best of my knowledge," yeah -- "yes."

And is that the testimony that caused you to put that line out --

A. Yes, ma'am.

Q. -- in the margin?

And why -- why is that? Why is that there?

A. That tremendous amount of oxygen

requirement indicates respiratory instability, an unstable patient in my mind.

Q. And then on page 23 you've got an X out in the margin by the following testimony, "Did you try to lay her down to accomplish some procedure?

"Answer: When she took off her clothes -- took off her pants, she lay flat on the bed.

"Question: Is that the only time you can recall that she was laying flat?

"Answer: That's correct."

You have an X out there.

A. Yes.

Q. What's the importance of that testimony to you?

A. That's really the second respiratory stress test, I call them, that was attempted and failed.

Q. Respiratory stress test, is that --

A. That's what I call it.

Q. Okay. That's your own --

A. Yeah.

Q. -- your own thing?

A. The first was standing up, and she desatted even with high oxygen supplementation. This

was the second time when she just laid flat to remove her pants. She desatted markedly again.

Q. Okay. So just so that I'm clear, when you refer to respiratory stress test in this context, there's nothing I would be able to go to and --

A. No.

Q. -- research about a respiratory stress test? That's -- that's your terminology?

A. That's just my -- yes, my term.

Q. Okay. Then you've got the time "1710" out in the margin on page 24. Is that, again, just what we've discussed previously --

A. Correct.

Q. -- just to help keep the times straight for you?

A. (Witness nodding head.)

Q. And same thing on page 25. You've got "1745" and then an arrow down to "1800."

A. Let me see that.

I think that all those -- that discussion actually occurred sometime between the two time periods mentioned there, and I think I got that second number out of some notes or either -- or the deposition, one.

Q. Okay. So you're referring to this

highlighted testimony here. [Doctor #1] is saying, "I know about -- roughly about 5:45 I had had a discussion with the MICU team," M-I-C-U, "at which point they decided -- they thought that she -- sorry, they thought they needed elective intubation, and we discussed it at length with the family."

And what you're saying is that she had said roughly about 5:45, and you're saying that this discussion took place between 5:45 and 6:00?

A. Something like that.

Q. And then on page 36 you've got written out in the margin "Admit ICU 1610." What is -- I'll hand it to you so you can see it.

What is the significance of that notation?

A. I think that that's when the information started being generated about this patient was critically ill, was an ICU admission, and there was some communication between [Doctor #3], the second-year resident, and [Doctor #5] (sic.) or something, who was the resident for medicine --

Q. Uh-huh.

A. -- that was going to be part of the team sending this patient to the ICU. And then there was a discussion about what labs were done and ordered and

orders made, and that order occurred at 1610.

Q. Okay. And what is the significance of that to you, or is this just --

A. I was just trying to put this whole picture together.

Q. Okay.

A. And at -- at that point I realized that there was some early input by the admitting team.

Q. And "early input by the admitting team," you mean by the medical service?

A. Correct.

Q. And why is that important?

A. Well, I mean, I applaud them for doing that, because this patient, obviously, was going to be an ICU admission. The quicker you get people on board, the more likely you're going to have things flowing a little more smoothly and all the guns are trained in the right direction.

Q. And you've got an X out in the margin beside the testimony "Were you aware of the severity of the pulmonary hypertension?

"Answer: I was."

Is that --

A. That's important.

Q. That's important to your opinions?

A. Absolutely.

Q. And why is that?

A. That's one of the indications for rapid onset of treatment with alteplase --

Q. What is --

A. -- t-PA.

Q. What -- what literature are you -- are you aware of that says that?

A. It's listed in Rosen's text under the reasons to give t-PA with heparin as opposed to -- to heparin alone.

Q. On page 42 you've got a circle around -- there's some testimony that's highlighted which says, "The report is not generated until several hours to a day later. So, the report would have been verbally done by a (sic.) reading physician in cardiology and then transmitted verbally to a receiving physician. Whether that was [Doctor #6] or [Doctor #3], I am not sure."

And you've got a circle around "to a receiving physician."

A. Right.

Q. Why is that?

A. They're talking about the echo report, and that's -- that echo report is really where the

pulmonary hypertension was defined --

Q. Uh-huh.

A. -- and the right heart strain was defined.

Q. Uh-huh. And --

A. And I wanted to -- and I was trying to figure out how that information was -- if it was, in fact, given to the attending ER physician and attending MICU people or the ball was dropped someplace and it was not given. I don't know.

Q. Okay. So --

A. Although it seems to confirm that it was given to the ER attending, because she stated previously she knew about the pulmonary hypertension.

Q. Then on page 46 -- oh, that's an important page to you, it looks like. We've got out in the margin the time written "1645" beside some testimony that says "To the best of my knowledge, approximately 1645, as documented in the nursing record."

So I take it you're not -- you're not taking any issue with that? That's, again, just to help you as you review this a second time, right?

A. Right. Some of this information seems to be popping up in different areas and time zones, and I

was trying to put it all in a logical pattern.

Q. And then you've got two stars here beside highlighted testimony. The question is, "At 1710 when her heart rate was elevated into the 150s, would that reflect instability?"

And the answer, "It was an effort dependent change in her blood pressure and heart rate. She was trying to do something physically, and to say that -- and the fact that she recovered spontaneously without loss of medication" -- I don't think that's right.

A. Probably use of medication.

Q. Yeah.

"-- without any intervention on our part wouldn't necessarily mean that she was (sic.) unstable."

And then you've got a star by that.

And then you go down -- down a little bit, the question, "Did she also demonstrate transient instability when she was gotten off the bed to be weighed?

"Answer: Well, her blood pressure didn't change significantly, and her heart rate did change a little. She had transient hypoxemia, yes. To say that she was unstable (sic.), I'm not necessarily in

agreement with that."

So you've got a star by that one as well. Why did you star those two areas of testimony?

A. Because I think those two points prove that she was unstable, and she was certainly unstable during the -- the periods.

Q. During what periods?

A. When she went through those stress tests that were mentioned earlier.

Q. Okay.

A. And that -- that makes this patient a critically ill, high-risk patient that should have been dealt with immediately.

Q. Okay. According to -- well, we'll get into that later.

And then the following page, 47, you've got highlighted, "If a patient is able to maintain their own heart rate and blood pressure without significant intervention, I consider that relatively stable. Stable is not a black or white. It is a continuum of grey (sic.). And in her particular case she was relatively stable up to a certain point in her emergency department stay."

And then question, "But isn't it true that the two times . . . she was asked to do some type

of exertion, her saturations dropped?"

Her answer, "Her heart rate and her pulse didn't change significantly, nor did her mentation. While her oxygenation may have changed, that doesn't necessarily make her unstable."

And you've got two stars there. So I take it that you considered that testimony to be very important as opposed to just important?

A. That's very important, correct.

Q. Okay. And why -- why is that very important?

A. This patient was unstable. Those two episodes proved the instability and proved the need for immediate and dramatic treatment, and I don't know why they were blowing off this patient. I don't understand that. I still don't understand to this day.

Q. What is the basis of your statement that they were blowing off this patient?

A. What time was that?

Oh, let me see, yeah.

MS. LORANT: I think it was the previous page that she was referring to.

THE WITNESS: Oh.

MS. CHENEY: Oh, sorry.

THE WITNESS: Well, at 1645 and shortly thereafter she demonstrated her instability. And even with the treatment that she was getting, the heparin, the high-powered oxygen, the IV fluids, even a small exertion would -- would topple this lady, unless she was sitting perfectly still, upright, with the -- with the treatments. That's not a stable patient.

BY MS. CHENEY:

Q. Okay.

A. And I don't know how the pa -- the physicians could call her stable in those situations. And the instability is what really rings the bell to start the game of immediate treatment, not this delay that occurred.

Q. Okay. So in your opinion not giving t-PA to this patient at that point in time is blowing the patient off?

MS. LORANT: Objection.

THE WITNESS: Once the echo -- once the echo was done and proved the patient had pulmonary hypertension, right heart strain, that's when the t-PA should have been given.

BY MS. CHENEY:

Q. And not giving t-PA to a patient with suspected pulmonary embolism under those circumstances

in your opinion is equivalent to blowing the patient off?

A. Absolutely.

Q. On the next page -- sorry. On page 51 out in the margin there is -- you've got written "1745," the time. Is that just, again, to help -- to help for purposes of your --

A. Right.

Q. -- subsequent review?

A. Correct.

Q. And then on page 52 you've got some testimony that's actually circled -- highlighted and circled. The testimony is, "Okay, to your knowledge, had VIR been notified to come up and evaluate her?

"Answer: I don't know.

"Question: Who would have had responsibility for that?

"Answer: The MICU team, [Doctor #6], and indirectly [Doctor #3]."

And, actually, what you've got circled are the questions.

And then further down the question, "[Doctor #6] notifies [Doctor #3], [Doctor #3] notifies VIR, and VIR notifies Anesthesia.

"Answer: Right."

Let me just show you that and ask you why that particular testimony has been circled by you.

A. Well, it was described earlier that the whole plan was to have the patient intubated, taken to the CAT scan, and go to the VIR. That was the plan that was in effect I think at 1700 hours.

We're now talking, you know, another 45 minutes to an hour later. Nothing really has happened.

The second thing is, you know, you've got to have a backup for plans like that, because that's a very complex scheme, to get one thing done, get another thing done. It involves, you know, five or 10 different people all -- all knowing what the rules are and when the game starts.

And none of that was done. I believe the CT was thought to be saving a place for this patient at one time. But whether the VIR people were ever even involved, I don't know. They certainly never saw the patient in the ER, as far as I can tell.

So, I mean, that part of the plan although it was mentioned was really never put into effect at all, and there was no backup.

Q. And when you say they needed backup, what specifically are you referring to? What do you mean

by that backup?

A. Well, what else can we do if these groups of things can -- cannot be accomplished because of other people being not -- not available or whatever situation.

Q. You mean like a contingency plan?

A. Absolutely. What can we do right now to this unstable patient who, obviously, has a pulmonary embolus if this other plan doesn't work.

Q. You said obviously has a pulmonary embolism. What -- what do you base that on?

A. Well, that's what everybody was thinking that she had, number one. And I think the echo proved that it was really the only consideration.

Q. So in your opinion once she had the echocardiogram pulmonary embolism had been definitively proven?

A. Yes. And, more importantly, the postpartum cardiomyopathy was ruled out.

Q. In all these different studies that you've read about t-PA, pulmonary embolism, things like that, is it the case that t-PA was only given to patients with documented definitive pulmonary embolism?

A. No, ma'am. If it's suspected and the

patient's unstable, it's been given without proof.

Q. In these -- which -- which of these papers?

A. Oh, no. I thought you meant my experience.

Q. No, no. All the papers that you have reviewed, have you ever seen any -- anybody who has ever given or recommended giving t-PA to patients in whom pulmonary embolism has not been definitively demonstrated?

A. The paper on -- I'm sorry. Rosen's book, the page that I copied or pages that I copied talking about the use of t-PA in people who are unstable from what's thought to be a pulmonary embolism and people who are stable but have right heart strain, it was recommended to give the t-PA --

Q. Even without --

A. -- systemically.

Q. Sorry. I didn't mean to interrupt you. Even without confirming the diagnosis?

A. Yes. I mean, confirming the diagnosis is a very good idea, but you have to realize that you're weighing -- weighing things all the time as to when to start the treatment.

Q. Okay.

A. And confirming the diagnosis may take 20 to 30 minutes, which you may not have.

Q. Okay. The -- we had previously marked Rosen's Emergency Medicine, obviously not the whole textbook, but the pages that you provided to us, as Exhibit 34. Tell me where --

A. Rosen, yeah.

Q. Tell me where in that that you -- that you find the statement that t-PA should be given before diagnosis is --

A. Confirmed.

Q. -- definitively shown.

A. Let's see.

You know, it doesn't mention how the diagnosis -- or what is needed to make the diagnosis. It just said the people who are treated for pulmonary thromboembolism and the value of treating these people rapidly.

Q. Okay.

A. Even if they don't have hemodynamic instability but with right heart strain. But they didn't define how the diagnosis was made.

Q. Okay.

A. It could be clinical. It could have been, you know, VQ scans. It could have been

anything, CTs.

Q. On page 53 you've got something written out in the margin again. Let me just get you to tell us what that says.

A. It says, "Plan: 1750."

Q. Oh, plan. Of course it does.

And what is the -- what is the significance of that?

A. That -- that's, apparently, when everybody got together, discussed all the possibilities, and -- and were still making the plan. That's about almost two hours after arrival.

Q. Okay. On page 59 you've got a -- you've got some highlighted testimony with an X out to the side in the margin. And you were asked -- you weren't asked. [Doctor #1] was asked a question about "Did you see that something (sic.) needed to be done stat or was this something that could just kind of -- when people got to it . . . could be done on a matter of course?"

And [Doctor #1] says, "Neither. I don't think either was true of this. I think . . . things needed to be done in an expeditious fashion, but we didn't need to do it stat, sooner than already there. We didn't need to do that.

"As far as specifically saying that --
your question was, could it be done in an emergency
protocol versus whenever somebody got to it. I don't
think --" of "both of those are not accurately
describing how --" and then she sort of trailed off.
Why did you put the mark by that
testimony in particular?
A. That was a very confusing response I
thought to a good question. This patient was
critically ill and needed things to be done as fast as
possible.
Q. Okay.
A. And that's stat.
Q. Okay. How do you -- how -- how do you --
how does [Doctor #1], what does she mean when she says
expeditious, do you know?
A. I have no idea.
Q. What do you -- what do you think
expeditious means?
MS. LORANT: Objection.
THE WITNESS: To me that means as soon as
possible.
BY MS. CHENEY:
Q. Okay.
A. But she doesn't apparent -- apparently

feel that way from her description there.

Q. So -- on page 61 you've got stars out by -- beside of the following testimony: "During that 50, whatever, 55 minute period . . . from 1750 on, did you get any feedback from anyone that the steps were moving along to get [Patient] into the scanner?"

And her answer, "The scanner wasn't the hold up" for us. "The scanner . . . held the table open for us."

And you have a star out by that. Why is that?

A. That corresponds to what [Doctor #3] also said, that they were holding the scanner.

Q. Okay. And then she's got an answer here, "I hadn't received confirmation from VIR, nor had I seen an anesthesiologist, nor had I seen a Vascular Interventional radiologist come to assess the patient. So, I would assume that they were not ready for the patient."

And then the question, "You didn't see either one of them come in and evaluate her?"

And the answer, "Not until later."

And you've got a star out by that testimony. Tell me why.

A. Well, if that was part of the plan,

knowing that was going to be -- had to be done rapidly right after the CT, why didn't she herself or her resident call the VIR people and ask them, you know, when can -- when are you going to get here, because we don't have time to sit around, we have to treat this thing stat and expeditiously at the same time.

Q. On page 64 out in the margin you've got -- there's some highlighted testimony about "We initially started our discussion . . . roughly around (sic.) 1550. I had further discussions with Dr. [Doctor #4] at . . . 1625 or 1630."

And then you've got out in the margin 1550 with an arrow down and then 1625. Is that just to denote the time that those discussions took place?

A. Correct.

Q. And is there anything more significance -- significant about it other than just an easy way for you to come back and find those times later?

A. Well, and the fact that that seems to correspond to the times that were mentioned earlier about the early intervention of the medical people.

Q. Okay. And then on page 72 out in the margin somebody -- there was a question asked, your con -- to [Doctor #1] about her conversation with

[Doctor #4] at 1620. And then [Doctor #1] replies "1820."

And you've got "1820" out in the margin. Is that just to clarify that that was the time --

A. Correct.

Q. -- not 1620?

A. Yeah.

Q. On page 76 --

A. Wait. It was 1620, wasn't it? Shouldn't it have been 1620?

Q. Eighteen -- well, you've got written 1820 and the witness says 1820. 1620 would have been 4:20.

A. Yeah.

Q. 1820 would have been 6:20, right?

A. Right.

See what I mean?

Q. Uh-huh. And so you've got 1820 written out here, which I presume you're saying the correct time should be 6:20, not 4:20, right?

MS. LORANT: You should let him see what it pertains to.

MS. CHENEY: Yeah.

THE WITNESS: Actually, let me look, because that was discussed on the previous page.

It should have been 16 -- 1620, not 1820.

BY MS. CHENEY:

Q. Why do you say that? It's talking about a discussion with [Doctor #4].

A. Right, and that was somewhere between 1550 and 1625 --

Q. Okay.

A. -- at least at the initial conversation.

Q. Okay. That's --

A. So this really should be 1620, not 1820.

Q. On page 73, "So, did you see him as someone to whom you were asking consultative advice," referring to [Doctor #4].

And [Doctor #1] answered, "In some sense. Usually a consultation is made for a service who may have primary expertise in some facet of the patient's care. He was going to be taking over her care, so that wouldn't be called a consultant. That would be called the admitting service.

"So, I wouldn't call this a consultation. I would be calling this a -- essentially in advance of a transfer . . . care."

And you've got that highlighted and then you've got a star by that. Can you tell me why you marked that particular testimony?

A. Well, I wanted to mark that because

somewhere in the discussion between these two doctors a decision was made and a plan was put together without secondary plans. And, you know, if that plan was -- if -- if [Doctor #1] made the plan to get this patient t-PA right away and that was blocked by [Doctor #4] saying let's do it, you know, with catheter directed knowing there's going to be a delay, I'd like to know that. I really don't know who made that decision.

Q. Okay.

A. And that doesn't answer the question.

Q. But as far as the semantics issue about whether you're a consultant or in advance of transfer care, that type of thing, that's not important to you, I take it?

A. I don't know what all that means. That's -- that's begging the question, I think.

Q. On page 74 you've got a star out by the following testimony: "I was unaware that he had advanced training in pulmonary. I knew that he was the MICU attending of record -- of service, and that's why he was there taking care of the patient.

"He's also significantly older than I am which may have given weight towards what he said a little bit differently than someone who is younger

than me."

And you've starred that. Why?

A. I think that throws some more light on the fact that perhaps the delay was not only the -- the problem of [Doctor #1] but maybe [Doctor #4] was the -- the overriding cause of that delay in treatment.

Q. You say "maybe." Have you formed any opinions to a reasonable degree of medical certainty about whether [Doctor #4] was the cause of that?

A. That's going to be up to those two to decide who did it. I don't know who did it. There was a delay, you know, period. The delay should not have been there. I'd like to find out who caused the delay.

Q. On page 76 you've got a circle around the following testimony. The question, "And did you also have a concern that VIR hadn't gotten up there?"

Your answer, "No, I wasn't concerned" -- her answer, I'm sorry. "No, I wasn't concerned at that point in time because I know . . . the calls had been made, and they were making every effort, at least according to my residents, to get the lab open and available."

And then you've got a circle around that

testimony. Can you tell me why?

A. Because we find out with other depositions that there were no calls made. VIR from what we can tell really hadn't been notified and hadn't set up to take the case.

Q. What other depositions have you found that out from?

A. [Doctor #2] says he never called. He thought it was done by [Doctor #3]. [Doctor #3] said she never called.

Q. So based on [Doctor #2] and [Doctor #3]'s deposition testimony, have you formed an opinion that the VIR team was never called on November 24, 2003?

A. My opinion is that they were not, because I have not seen anybody that made that -- that communications. [Doctor #1] thought it was all being taken care of and probably told the residents to do it, which would be fine. But once the delay kept going, another call should have been made to say what time can we do this.

Q. And is your assumption that they were not called one of the things that forms the basis for your opinions in this case?

A. Yes.

Q. On page 76 at the bottom of the page

you've got a handwritten note, which I can read. It says, "How did she know this?" And you're referring, apparently, to the testimony right above that where [Doctor #1] says, "I know . . . they had a patient they were finishing up with," talking about VIR. "Whether or not it was a nursing finish up with or a doctor finish up with, I don't know the answer. I don't know the specifics of that."

And you've got, How did she know?

A. Right.

Q. And that's, I guess, self-evident? You're just questioning where she got that information?

A. Correct.

Q. Then we've got more highlighted testimony throughout and come up to page 94 and there's a question, "So, respiratory arrest does not mean that she stopped breathing?

"Answer: -- that she stopped breathing, that's correct.

"What does it mean then?

"Respiratory arrest -- respiratory failure means the lack of ability to oxygenate her bloodstream, oxygenate her own blood."

And you've got a star with yellow

highlighting and then filled in with ink beside that testimony. Is there any significance to the fact that it's yellow highlighting and ink in that star whereas it has only been yellow highlighting in the previous stars?

A. I think I got tired of just highlighting it once. I wanted to change my method a little bit.

That's an important statement.

Q. Tell me why.

A. Well, respiratory arrest is just that. It's a cessation of breathing.

Q. Have you formed an opinion in this case that -- that [Patient] had a respiratory arrest?

A. I think she did, yes, during intubation.

Q. So your opinion would be that she actually stopped breathing?

A. Yeah, on her own.

Q. What do you mean by that?

A. Well, if they'd put the endotracheal tube in, she'd be assisted -- having assisted ventilation.

Q. On page 101 you've got out in the margin -- again, I can read this -- it says, "Code: 1919," and this is just a shorthand for testimony right beside it that says, "looks like chest compressions were started at 1919."

That's just for your ease of review, I take it?

A. Right.

Q. Is there anything more significant about the fact that chest compressions were started at 1919, according to the code sheet?

A. That's just the time it was --

Q. Okay.

A. -- happened.

Q. And then on page 104 we've got a star out by testimony, "Question: So, the compressions actually started before the documentation here?

"Answer: Yes.

"Question: You . . . remember that?

"Answer: No, I know . . . we did a single set of chest compressions. So, I don't know exactly -- the patient was not in PEA at the time we did chest compressions.

"So, this does not accurately reflect that set of chest compressions. We did a prophylactic set of chest compressions in order to dislodge -- attempt to dislodge this clot."

And you've got that testimony starred. Can you tell me why?

A. Again, that's a little conflicting as to

from the previous area that was starred and shaded.

Q. Okay.

A. So, really -- and I can understand. It's very hard to document exactly when the code starts and when CPR starts, because you may only have two or three people in the room and to get the action going is more important than documentation.

Q. Was it your understanding from reading [Doctor #1]'s deposition, as well as other depositions, perhaps, that before they actually did chest compressions for -- for cardiac resuscitation they were doing a set of prophylactic chest compressions in order to attempt to dislodge the clot?

A. Correct. The clot was blocking all pulmonary vascular return to the heart, so they had to get that clot out of the way in some fashion to get blood back to the heart to have any functional cardiac --

Q. Okay.

A. -- activity.

Q. And I take it you're not critical of that --

A. No.

Q. -- attempt to do that?

And then on page 105 you've got "1845"

written out in the margin. That reflects testimony that she thought it was well within the realm of possibility that -- that she had a pulmonary embolism at 1845?

A. I better read that.

Q. Yeah. And just tell me if that's just your usual practice in these depositions of noting the time out by the side or if there's something more significant meant by that.

A. I cannot say I put the time on each deposition. I think the time frames are pretty significant in this particular case, and that's why I keep doing the time thing.

She mentions she thought the diagnosis of pulmonary embolism was -- was in the realm of possibility at 1845.

Q. Uh-huh. And --

A. That's astounding. Of course, that doesn't mean that she didn't have that feeling before that; but if that's the first time she had that inkling, I can't understand that.

Q. Okay. And then there's some documentation -- I mean, there's some testimony on page 108 that t-PA was -- well, documentation at 1915 of t-PA, and you just wrote "1915" out in the margin.

A. Right.
Q. And, again, is that just --
A. Correct.
Q. -- to keep track of the times?
Other than that, is there anything significant about the t-PA at 1915? In other words, was your -- was your notation here meant to indicate anything other than just keeping track of the time?
A. It was to keep track of the time. And I -- I really was trying to find out where it was given, by whom.
Q. Okay.
A. And I -- and I wasn't able to do that.
Q. Okay.
THE VIDEOGRAPHER: Can we go off record real quick to change tapes?
MS. CHENEY: Sure.
THE VIDEOGRAPHER: We're going off record at 10:53 a.m.
(A recess was taken.)
THE VIDEOGRAPHER: This is tape two of the continued deposition of Dr. Philip Leavy. We're back on the record at 11:00 a.m.
BY MS. CHENEY:
Q. Okay. My -- we've concluded with the

deposition of [Doctor #1]. Can I see your next one, please, sir?

A. It's [Doctor #2].

Q. Okay. And in [Doctor #2]'s testimony you've got -- you've highlighted some things up through page 23, and then on page 23 he makes the statement that he thinks "the treatment plan was for her to go to CAT scan and then, depending on the results, go to Interventional Radiology."

And you've got that -- and then the question was, "And that was the plan, as you knew it, at the beginning of your involvement in her care?"

And he says, "Yeah."

And you've got that starred. Can you tell me why?

A. He became involved about 1700 hours.

Q. Okay.

A. So the plan had already been decided upon.

Q. Okay. And then on page 45 the question is, "And . . . that usually -- would that be you in the situation that's taking place," referring to making the telephone call to contact VIR.

A. Correct.

Q. And his answer, "Usually it would be --

that would be the decision of the ordering physician.

"Do you know who ordered that in this case?

"I believe it was the ICU team."

Oh, I guess we're not talking about making the phone call. We're talking about making the call, making the decision.

"I believe it was the ICU team.

"Question: So, Dr. Kirk and his team?

"Answer: Yeah."

And then you've got a star by that. Can you tell me why?

A. Those exact two things. I didn't know if the call was the plan, this alleged plan that was in existence, or, in fact, a simple phone call to get the plan going. Somebody had to make the phone call --

Q. Uh-huh.

A. -- and it looks to me like that was not done.

Q. Okay. The -- if that phone call was made, would that change your opinions in any way, not that we've discussed your opinions yet, but --

A. It depends on what was discussed in that phone call.

Q. Okay. We'll talk about that later.

On page 77 there's the question, "And then VIR would have had to do with the procedures of the thrombolytic administration, correct?

"Answer: Yep.

"Question: How long would that whole process take from the time . . . she was -- the initiation of the intubation through the completion of the administration of thrombolytics?

"Answer: I don't know.

"Question: More than an hour?

"Answer: Probably, yeah."

And you've got a star by that testimony. Can you tell me why?

A. Because I think it would take more than that, more than an hour to get all that stuff done that had to be done.

Q. How long do you think it would take?

A. The intubation, the CAT scan, the continuing respiratory assistance, if everything worked perfectly they would probably get it done within an hour to an hour and a half, if everything worked in -- in direct line-up.

Q. Okay. But it's not always a perfect world, correct?

A. It rarely is a perfect world.

Q. So how long would you think it would take, you know, considering that it's not a perfect world and things don't necessarily happen that quickly?

MS. LORANT: Objection.

THE WITNESS: I really can't answer that question. My only experience has been locally, and that's taken much longer than that to get the patient just over to interventional radiology and back, not involving intubation but involving pre CT.

BY MS. CHENEY:

Q. Okay. So locally what would the usual time be?

A. I don't know the average. It's not done very often from the ER.

Q. Okay.

A. My experience has been it's two to two-and-a-half hours to get everything done and back, and that's if -- and that's during the day during the week. After hours it may take a little longer to get people who aren't necessarily in the hospital at that time.

Q. And when you say "after hours," what do you consider to be after hours?

A. The hospital hours -- normal hospital

hours are probably 9 to 5.

Q. So after 5:00 it might take longer to get a team assembled and get the patient over there and get all these things --

A. The possibility exists, and it's pretty high on the ladder.

I mean, it could fall into place perfectly; but, as we said earlier, it's unlikely everything's going to fall into place --

Q. Right.

A. -- unless it's really planned.

Q. Okay. Let's see the next -- I think we're through with [Doctor #2] here.

A. Yeah. This is [Doctor #3].

Q. And with regard to [Doctor #3], there's some testimony on page 35 that you have a line out beside. They're talking about [Patient], the nonrebreather mask that she had on. And the question is, "She took it off herself or" -- well, she had testified that "she had removed her mask once or twice, and I was able to see that her lips were pink.

"Question: She took it off herself or did she do it (sic.) at the request of someone?

"Answer: She took it off herself.

"Do you know why?

"Answer: I don't know."

Why do you have a line out by that testimony?

A. I'm wondering if that wasn't a hypoxic response that the patient had.

Q. What do you mean?

A. When people are -- are hypoxic, they get confused and -- and agitated, sometimes combative, and they take off whatever oxygen or tubes they have.

Q. Okay. Then on page 62 -- have you formed any opinion to a reasonable degree of medical certainty that that was a hypoxic response?

A. I don't know what it was.

Q. Okay. On page sixty -- I'm sorry.

A. It wasn't mentioned anyplace in anybody else's notes. I don't know what it meant.

Q. Okay. On page 62 there's a question, "Is there a difference in the -- or a significance in a dilated left atrium versus a dilated right atrium in a patient who is thought to have pulmonary embolism?"

And [Doctor #3]'s answer, "It would be more within the lines of a -- consistent with a diagnosis of pulmonary embolism if a patient had a dilated right atrium."

And you've got that testimony starred.

Can you tell me why?

A. She's accurate.

Q. Okay. And then she's got some testimony, "Our treatment" -- we're talking about "If a patient is unable to lie down due to shortness of breath, is there any test that can be done to give you a confirming diagnosis," presumably of PE.

And she says, "If a patient were able to lay down, generally speaking, there are several diagnostic tools that we've talked about to help in your evaluation, but in my knowledge," that would -- "they would not be a confirmatory test.

"Question: So if a confirmatory test were to be done, would that patient have to be sedated and intubated?

"Answer: It would, generally speaking, depend on the patient's condition. If their condition warrants intubation, then the (sic.) patient would be intubated, at which" -- "at which point they would be able to lay flat."

And then this part is what you've got highlighted: "But . . . our treatment of patients does not hinge on confirmatory tests. If we have a high suspicion of someone having a pulmonary embolism, we'd proceed directly to treatment."

And you've got that highlighted and then you've got a star by that. Can you tell me why?

A. Well, I believe that's exactly what should have been done.

Q. So her statement was, in your opinion, an accurate statement of what the proper thing to do is?

A. What should have been. It wasn't done, but that's what should have been done.

Q. Okay. Any other depositions that you've reviewed?

A. Did we do -- I know I reviewed [Doctor #4]' deposition. I don't know if you have it there or not.

Q. We talked about him first.

A. Okay.

Q. And then, yeah, there's his CV.

A. Okay.

Q. I don't need that.

And what other documents have you brought with you?

You brought your affidavit, and we've already had that marked as a -- an exhibit. Can you tell me how that affidavit came about?

A. Over several discussions with Ms. Lorant.

Q. Okay. And according to -- well, I'll ask you about that later.

And there was some correspondence that you referred to?

A. Yes, when I was sent the -- the initial information. And subsequent correspondence, every one had a --

Q. Uh-huh.

A. -- a letter on it, yeah. I don't know where those are.

Q. Okay. You had it right there.

MS. LORANT: I might have -- look in the -- I picked up a whole bunch of stuff. I think there was something stuck in the exhibits, my notes.

MS. CHENEY: This is the letter dated April 5th, 2004.

MS. LORANT: I object to marking that as an exhibit.

MS. CHENEY: To marking it or --

MS. LORANT: Both.

MS. CHENEY: For identification, and then we can have it sealed or whatever and argue about it. I mean, we're going to have to -- we're going to have to take it before the court, so it needs to be marked for identification, and somehow somebody needs to save it in a secure place where it can't be --

MS. LORANT: Okay. I object to it being

used as evidence, but if you want to mark it for identification --

MS. CHENEY: Let me mark it for identification as Exhibit 38.

(The document was marked as requested.)

BY MS. CHENEY:

Q. Just hand you this letter and ask you to tell me if that's --

MS. LORANT: Let me just see the date.

April 5th.

BY MS. CHENEY:

Q. -- the first letter that you ever received from plaintiffs' counsel concerning this case.

A. I think this is the first written communication we had, yes.

Q. Okay. And does that letter contain any factual information about the case?

A. It just goes over what -- what was -- accompanied this letter, which is the medical records. And she also mentions the -- what are the idiosyncrasies of North Carolina medical malpractice -- medical negligence law.

Q. Which is?

A. That local standards are policy.

Q. Okay. But, otherwise, no factual information about the case or --

A. Well, it mentioned [Patient]'s name and had an unfortunate death, but that's -- nothing very specific at all.

Q. And that letter accompanied medical records --

A. Yes, ma'am.

Q. -- I take it?

A. Uh-huh.

Q. And the medical records that you received are those that you have in front of you at the present time?

A. Yes.

Q. Have -- other than the few pages that we identified as an exhibit previously, have you received any other medical records?

A. I don't believe so, no.

Q. Okay. At the time you gave your affidavit there -- what is the date of that affidavit?

A. 18 May 2004.

Q. And was that shortly after you had completed your review of the medical records and formed your opinions --

A. Yes.

Q. -- in this case?

And I take it that your opinions were formed based solely on a review of those medical records and not anything that was contained in Ms. Lorant's letter that's been marked as -- for identification as Exhibit 38?

A. My opinions were formed on my review of the medical records, correct.

Q. Okay. You, obviously, had not had an opportunity to review the depositions of any of the healthcare providers involved in [Patient]'s care at the time you formed your opinions --

A. Correct.

Q. -- is that correct?

Has your review of -- your subsequent review of any of the depositions of [Patient]'s healthcare providers changed your opinions in any way, the initial opinions that you formed upon review of the medical records?

A. After reading the depositions several times, I was still a little bit confused as to who was responsible for making the decision to do the VIR, who was responsible for making the contact with the VIR, and if there was a secondary or a backup plan if VIR wasn't available.

Q. Do you have any evidence at all to suggest that VIR was not contacted?

MS. LORANT: Objection.

BY MS. CHENEY:

Q. Other than what we've already talked about, the fact that [Doctor #2] said he didn't and [Dr. #3] said she didn't.

A. Right, and they thought that the MICU people did.

Q. Okay.

A. As far as we know, no one's contacted them.

Q. Okay. But in terms of evidence, do you have any evidence that the -- that the medical team did not contact VIR?

MS. LORANT: Objection.

THE WITNESS: No.

BY MS. CHENEY:

Q. And --

A. Other than the fact that the VIR never showed up.

Q. Okay. Do you know -- do you have any knowledge or information about whether VIR was available or not?

A. Again, I don't know, I mean.

Q. Okay. Is it the case that if somebody contacted VIR and VIR was available and was on the way, then this need for a backup plan becomes less important?

MS. LORANT: Objection.

THE WITNESS: Well, I'd have to know when.

BY MS. CHENEY:

Q. Okay. What's the latest VIR could have been contacted in your opinion and still have been okay?

A. Well, the contact had been made. You had to find out what the availability of that particular procedure was at that particular time. Immediately after the echo was read we have proof positive of the need for thrombolytic therapy.

Q. And what is the proof positive in the echo of the need for thrombolytic therapy?

A. Right heart strain, dilated right atrium.

Q. What -- what things can cause right heart strain and a dilated right atrium other than pulmonary embolism?

A. In this particular patient?

Q. Well, in this patient or in any patient.

A. Well, in this particular patient the only

thing would be a pulmonary embolus.

Q. So there are no other possible causes of right heart strain --

A. You could get --

Q. -- in this patient?

A. In other patients you could get a tension pneumothorax would cause it, you could get chronic pulmonary hypertension from preexisting lung disease.

This lady had a -- a chest x-ray that did not demonstrate pneumothorax and did not demonstrate any chronic lung disease.

Q. What kind of preexisting chronic lung disease are you talking about that could give rise to findings of right heart strain?

A. Boy, that's a good list. I mean, any kind of -- oh, asthma, COPD, and various forms of those diseases. Anything that increases the -- the delay in oxygenation and flow of blood through the pulmonary vasculature.

Q. Pulmonary hypertension?

A. That's what I'm talking about.

Q. Anything else about the depositions that -- well, you said after the depositions you were confused as to these certain things. Did reading the depositions, though, change your opinions in any way,

your original opinions?

A. No, actually not. I was interested -- it was interesting to me that so many people thought other people were doing certain things that were part of the plan; and I can't see where any of those things were done, the major one being the arranging with VIR for an appropriate time and treatment.

Q. Okay. You said so many people thought that other people were doing things. Who was it that thought other people were doing things, and what things was it that you're referring to?

A. Specifically I'm talking about the call to VIR to set it up immediately or not, if it was impossible.

Q. Okay. And which people --

A. [Doctor #1] I think thought Dr. -- her resident, Dr. Yung, was going to do it.

Q. [Doctor #3], you mean?

A. [Doctor #3], excuse me.

Q. It's confusing.

A. [Doctor #1] and [Doctor #3].

[Doctor #1] thought [Doctor #3] was going to do it. [Doctor #3] thought the MICU people were going to do it. The second resident that came on at 1700 hours thought that [Doctor #3] did it.

I mean, who's holding that ball?

Q. Okay. Well, we haven't heard anything from any of the medical residents that were there, have we?

A. No.

Q. So it's possible that the medical residents did, in fact, do as they were asked to do and contact vascular interventional radiology?

A. Everything's possible.

My experience has been if you get something started in the ER, it's done by the ER people.

Q. But you don't know how your experience translates to the emergency department at [UNIVERSITY HOSPITAL] Hospitals, do you?

A. I do not.

Q. Okay. Now, we were talking about the depositions. Have you written any notes or highlighted anything in the medical records?

Please say no.

A. Yes, I have.

Q. So you've highlighted some things in the medical records?

A. Yes.

Q. And those are things that you thought

were particularly important?

A. Absolutely.

Q. Can you just kind of quickly go through and tell me what sorts of things you highlighted?

MS. LORANT: And you're not asking him to do it page by page and tell you everything?

MS. CHENEY: No, no, just kind of give me a -- because, really, what I'm trying to do is avoid making the medical records and depositions that we all have copies of exhibits and having to make more copies of them, in which the highlighting probably won't show up anyway.

THE WITNESS: I documented the time of patient's arrival.

BY MS. CHENEY:

Q. At [UNIVERSITY HOSPITAL]?

A. At [UNIVERSITY HOSPITAL].

Q. And what time was that?

A. Didn't document, underlined, highlighted.

Let me see. 1620. That's really when the record was, I guess, typed up.

Q. Okay.

A. 1916 on the blood gas, as well as 1630 and 1620 were also highlighted.

I highlighted the echo report.

Q. What part --

A. Some parts of the last page, page 2, I guess.

Q. Okay.

A. Specifically saying abnormal septal contour consistent with right ventricular pressure or volume overload, trace mitral regurgitation by Doppler examination. Normal left atrial chamber size, marked right ventricular enlargement and hypertrophy with severely depressed contraction, cannot exclude apical right ventricular mural thrombus.

Q. And --

A. And the time start was 4:56, or 1656 p.m.

Q. Four fifty -- and that time denotes what?

A. Says time start.

Q. The time that the echo was --

A. Begun.

Q. -- started?

A. I believe that's -- that's right.

Q. Okay. And does it say -- do we have a time finish on that?

A. No.

Q. How long does it usually take to perform a cardiac echo?

A. I've seen them done in five or 10

minutes.

Q. So it's reasonable to think that this was finished shortly after 5:00?

A. Correct.

Q. And then do you agree with Dr. -- well, with some of the deposition testimony that the echo -- the dictated echo report is not necessarily available immediately but the -- the physicians get their information from the cardiologist who's reading the echo?

A. Right.

Q. And --

A. I agree with that.

Q. Okay. Did you form any opinions about what the cause was of the right ventricular hypertrophy that was noted there?

A. I don't know what that meant. I wouldn't expect that to be there.

Q. It's not consistent with pulmonary embolism necessarily?

A. It's not consistent with acute pulmonary embolism.

Q. Okay. We were just going through the record here.

A. I'm not trying to hide anything. I just,

I haven't seen anything.

Q. I know.

A. That's it.

Q. Okay.

A. Thank the Lord.

Q. Okay. Now, this is not, as we discussed off the record earlier, not the first time you've been involved in one of my cases, and I do know of a number of other cases that you've been involved in just in North Carolina but also other places. Can you give us an estimate of how many cases -- medical malpractice cases you've been involved in throughout your career?

MS. LORANT: Objection.

THE WITNESS: I've probably reviewed upwards of 300 cases in the last 20 years.

BY MS. CHENEY:

Q. And of those 300, how many have you been named as an expert witness in, or of those upward of 300?

A. Probably 60 percent or so of those cases I thought that the -- that there was some malpractice, or not, depending on which side asked me to review them.

Q. Okay. Have you been -- you say depending on which side asked you to review them. Have you been

asked to review cases for defendants as well as plaintiffs?

A. Yes, ma'am.

Q. When was the last time you were asked to review a case for a defendant?

A. Last week.

Q. And who was that? Don't tell me the name of the defendant necessarily, just the name of the attorney.

A. I don't even know. It was a defense lawyer out of southern Florida, Palm Beach area.

Q. And you don't remember the lawyer's name or name of the law firm or anything?

A. Name of the law firm is actually two names. I don't remember them.

I'm terrible on names.

Q. Do you know how they got your name?

A. They've asked me several times before to review cases. I think it started because I testified on behalf of the plaintiff on one of their cases and they asked me to -- to look at some other cases.

Q. What is the breakdown in your expert witness practice of cases that you look at for plaintiffs versus defendants?

MS. LORANT: Objection.

THE WITNESS: The plaintiffs' lawyer ask me probably 95 percent of the time and defense the other 5 percent.

BY MS. CHENEY:

Q. And is that number -- we were talking about reviewing. Is that number different for cases in which you're named as an expert witness? In other words, how does the --

A. Oh, boy.

Q. -- what is the breakdown in cases in which you are actually named as an expert?

A. Must be the same, I would think.

Q. And what about cases in which you actually testify by deposition or at trial on behalf of a party to a medical malpractice case?

A. I think in the past four years or so I have not given a deposition -- it's been 100 percent plaintiff for the past four years.

Q. And prior to the last four years was there an occasion when you gave a deposition for a defendant?

A. Yeah. Yes, ma'am.

Q. And how frequently would you say that occurred?

A. Again, probably one out of 20

depositions.

Q. Why do you think it is that in the past four years it's just been 100 percent plaintiff?

A. I don't know. I mean, there's defense cases that I'm still holding at home pending -- pending I guess court time.

Q. How many?

A. How many cases?

Q. Uh-huh, defense cases.

A. I can remember four off the top of my head.

Q. Can you remember the names of any defense lawyers for whom you have done work?

A. No. I can just tell you there's a firm in Connecticut that I've done work with and a firm in Palm Beach area in Florida, and there was a firm out of -- I don't know the names. There was a firm out of Atlanta that asked me to look at some cases as well, defense cases.

Q. And you can't remember the name of any defense lawyer that you've ever worked with?

A. No, and very few plaintiffs' lawyers.

Q. We marked your CV as Exhibit 31, and let me just hand it to you and get you to confirm for the record that this is, in fact, your CV.

A. Yes, it is.

Q. And can you tell us when it was last updated?

A. 5-1-05.

Q. Is there anything since 5-1-05 that's occurred that would need to -- that that CV would need to reflect in order to be 100 percent accurate and up-to-date?

A. No, that's accurate and up-to-date.

Q. Okay. And does your CV accurately set out your education, training, and your experience, including all of your professional committee memberships, hospital privileges, publications, awards, things like that?

A. Yeah. I didn't include there the little merit badge things we get, ACLS, ATLS training, and all that. They're relatively repetitive, and everybody has to have them anyway. But everything else is accurate.

Q. Okay. And do you have any publications at all --

A. There's one mentioned there --

Q. -- that you have authored?

A. There's one mentioned there about, excuse me, trauma center designations in the State of

Virginia back in '85 or '86. That's the only one I've had my name associated with.

Q. Where is it?

No. Show me where it is.

Publications, Trauma site verification.

What is that -- what was that publication? What was the nature of it?

A. That was a publication I think in the journal of Trauma, and it had to do with Virginia's method of determining what hospitals were at what level trauma center before the designation occurred. It involved a task force of a trauma surgeon, ER physician, nurses, administrators going throughout the State of Virginia checking hospitals at Level 1 trauma designations and see if they actually fulfill the criteria that they had to.

Q. How did you spend your professional time between November 24, 2002 and November 24th, 2003?

A. I've been working as an ER physician for 30 years. I have not stopped.

Q. Okay.

A. So I don't know how many hours I spent in that particular year, but it's pretty much consistent with what I've been doing since 1973.

Q. And as an ER physician, can you just

explain how your time is spent? What do you do? You work in emergency rooms?

A. Yes. We -- our group covers seven hospitals locally. We have decided to work eight-hour shifts, which we do most of the time. That can be any of five or six different shifts during the day and night. I work probably somewhere between 36 and 40 hours a week.

Q. And that was the case between 2002 and 2003 --

A. Yes, ma'am.

Q. -- as well?

What is the name of your group?

A. Emergency Physicians of Tidewater.

Q. How many physicians in it?

A. Seventy-five or so.

Q. Do you hold any offices --

A. In that --

Q. -- or positions in that group?

A. I'm on the board of directors.

It's a Democratic group. The board of directors is -- position is a three-year position that has to be voted on for replacements.

Q. Okay.

A. And I've been in that position since late

'80s or early '90s.

Q. And how many physicians are on the board?

A. I believe there are nine.

Q. Does your group take any positions at all on its members serving as expert witnesses in medical malpractice cases?

A. Say that again, please.

Q. Does your -- your group, Emergency Physicians of Tide -- the Tidewater -- Emergency Physicians Tidewater --

A. Of Tidewater.

Q. -- of Tidewater take a position at all on its members serving as expert witnesses in medical malpractice cases?

A. One position is we wouldn't testify against other members of the group. But there are several members in that group that do the same expert witness testimony. Other than that, we don't really have a -- a general policy.

Q. Okay. And when you serve as an expert witness, does the money that you earn go to you or does it go to your group?

A. It goes to me.

Q. Okay. And does each physician in your group who chooses to do expert witness work set their

own rates?

A. Yes.

Q. What percentage of your time do you spend reviewing and testifying in medical malpractice cases?

A. In a year's time, probably 10 or 15 percent.

Q. And what percentage of your income does that account for?

A. Actually about the same.

Q. Have you ever been asked to produce your income tax returns --

A. Yes.

Q. -- in connection with medical malpractice litigation?

A. Yes.

Q. Have you ever been sued?

A. Twice.

My name was -- I was mentioned twice.

Q. Okay. And when you say you were mentioned twice, you mean your name was in the caption along with one or more other defendants?

A. That's right. That's right, yeah.

Q. And what -- what were the -- in those suits, what was the earliest one? What was the --

A. Around '74.

Q. And what were the allegations?

A. Missed diagnosis of appendicitis.

Q. And what was the outcome of that case?

A. It was settled out of court for about $8,000.

Q. And what was the next case?

A. It was in '83 or '84, and it had to do with a tubo-ovarian abscess that we made the diagnosis in the ER. I gave a deposition, and my name was dropped from the case. I don't know what the outcome of the case was.

Q. Okay. Your CV indicates that you have been licensed in North Carolina?

A. Right.

Q. What was -- for what reason were you licensed in North Carolina?

A. We worked in a hospital in Rocky Mount, our group did --

Q. Uh-huh.

A. -- for three years. And, obviously, to work there you had to get a license.

After we -- our three-year contract ran out I kept the license because I thought I had to have it to teach some of the EMS stuff to the Outer Banks, where -- where I have a cottage. So I just kept it

open for several years after that and then discovered I didn't need it to do the teaching so I dropped it.

Q. Okay.

A. Or just didn't renew it. I guess that was more like it.

Q. What were the three years that you worked at a hospital in Rocky Mount?

A. It's in my CV.

Here we go. 1984 to 1988. Four years, I guess.

Q. Okay. And did you say you have a cottage on the Outer Banks?

A. Yes, ma'am.

Q. What part --

A. Corolla.

Q. -- whereabouts?

So what is your involvement there with teaching EMS people?

A. Back in the '80s and during the '90s rescue squads were being incorporated into the EMS situation, and they found out that I was an ER physician and asked me to do some of the training of the fellows that were getting involved.

Q. Okay. And you no longer do that?

A. No, I don't.

Q. Have -- has your group or any hospital ever been sued by a patient in whose care you were involved but you weren't personally named in the lawsuit?

A. How would I know that?

Q. Have you --

A. I can't answer that. I don't know.

Q. Have you ever had to give a deposition, for example, in a case in which your group or a hospital was named as a defendant in a patient for whom you cared?

A. Well, the one I mentioned in '83 or '84.

Q. Uh-huh.

A. I think there was another one that I gave a deposition to probably in the mid '80s. I don't know the name of the case or the lawyers, though. That one had to do I believe with a dissecting aortic aneurysm.

Q. And that was a case -- I mean, that was a patient that you took care of in the emergency room?

A. In the ER, yeah.

Q. And was it a failure to diagnose allegation, do you know?

A. No, we made the diagnosis. I really don't know what -- I just -- it was a five- or

10-minute deposition.

Q. Do you know what the outcome of that case was?

A. I know the fellow died.

Q. Did the hospital pay money or the group, whoever was named?

A. I think the case was dropped.

Q. Has any money ever been paid on your behalf arising out of a claim by a patient for whom you've cared other than the $8,000 settlement that you told me about regarding the failure -- the alleged failure to diagnose appendicitis?

A. That's the only one.

Q. Have you ever testified before in a case involving pulmonary embolism?

A. Wow. I'm sure I have. I don't remember when or where.

Q. Do you know how many?

A. No.

Q. Do you ever testify outside your area of specialization as an emergency medicine physician?

A. I've testified one time -- at one time I was a medical director of a nursing home, and a case came up in Alabama or something and they asked me to look at -- to look at what happened in -- in the

nursing home. So I testified in that case.

Q. Okay. And that's -- that's the only time that you've ever testified outside of your area of specialization?

MS. LORANT: Objection.

BY MS. CHENEY:

Q. That you can remember.

A. Well, you know, some of the cases had to do with EMS, pre-hospital care, which I consider part of the ER or emergency medicine. So other than that, I can't remember anything.

Q. Okay. But your training and experience has all been emergency medicine, right?

A. Yes, ma'am.

MS. LORANT: Well, he said he was a medical director of the nursing home.

THE WITNESS: That's correct. I'm sorry.

BY MS. CHENEY:

Q. Okay. Your -- your training -- as far as your training goes, you have only been trained, and I don't mean only in -- in a negative sense, but you have been trained as an emergency medicine physician and not as some other type of specialist, correct?

A. I did my internship in surgery, okay.

Q. Uh-huh.

A. I did not do a residency. I was board certified the first year the boards were given in emergency medicine, 1980, but I accomplished that without a residency.

Q. Okay. And the -- you were a medical director of a nursing home. When was that?

A. For 25 years, from I think '74 to '99, something like that.

Q. Uh-huh. And what did that involve?

A. Basically taking care of patients on a regular basis in the nursing home itself.

Q. And for what -- what type of care did you provide to nursing home patients during that 25 years?

A. Just general medical care, managing diabetes or hypertension, you know, acute cases like emergency pneumonias or urinary tract infections, those kinds of things.

Q. What medical literature do you subscribe to?

A. The Annals of Emergency Medicine and a journal called Emergency Medicine.

Q. Any others?

A. Yeah, there's a -- there's another CME journal that comes out once a month. I think that's called Emergency Medicine as well.

Q. And in addition to journals that you subscribe to, are there any textbooks that you have that you regularly refer to?

A. Tintinalli and Rosen are the two that are available to me at home, as well as in all the ERs. I mean, we have texts on procedures in emergency medicine, radiology in emergency medicine. I don't -- I don't remember the names, though.

Q. Okay. And other than the -- these textbooks and the journals that you subscribe to, is there any medical literature that you review on a regular basis?

A. In addition to what we talked about already?

Q. Right.

A. The articles that may be pointed out by local specialists and it's something that I think is unique to the field of theirs and ours.

Q. Okay. Do you know who some of the leading researchers and writers are on the topic of pulmonary embolism in the medical literature?

A. No.

Q. Do you know who some of the leading researchers and authors are on the topic of t-PA and thrombolytic therapy in the context of pulmonary

embolism?

A. I do not, no.

Q. You don't write about those subjects, I take it?

A. Correct.

Q. Now, you're not board certified in internal medicine, correct?

A. Correct.

Q. And you don't practice internal medicine, correct?

A. That's correct.

Q. And you didn't practice internal medicine between November 2002 and November 2003, correct?

A. Correct.

Q. And you don't hold yourself out as an expert in internal medicine, I take it?

A. Correct.

Q. Would you agree that you're not qualified to speak to the standard of care applicable to an internal medicine specialist practicing his or her specialty of internal medicine?

A. That's a broad statement. If that practice happens to involve what goes on in the ER, I think that's applicable to my specialty as well. That crossover area I would feel comfortable commenting on.

Q. Okay. And I know it's a broad statement, but do you recognize no difference between the standard of care applicable to an internal medicine specialist who comes to the emergency room to see a patient with an internal medicine condition and the standard of care applicable to an emergency medicine specialist taking care of that same -- same patient?

MS. LORANT: Object.

THE WITNESS: Well, if they both have the same amount of information about that patient, then the treatment should be correspondingly similar.

BY MS. CHENEY:

Q. Now, you're not board certified in pulmonary medicine, correct?

A. Correct.

Q. You didn't do any type of fellowship in pulmonary medicine, correct?

A. No, ma'am.

Q. And you don't attend meetings of pulmonary medicine -- professional meetings of pulmonary medicine organizations?

A. No, not specifically to chest physicians, no.

Q. In order to be board certified in pulmonary medicine, you have to first be board

certified in internal medicine; is that your understanding?

A. Yes, ma'am.

Q. And you have neither certification, correct?

A. That's correct.

Q. And you don't practice pulmonary medicine --

A. Correct.

Q. -- as a specialty, correct?

And you did not practice pulmonary medicine between November of 2003 -- '2 and November of 2003, did you?

A. Correct, I did not.

Q. And you don't subscribe to or regularly review publications from the pulmonary medicine specialty, correct?

A. Outside of the instances I mentioned earlier, I do not.

Q. Okay. And you don't hold yourself out as an expert in pulmonary medicine, do you?

A. No.

Q. Between November 24th of 2002 and November 24th of 2003 would -- would it be fair to say that zero percent of your practice was as a pulmonary

medicine specialist?

A. I'm not a pulmonary medicine specialist, period.

Q. What percentage --

A. You know, we, obviously, deal with pulmonary problems in the ER, but I'm not a pulmonary medicine specialist.

Q. Okay. And what percentage of your emergency medicine practice would you say between November of '02 and November of '03 was involving patients who presented with pulmonary issues?

A. That's going to have to be an estimate.

Q. Okay.

A. Probably somewhere between 10 and 15 percent.

Q. Now, what are some of the other specialty areas that patients present to the emergency department in other than pulmonary medicine?

MS. LORANT: Objection.

THE WITNESS: You mean --

BY MS. CHENEY:

Q. That wasn't really a great question, but you see patients who have pulmonary problems maybe 10 to 15 percent of the time. And --

A. Well --

Q. -- we're talking about '02 to '03. Is it the same today as it was then?

A. Yeah. And that -- that 10 to 15 percent really I thought you meant the primary problem that they had was pulmonary.

Q. And that's -- and that's what I did mean.

A. Excuse me. We see, obviously, a number of cardiac patients who have pulmonary issues --

Q. Uh-huh.

A. -- and kids that have pulmonary issues but come in for other reasons.

Q. Okay.

A. But those -- those 10 to 15 the main complaint was a pulmonary problem.

Q. Right. And what percentage is the main complaint a heart problem?

A. It may be 20 percent.

Q. And I understand that these are estimates.

A. Right.

And they may be just the complaint would justify a cardiac workup at that point.

Q. Uh-huh.

A. That's what I'm answering.

Q. And what percentage would you say present

with a GI problem?

A. In a year-round spectrum, maybe another 15 percent.

Q. And then I take it there's a certain percentage of people who present with trauma?

A. Yes.

Q. What would that percentage be?

A. Depends on the hospital I'm working in. We have a major trauma center. If I'm working there, it's probably 15 percent of admiss -- of the patients that day. But if I'm working in a non-trauma center, we'll get little cuts and scratches and those kinds of things, but nothing I would really consider significant trauma.

Q. Uh-huh.

A. So it may be 2 to 5 percent of my entire year's patients have been associated with trauma.

Q. Okay. And so this is the kind of thing that I was getting at before. What other sorts of patients do you see in the emergency room?

A. Wow. I mean, pediatrics, that's probably 15 to 20 percent. OB/GYN, some hospitals it's a hell of a lot larger than 15 percent.

Psychiatry, it may be 10 percent, although it takes up about 25 percent of the time, it

seems.

I don't know. Orthopedics, urology. We kind of see every different -- every patient of different needs for specialties.

Q. Of the -- of the patients that you say that you estimated was about 10 to 15 percent with pulmonary problems, what percent of those patients present with pulmonary embolism or -- or suspected pulmonary embolism?

A. If you take 100 patients with a pulmonary complaint, maybe 10 to 15 would have a suspected pulmonary embolism, and the workup yield might be a third of that or a quarter of that. So of 100, maybe four would have a pulmonary embolus.

Q. So if you --

A. It would be probably less than that, actually, but we certainly look for it pretty often.

Q. Okay. So if you -- if you start out with 10 to 15 percent, roughly, patients that come in with pulmonary complaints, then you've got 10 to 15 percent of those -- of that 10 to 15 percent with suspected PE, and then of those after workup one-third to one-quarter?

A. Maybe smaller than that.

Q. Or -- or less?

A. Yeah.

Q. So you said on average you probably see less than four patients per year with a confirmed pulmonary embolism?

A. Did I say that? No, I didn't mean to say that.

Q. Oh, okay. What did --

A. No, it's higher than that.

Q. Okay.

A. I probably -- I probably see one a week, maybe one every 10 days with pulmonary embolus, proven pulmonary embolus.

Q. One patient per week with a proven PE?

A. Week to 10 days I think I said.

Q. Oh, okay. Sorry.

And that's working at how many different hospitals?

A. Seven.

Q. Is there -- are there some hospitals at which patients with PE would present more than others?

A. You know, I'm sure there are. Just a feeling that two of the hospitals serve a huge number of adult nursing home type patients, and those folks tend to get pulmonary emboli because they -- they kind of hang around and don't walk very much.

Q. Uh-huh.

A. So I would think those two hospitals would see more percentage wise pulmonary embolus than the other five hospitals.

Q. And when you said one patient per week, was that you personally or was that your -- your group or your -- or the hospital?

A. One patient per week to 10 days, that would be associated with patients that I had contact with, not necessarily my patients but patients that one of my partners saw at the same time or one of the residents saw or one of the -- one of the PAs saw.

Q. Uh-huh.

A. You know, I'm sorry. I -- you were asking about PEs. I was -- I was combining DVTs and PEs together. I apologize for that.

Q. Okay. Is there a difference if we were to just focus on proven pulmonary embolism, how many would we --

A. Yeah, it would be smaller than that number.

Q. Okay. Do you have a number of how many patients maybe per month or per year that would be?

A. I bet we see -- I see anywhere from 12 to 25 patients a year with PE.

Q. And are we talking about patients with proven PE or --

A. Yeah.

Q. -- just suspected?

A. Yes, ma'am.

Q. How many patients would you say you personally see per year with suspected PE?

A. Probably four times that many.

Q. So out -- say out of 100 patients with suspected PE, 20, 25 of those -- 12 to 25 would have PE actually proven?

A. Right.

Q. And what sort of investigation do you do to prove pulmonary embolism?

A. The most common test that I do is a CT of the chest with contrast. If the patient has an allergy to iodine, we have to do a VQ scan.

Q. Are there any other diagnostic tests that you do to make a definitive diagnosis other than chest CT and VQ scan?

A. Once in a while we get a pulmonary angiogram.

Q. What would be the circumstances under which you would get a pulmonary angiogram as opposed to a chest CT or a VQ scan?

A. The one I remember most recently was probably February or March where we had a patient that was markedly dyspneic and had what we considered signs and symptoms of pulmonary embolus. CT wasn't working and the radio -- interventional radiologist was there.

It's -- it's much more rare -- much more rarely used now than it was 10 years ago.

Q. Uh-huh. Why is that?

A. Because of the availability of the CT scanner and the -- the job it does.

Q. Okay. You're not privileged to admit patients to the hospital, correct?

A. That's right.

Q. You -- I take it you order or have occasion to order echocardiograms for your patients in the emergency department?

A. Yes.

Q. But you are not competent to read echocardiograms yourself, are you?

A. No.

Q. Okay. Do you consider yourself qualified to speak to the standard of care applicable to a cardiologist practicing his or her specialty of cardiology?

A. In the ER?

Q. In the ER or wherever a cardiologist may be practicing his or her specialty.

A. Well, if somebody comes into the ER and has, say, a heart attack, I know what the treatment should be in the ER for that particular patient. If those things aren't done by the cardiologist or the internist or whoever, I might make a comment to remind them something wasn't done.

Q. If a patient comes into an emergency room where you're working with a suspected MI, do you treat it yourself or do you call a cardiologist in?

A. Both.

Q. What sort of treatment do you offer as opposed to the cardiologist?

A. We initiate the treatment and resuscitate if necessary, stabilize the patient, and then the cardiologist does whatever they do. They may take them to the cath lab. They may just take them upstairs.

Q. Okay. What about giving t-PA?

A. Yeah. Yes, ma'am.

Q. Do you do that or does the cardiologist do it?

A. I've done it, yes.

Q. In your practice how --

A. You mean for -- for MIs?
Q. Right.
A. It's not very commonly done around here, but I have done it.
Q. It's not commonly done by the emergency physician or it's not commonly done by anybody?
A. By anybody.
Q. Giving t-PA for MI?
A. Right.
Q. Why is that?
A. Because the cath labs are available and the interventional cardiologists prefer to do it that route, even in the middle of the night.
Q. How long does it take the cath lab to -- from sort of door to balloon time, how long does it take the cath lab to -- to be able to mobilize?
A. It's fairly variable, but we've done it within 20 minutes of arrival at the door. That's outstanding time. If we can get it done in an hour, that's probably accurate -- acceptable.
Q. Does -- do the hospitals where you work have any type of written protocols or standards for things like that, door to balloon time?
A. Goals.
Q. Goals?

A. More than standards.

We have set up calls to make, you know, who's on call, what call has to be made, who does that call, and so on like that to make everything run smoothly, theoretically.

Q. Do the hos -- do the hospitals that you work at in their emergency departments have any policies or -- written policies or protocols regarding management of patients with pulmonary embolism?

A. I don't think we have any policy that specifically addresses a PE treatment.

Q. Are you aware of any -- any guidelines, practice guidelines, in your profession for management of patients with PE?

A. There have been many practice guidelines put forth by the American College of Emergency Physicians, for example, on treatment of PEs, and they've, you know, been changed and improved upon over the years.

Q. What causes a practice guideline to come into effect to begin with?

MS. LORANT: Objection.

THE WITNESS: I think the interest in -- in elevating the care of that specific entity when it's thought that that care wasn't top-of-the-line and

we had problems with it.

BY MS. CHENEY:

Q. How does a particular practice come to be the accepted practice that gets articulated in these practice guidelines?

A. I'm sorry. Could you --

MS. LORANT: Objection.

BY MS. CHENEY:

Q. How does a practice become the one that is adopted as the guideline?

A. Guidelines are put out by groups of people, not just ACEP, but, you know, pulmonary -- pulmonologists and so on, who tend to have an interest in that particular entity within their specialty, like pulmonary embolism. Maybe it's the folks that do the writing, maybe it's the educators. They kind of get together and make up general plans. And -- and these are really suggestions that, you know, think about this, think about that --

Q. Uh-huh.

A. -- consider this and that.

Q. Have you ever been one of those people that gets together to decide what the practice guidelines are going to be?

A. Not for pulmonary embolism.

Q. For anything?

A. Yeah, for EMS work.

Q. That's ambulance attendants, is that EMS?

A. Right, the pre-hospital care.

Q. Uh-huh. You made reference to the fact that these practice guidelines change over the years, they get improved upon. What is it that initiates those changes or improvements?

A. New therapies, new drugs available, new discoveries from research data about old treatments, new technology.

Q. How long do you think it takes the data that come, say, from clinical trials to actually make its way into a practice guideline?

MS. LORANT: Objection.

THE WITNESS: I have no idea.

Usually clinical trials have to do with drugs, I thought, and I don't know -- I don't even know the -- the spectrum of that.

BY MS. CHENEY:

Q. Okay, okay. In terms of, say, randomized clinical trials to compare something like t-PA with heparin alone, do you know how long any data from those types of trials would take to become -- if there were any data, to become a standard practice?

MS. LORANT: Objection.

THE WITNESS: I guess the one I can remember, there was an article that described initiating that exact trial that you mentioned, taking a group of people and using t-PA and a second group and using heparin alone. And the trial was closed because the people were getting -- unstable people getting heparin alone died and people with -- in the same situations given t-PA lived. So that trial didn't last very long.

BY MS. CHENEY:

Q. Okay. Where was that -- where was that one published?

A. That was probably in the mid '90s. I'll have to look it up for you. I don't remember the name of the author.

Q. Do you remember what journal?

A. I don't. No, I don't.

Q. How would you be able to find that and get that information to me?

I mean, can you do it today or would this be something you would need to do later?

A. I'd have to do it later.

Q. You don't --

A. Would you like me to do that?

Q. We'll talk about it at the end --
A. Okay.
Q. -- if we remember.
A. Okay.
Q. You don't practice radiology, correct?
A. I'm not a radiologist.
Q. And that was also true between November of '02 and November of '03, correct?
A. Yes.
Q. And, by the same token, you're not an interventional radiologist, are you?
A. Exactly.
Q. Do they have VIR capabilities at all the hospitals where you practice?
A. At two of the hospitals they have 24-hour-a-day VIR capability. The other five they have interventional radiologists on call for 24 hours, but very rarely do they do anything after 5 p.m.
Q. Okay. Have you ever sent a patient for catheter-directed thrombolytic therapy?
A. No.
Q. And I take it you would agree that you're not qualified to perform that procedure, correct?
A. No, I wouldn't do that.
Q. Do you know what the policies and

protocols of the radiology and VIR departments at [UNIVERSITY HOSPITAL] are?

A. I do not.

Q. Do you hold yourself out as an expert in thrombolytics?

MS. LORANT: Objection.

THE WITNESS: I don't know how they're made.

I'm not sure what you mean by that. Yes, I -- we have used -- I have used thrombolytics in the ER. But other than the use of them in certain circumstances that require them, I would not consider myself -- I would not consider myself an expert.

BY MS. CHENEY:

Q. Okay. For example, you haven't been in any clinical trials of t-PA or --

A. Correct.

Q. -- alteplase or other thrombolytics, correct?

A. That's correct.

Q. And you've never published any medical literature concerning those thrombolytics, correct?

A. Right.

Q. And would you agree that just because you administer t-PA, that doesn't necessarily make you an

expert on the -- on the drug itself?

MS. LORANT: Objection.

THE WITNESS: Well, we certainly have to know enough about the drug to be able to use it properly and the side effects. That wouldn't necessarily make me an expert on the drug, no.

BY MS. CHENEY:

Q. What are the protocols for using t-PA in the emergency departments where you work?

MS. LORANT: Objection.

BY MS. CHENEY:

Q. If any.

A. We really don't have any protocols written. We do the high-end loading type for -- for our patients.

Q. And what do you mean by "high-end loading type"?

A. Well, for example, in coronary artery occlusion or PE we -- the t-PA would be given 15, 50, 35, 15 bolus dose, 15 milligrams, 50 milligrams over half an hour, I believe, and then 35 milligrams over the last hour.

Q. Fifteen milligrams as a bolus --

A. Yeah.

Q. -- or 50?

A. Fifteen.

Q. Fifteen. And then 50?

A. And then 50 and then 35.

Q. And you said that's not written anywhere, that's just a standard practice?

A. That's the standard practice, yeah.

Q. And that's for giving t-PA to both MI patients and PE patients?

A. Right.

Q. So there's no difference in how much t-PA you would give to a patient depending on whether they're an MI patient or a PE patient, correct?

A. I guess there -- there is a weight restriction if someone's very thin, you know, 100 pounds or something like that, we wouldn't give that -- those particular doses. But that's really the only exception.

Q. Okay. Does t-PA work differently on clots that are in the coronary artery -- arteries as opposed to clots that are in the pulmonary artery?

A. The clots that are -- that are in the -- if the clots are the same age, they work the same.

Q. Okay. And what does the age have to do with it?

A. Well, if you have a clot that's been in

the pulmonary artery for weeks, it's probably not going to be as effective as if you have an acute clot that's there for hours.

Q. Okay.

A. Same with the coronary arteries.

Q. And what is the mechanism of action upon a -- an embolism by t-PA?

A. It's a fibrinolytic. It breaks up the fiber and mesh that causes the clot itself.

Q. Okay. And does -- is it -- does it actually bust up the entire clot, or what does it do when it comes in contact with the --

A. Well, it works in --

Q. -- thrombus?

A. If you consider the clot to be a ball, which they're not, but that's for this purpose, it starts just peeling away the outer rind of the ball until you get the clot dissolved.

Q. Okay.

A. Depending on how long the center of the ball was present or the center of the clot, it would take longer. It may not be able to do it completely.

Q. Okay. And as between clots in the pulmonary artery and clots in the coronary arteries, is there a difference between whether those clots

actually get dissolved or not or is it pretty much the same?

A. I said if they're the same age they probably are affected the same.

Coronary artery clots are usually fairly acute to cause the symptoms, whereas pulmonary artery clots can be many clots for -- for longer periods of time before symptoms begin.

Q. Do you have an opinion about which was the case for [Patient] ?

A. I think she had a pulmonary embolus.

Q. Okay. Do you think she had something that had been there for a long time or smaller clots that had been there for a long time or --

A. She apparently --

Q. -- or what?

A. -- had some dyspnea the previous night, so that may have been -- we don't know. That may have been caused by some small pulmonary emboli at that point.

Q. Uh-huh. Did you -- did you read or have you been told anything about her grandmother's testimony that she, in fact, reported shortness of breath a month before she delivered to her grandmother?

A. No.

Q. I was asking you about policy -- written policies or protocols for using t-PA in your hospitals where you work. Do you have any written policies or protocols for when t-PA is indicated?

A. No, I don't believe we do at any of the hospitals.

There's some controversy as to when t-PA is indicated in strokes; and some of the neurologists use it all the time, others don't use it at all. So we've kind of kept away from making a mandated policy on t-PA use.

Q. Is there any controversy as to when and whether t-PA is indicated in PE patients?

A. Well, there's certain things that are considered contraindications to the use of -- in PE patients.

Q. But other than in cases of contraindications, are you aware of any controversy among your colleagues or in the medical literature about when and if t-PA should be used in patients presenting with pulmonary embolism?

A. Not among my colleagues do I believe.

Q. You've never studied t-PA pharmacology, I take it?

A. Right.

Q. When was the first time that you ever used t-PA?

A. Geez. It was in the mid '80s.

Q. And for what did you use it?

A. For an MI, heart attack.

Q. And when did using t-PA for heart attacks sort of fall out of favor in this area?

A. When we developed a system for using interventional cardiologists and had enough of them available to take -- to cover full time.

Q. Uh-huh. When -- approximately when would that have been?

A. I think maybe in the early '90s.

Q. Have you ever administered t-PA for stroke?

A. Yes.

Q. Is that something that you would do, or would you call in a neurologist and a neurologist would do it?

A. We do it in consultation with the neurologist. Most of the time if it's done the neurologist isn't even in the building. He's, you know, maybe in another hospital or in his office.

Q. Okay. Have you ever done it without

being directed to do it by a neurologist for stroke?

A. Yes, and I've been criticized. I forgot what hospital I was in.

Q. Okay. How many times would you say you've given thrombolytic therapy for a stroke?

A. I bet five to 10 times is the most.

Q. Other than stroke, MI, and pulmonary embolism, are there any other indications for giving it?

A. There's some indications for peripheral vascular occlusion that have been used locally.

Q. Have you ever used it for that?

A. No. I mean, I've seen the patient getting it, but I've never used it myself.

Q. Have you ever specifically researched or published on treatment of pulmonary embolism with thrombolytic therapy?

A. No.

Q. When a patient comes into the emergency department where you work, do you diagnose pulmonary embolism and give t-PA or do you call in a pulmonary medicine specialist to do that?

A. Usually the call is made to internal medicine for admission.

Q. Okay. And is it usually the internist

that makes the decision about giving t-PA or not?

A. Well, it depends on how sick the patient is. If the patient's unstable, they get t-PA. If not unstable and relatively comfortable, we start them on heparin and let the decision to use t-PA up to the internist.

Q. Define what you mean by unstable.

A. Well, no evidence of respiratory distress, tachycardia, chest pain, maybe the use of oxygen, but not high-pressured oxygen or intubation.

Q. So you say if a patient is unstable and they come into your emer -- your emergency department, they get t-PA. And your definition of instability is if they have respiratory distress, tachycardia, chest pain, or on supplemental oxygen?

A. High-pressure supplemental oxygen and cannot tolerate being off of it, hypotension.

Q. In order --

A. Evidence of --

Q. Sorry.

A. -- you know, significant cerebral hypoxia, like confusion, agitation.

Q. So in the hospitals where you work, if a patient comes in with just one of these things you would give t-PA, or do more than one of these things

have to be present?

A. For PE?

Q. Uh-huh.

A. Not more than one of those things has to be present.

Q. Just one?

A. Yeah.

Q. So any one of these?

A. Uh-huh.

Q. Patient comes in with respiratory distress or tachycardia or chest pain or on high-pressure supplemental oxygen, or has hypotension, or has significant cerebral hypoxia, those are all -- those patients would get t-PA in your hospital?

A. Yeah. And the people with chest pain, I'm talking about significant chest pain, not just a sharp pain when they take a breath, but constant sharp pain.

Q. Have you seen any -- any literature which states that this is a -- a guideline or a standard for giving t-PA to patients with pulmonary embolism, that -- that any of these things have -- if any of these things are present the patient should get t-PA?

A. It's mentioned in the -- in the journal -- I'm sorry, in the textbook articles. It's

not mentioned as it's a standard -- I mean, it's considered a standard to do. It's not mentioned as a guideline.

Q. You say it's considered a standard, not mentioned as a guideline. Can you tell me what you mean by that?

A. Well, the textbooks don't deal with guidelines. They deal with here's what we have, here's what we -- you know, here's what the standard is basically, here's the reason to do it, here are the reasons to not do it, and here is the experience we've had when we do it versus not doing it.

Q. Uh-huh. So the -- the textbooks don't talk in terms of guidelines, they talk in terms of standards; is that what you're saying?

MS. LORANT: Objection.

THE WITNESS: They don't talk in terms of guidelines, correct.

BY MS. CHENEY:

Q. Okay. So for the -- the Rosen or the Tintinalli text, for example, say that t-PA as a standard should be given if a patient has any one of these things on the list that you've just given me?

A. I think they make the comment about instability versus stable patients, and they list the

certain types of patients which would be considered unstable with pulmonary emboli versus stable with pulmonary emboli.

Q. Okay. And I'm trying to find that here. Can you just show me where that might be in those papers?

MS. LORANT: Lee, can we take a bathroom break soon?

MS. CHENEY: (Nodding head.)

THE WITNESS: I'm sorry?

MS. LORANT: Just --

THE WITNESS: Here's the comment here under pulmonary thromboembolism on the page 1228 in Rosen's. You want me to read it?

BY MS. CHENEY:

Q. Sure, or you can show it to me.

This would be the part that you've got highlighted or --

A. Well, here, I'll --

Q. I mean, you can read it.

A. Yeah, that would be good.

It says, "Fibrinolytic agents have been used for the treatment of PTE," or pulmonary embolism, "for more than 30 years and are well-established as the treatment of choice for patients with hemodynamic

compromise from PTE. Immediate fibrinolytic therapy is recommended for patients with pulmonary embolism who are hypotensive, have massive PTE, have had syncope with persistent hemodynamic compromise, are significantly hypoxemic, or have other evidence of depleted cardiopulmonary reserves. Immediate fibrinolysis may also be indicated in (sic.) patients with acute right ventricular strain from thromboembolism (sic.), even in the absence of hemodynamic compromise."

Q. Okay. So that would be your support for the statement that it's a -- it is a standard to use t-PA in patients with these --

A. Yes, ma'am.

Q. -- different findings?

And would that be in patients with unconfirmed pulmonary embolism or confirmed pulmonary embolism?

A. Highly suspected pulmonary embolism, if not confirmed.

THE VIDEOGRAPHER: My tape is about to end. Can we go off record real quick?

MS. CHENEY: Uh-huh.

THE VIDEOGRAPHER: We're going off record at 12:26 p.m.

(A recess was taken.)

THE VIDEOGRAPHER: This is tape three of the continued deposition of Dr. Philip Leavy. We are back on the record at 12:35 p.m.

BY MS. CHENEY:

Q. Okay. Dr. Leavy, are you ready to proceed?

A. Yes, ma'am.

Q. When we broke, we were talking about your statement that patients with highly suspected, although not necessarily confirmed, PE should get thrombolytic therapy, and you had earlier said that if a patient is unstable they would get t-PA right away as opposed to first starting -- the impression I got was they would get t-PA right away as opposed to first starting heparin?

A. Oh, we always give heparin with it.

Q. Oh, okay. So you give heparin at the same time as the t-PA?

A. Yes. Yeah.

Q. Okay. And how do you dose that, the heparin with the t-PA?

A. We dose it anywhere from 80 to 100 per -- units per kilogram bolus and then 18 per kilogram per hour for heparin.

Q. Eighty to 100 units of heparin per kilogram?

A. Yeah.

Q. Do you have a -- a protocol in your hospital that establishes that dosing?

A. You know, I think we do.

Q. Would you be able to get your hands on that?

A. I can try.

Q. Okay.

A. I mean -- well, I don't know if the hospital I'm going to today has it, but I know the main hospitals have it.

Q. So if we send a request to Ms. Lorant, you could --

A. Yeah.

Q. -- possibly get it to her --

A. Sure.

Q. -- and she could get it to me?

MS. LORANT: And you're paying for his time if he has to do research to get it?

MS. CHENEY: Yes, we will, assuming a reasonable amount of time. I mean, I wouldn't think it would take, you know, several hours to do something like that.

THE WITNESS: Days.

BY MS. CHENEY:

Q. And so you give 80 to 100 units of heparin per kilogram, and how much t-PA is given simultaneously?

A. Normally you'd have two different IVs going, okay.

Q. Uh-huh.

A. Fifteen milligrams bolus.

Q. And then 50 and then 35?

A. And then 50 and then 35.

Q. And then what about a heparin bolus, would you do that first?

A. Yeah, you always do that first.

Q. Okay.

A. That's the 80 to 100.

Q. That's for the bolus?

A. Yeah.

Q. And then what -- what is the maintenance amount?

A. Eighteen milligram per kilogram per hour.

Q. Okay.

A. Did I misstate that before?

Q. I'm sorry. I might have just misunderstood it.

A. Okay.

Q. That makes more sense to me.

Are you familiar with the terms massive and submassive pulmonary embolism?

A. Yes.

Q. How do you define massive and --

A. I don't know how to define that.

Q. Okay. Is massive versus submassive PE another way of just talking about stable versus unstable?

A. I think they have to do with the -- the volume of the PE, massive clots versus submassive.

Q. You mean --

A. But I don't --

Q. -- the size?

A. Yeah. I don't know how you'd measure that.

Q. Okay. And in the literature where they speak of massive versus submassive PE, have you seen them refer to massive pulmonary embolism as -- as patients who present in cardiogenic shock and -- and hypotension and submassive PE as patients who are not hypotensive and are not in cardiogenic shock?

A. I just haven't seen that --

Q. Okay.

A. -- those two words defined.

Q. Okay. Do the hospitals that you work at have ICUs that are capable of caring for PE patients who have received thrombolytic therapy?

A. Sure.

Q. All of them, some of them?

A. All of them.

Q. Have you ever specifically studied pulmonary embolism?

MS. LORANT: Objection.

BY MS. CHENEY:

Q. In other words, done specific research.

A. Yes, I've -- I've researched pulmonary emboli.

Literature search, is that what you mean?

Q. Well, I was actually referring to participated in any type of medical research on patients with pulmonary embolism.

A. Only as -- as refers to our group. We did a study one time on -- on the rapidity of response and diagnosis and therapy for PEs.

Q. Do you --

A. This was probably in the late '80s.

Q. Okay. And rap -- rapidity of response to what?

A. To the presence of a PE in a patient.

Q. Rapidity of the response by healthcare professionals, you mean?

A. By us.

Q. By you?

A. Yeah.

Q. So the rapidity of your group's response to PE?

A. Right.

Q. And what was the rest of it?

A. And the outcome, you know.

Q. And what did your study conclude?

A. That we had to be more aware of the possibility of PEs with subtle presentations and to delay treatment of a PE is to invite death.

Q. Is it the case that PEs sometimes do not get diagnosed because they are mistaken for MIs or other types of conditions?

A. Yes, ma'am.

Q. And, by the same token, isn't it also true that patients who come in with signs and symptoms that healthcare providers think could or are probably pulmonary embolism could, in fact, be something else?

A. Absolutely.

Q. Did your study that your group did get

published anywhere?

A. No.

Q. It was just an internal kind of thing?

A. It was a response to complaints.

Q. And did you -- did -- did you-all prepare any type of internal paper that still exists at the present time?

A. I don't believe we did, no.

Q. Who compiled the data from your -- from this study?

A. I know I was one of the people. I'm not sure if it was the directors at each of the hospitals. I don't --

Q. Uh-huh.

A. It's been a while, but --

Q. Okay.

A. -- I know I did it for -- for Maryview.

Q. And I think we've already looked at your publications. You've never published anything on pulmonary embolism, correct?

A. Correct.

Q. Have you ever been invited to present at any national meetings on the subject of pulmonary embolism?

A. No, ma'am.

Q. Have you ever given presentations at any local meetings on the subject of pulmonary embolism?

A. I've given a lecture to the residents on pulmonary emboli. I've given the discussion of pulmonary emboli to the paramedics and nurses in different lectures. I haven't given any to the medical society or anything like that, no.

Q. Okay. Have you ever prepared any handouts or outlines or documents to go along with these talks that you've given to residents or paramedics or nurses?

A. Yeah. Yes, ma'am.

Q. Do you have copies of those?

A. I don't. I haven't done it for -- since before we moved, which is three years ago. So I threw everything out --

Q. Okay.

A. -- that wasn't appropriate.

Q. Have you ever not called in a medical specialist to take over the care of a pulmonary embolism patient in the emergency department?

MS. LORANT: Objection.

THE WITNESS: By medical specialist you mean?

BY MS. CHENEY:

Q. Internist --

A. Or cardiologist or --

Q. -- pulmonary, cardiologist, somebody like that.

A. No, they have to -- they have to be admitted, so we have to get someone to admit them.

Q. Okay. And when somebody -- when you call them in and somebody has to admit them, is it the case that they usually come and do an admitting history and physical examination?

A. Yes.

Q. How does it work in your emergency department as between the emergency -- the emergency department staff and the medical team that comes and does the admitting history and physical in terms of who is responsible for the patient?

MS. LORANT: Objection.

THE WITNESS: At what time?

BY MS. CHENEY:

Q. Once the -- once the medical team comes in and does their admitting history and physical, starts writing orders.

A. And the patient's still in the ER?

Q. Yes.

A. It's sort of a combined responsibility

between the ER physician and who's ever admitting the patient until the patient leaves the ER.

Q. Have you ever worked with Ms. Lorant before?

A. No.

Q. Okay. So have you ever worked with any attorneys that she's been affiliated with before, such as Mr. Bill Faison or anybody from his firm?

A. What was the last name?

Q. Faison, F-A-I-S-O N.

A. I don't remember that name.

Q. Or Grover McCane?

A. I don't recall that name either.

Q. Okay. Do you know how she found out about you?

A. No.

Q. Do you advertise your services?

A. No.

Q. Are you listed with any expert witness referral services?

A. Yes.

Q. Which ones are you listed with?

A. Let's see. There's a -- I have received calls from several sources in the past 10 or 15 years. The most recent one has been a group out of Cleveland.

I can't remember the -- begins with a C.

Q. The name of the group begins with a C?

A. Yeah, like an Italian name, who's called me probably three or four times this year to look at cases.

Q. Okay. Any others?

A. In the past?

Q. Uh-huh.

A. Oh, yeah. There have been -- a group in Atlanta, J.D./M.D., has called in the past. I've also received calls to look at cases from, let's see, New England Medicolegal. That's in Providence, Rhode Island. And a firm in West Palm, Southeastern Florida Medicolegal. There's also one probably 20 years ago back in D.C. that asked me to look at a case or two. I can't remember the name of that one.

Q. Is it the case that at the present time the only one that you're -- the only referral service that you're listed with is this -- this group out of Cleveland?

MS. LORANT: Objection to listed.

THE WITNESS: Yeah, I'm not sure what you mean by listed with, but that's the only group that has called me this year to look at cases.

BY MS. CHENEY:

Q. Okay. Are you saying that you're not on any type of list with this group?

A. They have my name. I don't know -- you know, they call and ask if I'm still looking at cases and would I look at this one.

Q. Okay. I assume you're not the only physician whose name they have?

A. I hope not.

Q. Did Ms. Lorant contact you directly or did this case come to you through a service?

A. I don't recall.

Q. Have you billed for your time in this case yet?

A. I had received a stipend to begin with and I haven't billed since then.

Q. Okay. So a -- a retainer of sorts?

A. Right.

Q. And how much was that?

A. Three hours' work, $900.

Q. So you charge $300 an hour for review of cases?

A. Yes, ma'am.

Q. And how much time have you spent on this case up until today, but not including today?

A. I don't know that offhand. Probably

eight to 10 hours with reviews, discussions, and depositions and so on.

Q. So it would be the case that you still have about seven hours or --

A. Roughly.

Q. -- someplace between five and seven hours to bill for?

A. Right.

Q. And when you received your retainer, I take it that was from Ms. Lorant, was it?

A. I think so.

Q. Now, you charge more than $300 per hour for giving deposition testimony, correct?

A. Yes.

Q. Why is that?

A. That's more stressful. I can do it -- I have to do it at a certain appointed time, whereas I can review the stuff at my leisure.

Q. And what is your charge per hour for deposition testimony?

A. Six hundred dollars an hour.

Q. And then your charge for testifying at trial?

A. Two hundred and fifty dol -- I'm sorry, $2,500 a day.

Q. And is that for a day or any part of a day? In other words, if you spent half a day, would it still be --

A. No, that would be -- it would be for a 24-hour period usually.

Q. So that amount would be prorated or -- say you spent half a day instead of a day, so it would be $1,200 -- $1,250?

A. In court, you mean? In court?

Q. (Nodding head.)

A. No, it would be $2,500.

Q. Oh, even if you just spent half a day doing it?

A. Yeah, because it takes me --

Q. Okay.

A. -- yes.

Q. Have you ever had testimony that you've given in a medical malpractice case peer reviewed?

A. Yes.

Q. Under what circumstances?

A. There was a complaint from an ER physician that I had testified against. He sent a complaint to ACEP. ACEP reviewed it and said it's a meaningless complaint.

Q. So they reviewed it and they -- they

didn't think that you were out of line in --

A. That's correct.

Q. -- your opinions?

When you used the terms standard of care in your affidavit, that the care did not comply with the applicable standard of care, what do you mean by that?

A. What's the standard of care?

Q. What do you mean by that?

A. It's the treatment that is rendered by a physician of equal training and experience in a -- in a circumstance of equal -- equal existence in complexity.

Q. Okay. So when you say that the care rendered to [Patient] at [UNIVERSITY HOSPITAL] was not in accordance with the standards of practice among members of the same healthcare profession with similar training and experience situated in the same or similar communities at the time the healthcare was rendered, what do you mean? What same healthcare profession are you talking about?

A. Emergency -- emergency medicine.

Q. Okay. And you say with similar training and experience. And I take it that you have been able to familiarize yourself with the training, experience

of these defendants because you have copies of their CVs as well as their deposition testimony; is that right?

A. Correct.

Q. How have you -- well, withdrawn.

And you say that -- you refer to the standard of care in the same or similar communities. What -- what is the community which you're talking about here?

A. Well, in -- in situations involving major medical centers with availability of subspecialty groups like they have at [UNIVERSITY HOSPITAL] or here at Sentara Norfolk General.

Q. Okay. Have -- do you have any information about the standard of care at [UNIVERSITY HOSPITAL] or in [University Community] that allows you to compare that to the standard of care in the communities that you're familiar with?

A. The standard of care there would be the standard of care for this particular problem in a very well-established, influential hospital that is research oriented and training oriented. So it would be, you know, the -- the right up-to-the-date standard --

Q. How --

A. -- treatment plan.

Q. Uh-huh. How do you know that? I mean, how do you know --

A. Because that's what happens in -- in university hospital centers.

Q. Have you done anything to look at what happens in the [UNIVERSITY HOSPITAL] system in order -- and to compare and contrast that with what happens in the systems that you're familiar with?

A. Yes. By reading the depositions I see that it's the same sort of group approach that -- that can be accomplished very rapidly or can be -- have -- can have some delays for whatever reasons unexpected.

Q. Uh-huh.

A. But it's really the very high level of care with very specific and technical advances used.

Q. Do you know what diagnostic modalities are available to the physicians in the emergency department at [UNIVERSITY HOSPITAL] to investigate a diagnosis of suspected pulmonary embolism?

A. Well, we know of two that would make the diagnosis. One would be the echo. It's immediately available at that time and was done. And the second was the availability or the theoretical availability of a CAT scan.

Q. If the cardiologist who read this echo, as well as other cardiologists, were to testify that echocardiograms do not -- are not diagnostic of pulmonary embolism, what would you say to that person in support of your opinion that an echo can make the diagnosis of PE?

A. In this case I would like to see him say -- say that, because I don't believe he could think of anything else that would cause those changes in this specific -- specific patient.

Q. So there are changes seen on the echocardiogram that are consistent with pulmonary embolism, correct?

A. Yes.

Q. And you're saying --

A. And they go along with her clinical findings and her presentation and her recent postpartum status.

Q. So -- and you're saying that those changes are, in fact, diagnostic?

A. In this case, yes.

Q. Okay. And we also -- we talked about CT scan.

A. Right.

Q. What other things are you aware of that

they have available to them to --

A. VQ scanner.

Q. How are you aware that they have VQ scans?

A. You know, I'm not. I'm not. I take that back.

Q. Okay. What else are you aware of?

A. That's an older modality that's present in all -- every hospital I've ever been in, so I would assume [UNIVERSITY HOSPITAL] would have it, but I don't know that for a fact.

Q. Okay. What else are you aware of that --

A. Well, they --

Q. -- would be available?

A. They have interventional radiology, so they would have people being able -- who are capable of doing angiography.

(There was an interruption in the proceedings.)

BY MS. CHENEY:

Q. Okay. So we know they have VIR capability, so they can do pulmonary angiogram?

A. Angiograms as well as interventional.

Q. Okay. What about treatment modalities that are available at [UNIVERSITY HOSPITAL], what are you familiar with?

A. Heparin.
Q. Okay.
A. T-PA, oxy -- I mean, all the things that -- oxygen, fluids, lines.
Q. What about surgical thrombectomy, do you know if that's available there?
A. I don't know that.
Q. Is that something that you have ever used --
A. No.
Q. -- to treat pulmonary embolism?
A. No.
Q. What about catheter thrombectomy, is that something --
A. You mean suction?
Q. Uh-huh.
A. It's not been used, as far as I know, down here.
Q. Okay.
A. In a pulmonary embolus situation.
Q. Okay. What situations is that used in?
A. Here it's been in arterial -- peripheral arterial clots.
Q. What other forms of treatment are there for pulmonary embolism besides the things that we've

already discussed?

A. For the acute phase I think we mentioned them all.

Q. Okay. And you said that you are a member of the American College of Emergency Physicians --

A. Right.

Q. -- ACEP?

A. Correct.

Q. Are there any guidelines or standards that ACEP has set out for serving as an expert witness in medical malpractice cases?

A. I believe there are.

Q. Do you have a copy of those?

A. No.

Q. Do you -- have you read them before?

A. Several years ago.

Q. Do you basically agree with those standards?

MS. LORANT: Object.

THE WITNESS: I can't remember what they were, but I didn't have any huge disagreements at all.

BY MS. CHENEY:

Q. Okay. Do you believe that electrocardiogram is diagnosed -- diagnostic of pulmonary embolism?

A. No.

Q. Do you believe that blood gases are diagnostic?

A. No.

Q. Do you believe that chest x-rays are diagnostic?

A. By themselves chest x-rays can be suggestive, but are not diagnostic.

The same with blood gases can be suggestive, the same with EKGs can be suggestive.

Q. Okay. So they can show findings that are consistent with --

A. Right heart strain.

Q. -- pulmonary embolism but not specific to pulmonary embolism --

A. Correct.

Q. -- is that right?

A. That's right.

Q. What about D-Dimer?

A. D-Dimer is for thrombosis, doesn't necessarily mean pulmonary embolus.

Q. Okay. And have you -- have you studied the pharmacology of heparin?

A. In a research manner you're talking about?

Q. Uh-huh.

A. No.

Q. Have you ever participated in any clinical trials of heparin?

A. No.

Q. Have you ever participated in any research specifically looking at heparin as a treatment for pulmonary embolism?

A. As a researcher you're talking about?

Q. Yes, sir.

A. No, ma'am.

Q. What about in something similar to what you've done with your group in looking at response time for PE patients? Have you been involved in that kind of sort of academic way of looking at treatment of pulmonary embolism with heparin?

A. Other than what I mentioned, no.

Q. And you haven't published anything concerning heparin, right?

A. Correct.

Q. I looked at one of your old depositions in a pulmonary embolism case in which you testified that 10,000 units is the standard dose for an initial bolus in a patient with suspected PE. Is that still your opinion?

A. My opinion is that it's defined better right now and it's really given -- the starting bolus is 100 per kilogram, and some even mention going higher, to 150 per kilogram. But it's done on a weight-based method now. It used to be just blasted for everybody the same size.

Q. Are -- I'm not interested in getting into your specific opinions right now, but are you critical of the amount of heparin that was given to [Patient] as her initial bolus?

MS. LORANT: At which hospital?

MS. CHENEY: Well, she only got one bolus.

THE WITNESS: Right.

I'm not critical.

BY MS. CHENEY:

Q. Okay.

A. I think, actually, he did a pretty good job of getting her diagnosed and treated and out of there to the major medical center in such a short period of time.

Q. So you're not critical of the 5,000 units?

A. Not really. That could have been improved upon, but it could have been improved upon at

[UNIVERSITY HOSPITAL] where they weighed the patient.

Q. Do you practice -- what is evidence-based medicine?

A. That's a trend that seems to be in existence now where some of the old canards of medicine are being challenged and thrown aside when newer techniques and statistics dictate these old canards were wrong.

Q. Do you practice evidence-based medicine?

A. I try to.

Q. What literature do you consider to be reasonably reliable in your specialty?

We talked about Tintinalli. We talked about Rosen. Anything else?

A. Journals, you know, that we mentioned earlier, the -- the Annals and the Emergency Medicine journal are reasonably reliable. I -- you know, I don't think any of them are the Bible, but they're good starting points to -- to study from.

Q. Okay. You -- you indicated that the 5,000-unit bolus that [Outside Doctor] started at [Community Hospital], you didn't have any problems with that, but you thought it could have been improved upon --

A. Right.

Q. -- either there or at [UNIVERSITY HOSPITAL]. What did you mean by that?

A. Well, that was given without weighing the patient and that was given in a hurry knowing the patient was going to be sent to a major medical center via air ambulance. Five thousand is really not the dose to use. It's, as I mentioned before, 80 to 100 or even more per kilogram.

She was subsequently weighed and found to be 79 kilograms, I think.

Q. Uh-huh.

A. Which at 100 bolus would be 7,900 instead of 5,000. So it was -- it was less than the presently accepted standard as the bolus.

Q. Okay. And that presently accepted standard is set out where?

A. Well, it's in the textbooks.

Q. Which textbooks?

A. Rosen's and I believe Tintinalli's has it.

Q. Is it in the pages that you gave to me today or is it someplace else in those textbooks?

A. I don't know if it's in those pages or not.

Q. Well, if it is, it will be, and if it's

not --

A. It won't be.

Q. -- it won't be.

But it's your opinion that it's not necessary to -- to weigh the patient before you start giving the heparin; is that right -- I mean, before you -- before you give the bolus and start the heparin drip?

A. The perfect way to do it would be to get the accurate weight from the patient either by weighing her or by her knowing what her weight is.

If you're in a rush situation like they were at [Community Hospital], they know the patient's going to be transferred as rapidly as possible. They -- they basically got everything started and anticipated the receiving hospital would pick up the ball and complete the bolus or add to the bolus that was given initially and up -- upgrade the -- the dose given on an hourly basis as well.

Q. Okay. So in your opinion being treated with a less than -- well, let me withdraw that and say, would you say that the 5,000 units was a subtherapeutic amount?

A. Yes, if that's all the patient ever got as a bolus, that would be subtherapeutic at that

point --

Q. And --

A. -- once you found out what the weight was.

Q. Uh-huh. And are you saying that treating the patient for the first two hours after presentation with a subtherapeutic amount is -- what are you saying, that that's okay, that that didn't cause harm to the patient?

A. Whether it caused harm to the patient, I don't know. It's not the -- it's not the defined bolus and drip that the patient should have received.

But was anything else blocking that from getting -- getting done in -- in the [Community Hospital] -- in the hospital, first hospital, and I think yes. I think, you know, the attention was on making the diagnosis clinically and getting that patient to a major medical center as soon as possible while starting the treatment that was anticipated.

Q. And, again, you talked about the -- the defined amount or however you referenced it. Is it your opinion that at [Univeristy Hospital] as well as similar communities, such as [2 other university based hospitals in the state], that the emergency room physicians there believe that

the standard bolus to give would be 7,900 units as opposed to 5,000?

A. It's anywhere between 80 and 100 and maybe even higher. Five thousand would not be the acceptable dose of bolus for most people.

Q. So if the emergency departments at [Area university hospitals] would all give 5,000 units, it would be your opinion that they -- they are all not in compliance with what is considered by you to be the standard of care?

A. Well, it's not what's considered by most people and the people who write in Tintinalli at UNC to be the standard of care.

I don't know what [Area university hospitals] does. I don't know what [Area university hospitals] does.

Q. Do you concede that [Area university hospitals] Forest are similar communities to [University Community]?

A. Boy, you have to ask a [deleted] that?

They seem to be to me. They both have, you know, fine hospitals and research centers and so on.

Q. And if they all practice one standard of care and you practice a different standard of care, you're not sitting here telling us today that -- that -- that you're right and they're wrong, are you?

A. I would like to see what they say in this specific case, you know --

Q. Okay.

A. -- because that's what you're asking me about.

Q. Okay. If they say different from you, perhaps it could be that the standard of care you practice is not similar to the standard of care practiced in those communities, correct?

A. I don't know what they -- I don't know what they use.

Q. And you've done nothing to try to -- to try to educate yourself about what the standard of care is there in terms of giving heparin --

A. That's --

Q. -- correct?

A. I have not.

Q. What are the risks associated with heparin?

A. Bleeding is certainly one of them, allergic reactions, and heparin-induced thrombocytopenia.

Q. And are there any contraindications to giving heparin?

A. Yeah, active -- active bleeding; recent

closed space surgery, like spinal cord or brain or eye; massive -- you know, massive gunshot wounds or injuries that you would anticipate bleeding with. Probably several others.

Q. Okay. And what do you do in a patient who presents with pulmonary embolism and has contraindications to getting heparin?

A. Well, you'd certainly give -- you can give a thrombolytic.

Q. You certainly can --

A. Yeah.

Q. -- or you certainly wouldn't?

A. You can, yeah.

Q. Okay. In a patient with contraindications to heparin, you could still give thrombolytics?

A. Unless they have contraindications to thrombolytics.

Q. Okay. Isn't active bleeding a contraindication of thrombolytics?

A. From where?

Q. From anywhere.

A. No. If you have a little cut on your wrist or cut on your forearm and you're bleeding from it, you can still get thrombolytics.

Q. Okay. Active internal bleeding?
A. Heavy active internal bleeding would be a contraindication.
Q. So just active bleeding is a contraindication to heparin, but it would have to be heavy internal bleeding before it would be a contraindication to thrombolytics?
A. No. Heavy internal bleeding would be a contraindication to heparin as well.
Q. Okay. Why -- you gave active bleeding as a contraindication to heparin.
A. That's what I was talking about.
Q. Okay. You were talking about heavy active internal bleeding?
A. Right.
Q. And so if a patient is having heavy active internal bleeding and con -- and heparin is contraindicated, then thrombolytics would also be contraindicated, correct?
A. In that case they would be, correct.
Q. And so then what would you treat with?
A. You may be on the -- on the down side of treatment.
Q. There -- there are -- are alternatives to giving heparin, aren't there?

A. There are -- there's a --
Q. Heparin substitutes sort of?
A. There's a heparin substitute that you can use in people who you want to use heparin but have some previous complication with heparin, like --
Q. Uh-huh.
A. -- heparin-induced thrombocytopenia. I think it's called Huridian (phonetic) that you can use.
Q. Okay.
A. The low-molecular weight dextran -- I'm sorry, low-molecular weight heparin is used but not -- is used for DVTs but not commonly used as often for PEs as heparin.
Q. What is heparin-induced thrombocytopenia?
A. It's a patient that receives heparin and a couple days later gets -- platelets get lower and lower and lower.
Q. Uh-huh. If a patient develops heparin-induced thrombocytopenia, is thrombolytic therapy contraindicated?
A. No.
Q. So a patient can have --
A. You mean in the past, if they've had heparin in the past and developed thrombocytopenia?

Q. No. Say -- say a patient has been getting heparin, platelets get low. Would you thereafter feel comfortable giving thrombolytics?

A. For what?

Q. For pulmonary embolism.

MS. LORANT: Objection.

THE WITNESS: You could still use -- if there's a need to get fibrinolytics, you could still use them.

BY MS. CHENEY:

Q. Is there any -- are there increased risks of giving t-PA in a patient with low platelets -- increased bleeding risks, I should have said?

A. There probably are. That's always a thing you have to weigh.

Q. Assuming that [Patient] had a pulmonary embolism, where do you believe that the clot in her lungs originated?

A. Probably from the pelvis.

Q. And why do you think that?

A. Because she didn't have any evidence of lower extremity DVTs. She had had a recent delivery, had a vaginal tear that was sutured. I think that the most likely place would have been a pelvic origin for her DVT.

Q. Now, how do you -- what do you mean by there was no evidence of lower extremity DVTs?

A. Well, nobody mentioned any swelling consistent with -- I'm sorry, uni -- unilateral or even bilateral swelling consistent with DVT presentation.

Q. Okay. Lower extremity DVTs were not actually ruled out in [Patient], though, were they?

A. She never got the PVLs. No, they weren't ruled out.

Q. Okay.

A. She didn't need to have them ruled out.

Q. So -- she didn't need to have them ruled out?

A. No.

Q. What do you mean by that?

A. Well, she had a pulmonary embolus. That's what you have to treat. You worry about the -- the source of it later.

Q. So you're saying that it was not -- not necessary for her to have gotten the lower extremity Doppler studies that were ordered --

A. It's a waste of time at that point.

Q. -- in the emergency room?

Okay. If the -- would -- would it make

any difference in terms of her diagnosis, management, or outcome whether her clot in her lungs came from her legs versus her pelvis?

A. Not at this point, no.

Q. Okay.

A. Not -- not the treatment you do in the ER. If she had -- let's say she had a -- a DVT in the left extremity and she developed post-thrombolytic syndrome or something. That would be a concern. Of course, that would happen less frequently using fibrinolytics.

But the main thing is to get this lady through the day --

Q. Right.

A. -- before she dies.

Q. Right. Do you have any knowledge or information about whether she had any remaining clot in her pelvis or legs or wherever this came from after the thrombus embolized to her pulmonary artery?

A. Oh, I don't know. I don't know that there was ever a postmortem exam done.

Q. It's possible that she had clot remaining in her pelvis or her legs or wherever the source of origin was, isn't it?

A. Yes, ma'am.

Q. Is it also possible that she further embolized thrombus while she was in the emergency room?

A. You mean from the time she arrived until --

Q. Uh-huh.

A. -- she died could she have possibly thrown another PE?

Q. (Nodding head.)

A. Sure.

Q. And that would increase the clot burden that's already there?

A. Yep, absolutely, which is why the rush for treatment.

Q. Okay. Is there anything about giving systemic t-PA that would prevent that from happening?

A. Systemic t-PA is known to reduce the clot formation -- I'm sorry, the clot presentation and the clot amount in the lung tissue itself --

Q. Uh-huh.

A. -- in the pulmonary arteries.

Q. But it doesn't prevent further clot from embolizing to the pulmonary arteries, does it?

A. It breaks down the clots and so it, in fact, most likely does prevent them from embolizing.

Q. Okay. As it -- as it begins to break down clots from working on the outside, isn't it true that there is a concern that it will make it easier for any remaining clots to further embolize into the pulmonary artery?

A. Well, there's always that concern. The same with heparin. But, you know, you have to -- to take those chances when you have somebody at such high risk. You have to -- to give everything you have and not hold back.

Q. Heparin won't dissolve a clot, but it just prevents any clots that remain from getting bigger; isn't that --

A. That's what it's --

Q. -- what heparin does?

A. Theoretically does, yes.

And then the clots that are there would have to be -- over a period of time have to be broken down by the body's own processes. And, you know, the problem is that the clots don't get completely cleared. You still have remnant clots and -- and their sequelae --

Q. Uh-huh.

A. -- both in the legs, the pelvis, and the lung fields.

Q. So it doesn't let the -- or it helps then -- helps the clot from getting any bigger, but it doesn't resolve the thrombus in the legs --

A. The heparin?

Q. -- or -- right.

A. Correct.

Q. -- or the pelvis or anyplace?

A. Right.

Q. And it doesn't prevent the thrombus from further embolizing, right?

A. No, that's for sure.

Q. And, in fact -- withdrawn.

What did [Patient] 's PTT values show about her level of -- about the therapeutic value of the heparin, the amount of heparin that she was given?

A. I think there was -- no, let me not think. Let me look.

Q. Yeah. This is certainly not a memory test, so you can refer to anything you need to refer to.

A. The blood collected at 4 -- I'm sorry, 1620 had a PTT of 69.3.

Q. Okay. Can you speak to that amount as -- well, let me -- let me rephrase that.

Is 69.3, does that indicate that she was

getting an appropriate amount of heparin?

A. If you've just given a bolus and the drip was started, you'd probably expect it to be a little higher than that, hope -- hope it to be a little higher than that.

Q. Okay. If she had --

A. You want to maintain it about two and a half to three times normal.

Q. Okay. If she had gotten the bolus and the drip had been started a couple of hours before this, would you expect that this would indicate that she was on a therapeutic dose?

A. It's -- it's really subtherapeutic, but close to it.

Well, 69 -- she could have used some more heparin with the bolus, but that -- that is certainly a PTT that's been affected by the medication given already and demonstrating a prolongation, which is where you want it to be.

Q. Uh-huh. And so she could have been given more heparin certainly, anybody could have given her more heparin, but the PTT values don't indicate that -- that she needed more heparin, do they?

A. As I said, this -- this is early in the beginning of the treatment. You'd like it to be

higher than that.

Q. Okay. This is at 4:20?

A. Right.

Q. She was initially treated at [Community Hospital] some two hours before that, right?

MS. LORANT: Objection.

THE WITNESS: I don't think it was quite two hours, was it?

BY MS. CHENEY:

Q. Well, what time --

A. What -- whatever.

Q. -- did she present to [Community Hospital] and get treated, and she was there for, what, an hour and a half, and then she was transferred and finally arriving at [UNIVERSITY HOSPITAL] at around 4:00.

A. Let me look at those times.

She was given 1445 a bolus, and the drip was started right about the same time.

Q. So 1445 is 2:45?

A. Let's make it 1445, yes.

Q. Okay. And then the -- the PTT was at?

A. Let's see. 1420.

Q. Oh, 1420.

Is that right? Was that a PTT obtained at [UNIVERSITY HOSPITAL] or at -- oh, no, 1620 --

A. 1620.
Q. -- is when the PTT was.
A. So 1445 to 1620, that's about an hour and a half or so. I would like to see the PTT higher than that at that point, because you've given the bolus and then started the drip and started the treatment. That's a satisfactory range over a longer period of time.
Q. Actually, the PTT is supposed to reflect the treatment, isn't it? I mean, isn't that why you're checking PTTs as you go along --
A. Sure.
Q. -- to find out if the dosing of heparin is appropriate or if it needs to be increased or decreased?
A. That's correct, or decreased.
Q. Is pregnancy a hypercoagulable state?
A. Yes.
Q. In a patient three days postpartum, such as [Patient] , there would be some degree of hypercoagulability still expected to be present, correct?
A. That's right.
Q. Do you agree that you don't treat every patient the same, you have to treat each patient as an

individual?

A. That's correct.

Q. And you need to be cautious in a patient such as [Patient] in order not to over coagulate with heparin, don't you?

A. Well, you have to be cautious in everybody not to over coagulate, because there is a complication rate, although small, even for heparin.

Q. Do you have any sort of figures in your mind of the percentage of patients who present with pulmonary embolism in the emergency room and are treated with heparin alone who survive?

MS. LORANT: Objection.

THE WITNESS: The numbers I remember are 90 percent, with a 10 percent non-surviving rate.

BY MS. CHENEY:

Q. Okay. Using your figures of 90 percent, then that would indicate that prospectively [Patient] had a 90 percent chance of survival with heparin alone, right?

MS. LORANT: Objection.

THE WITNESS: The numbers I quoted were from all statuses of people, and certainly she was at a much higher risk and a much higher risk in presentation of her clinical symptoms.

BY MS. CHENEY:

Q. Okay. Then let's be more specific. What percentage of patients who present as [Patient] presented survive with treatment by heparin alone?

A. I don't know those numbers.

Q. In your opinion was there any -- well, let me withdraw that.

What about [Patient] 's presentation, if anything, should have suggested to her healthcare providers that she was in imminent danger of death, that death was imminent for her?

A. What about her presentation?

Q. Uh-huh.

A. Well, a red flag goes up when someone comes in who's recently postpartum with clinical signs and symptoms of pulmonary embolus. She was high oxygen dependent just to maintain sats in the 90s. Any stress at all or even slight movement out of the bed or on the stretcher showed marked decrease in her saturation. She was tachycardic almost all the time. And, of course, when she desatted, her pulse went up in the 130s and '50s.

Those -- those things alone put her at a high rate for having an unsatisfactory outcome.

Q. And do you believe --

A. And the longer you waited to treat that, the longer the -- the higher the -- the odds against living became.

Q. Based upon these -- these things that you've listed alone, is it your opinion that the -- her healthcare providers should have known that she would not survive longer than three hours, three-and-a-half hours?

A. I don't know if you could put a number on it, and certainly you don't want to. You don't want to wait until the end to treat. You want to treat early on in this particular case.

People that have pulmonary emboli but are not as symptomatic as she was, you may have a little time -- longer time to wait.

Q. Oxygen and heparin are the standard treatments for pulmonary embolism, right?

MS. LORANT: Objection.

THE WITNESS: Fibrinolytics are the standard treatment for people who are unstable and have pulmonary emboli. Heparin is -- is used in people who have small pulmonary emboli, and oxygen is used in anybody thought to have pulmonary emboli.

BY MS. CHENEY:

Q. But it would be incorrect to say of [Patient]

that she was not receiving treatment for her suspected pulmonary embolism, wouldn't it?

A. She had been receiving heparin, she had been receiving oxygen, but she required more than that.

Q. Okay. But those are standard treatments?

A. No, they're not. They're part of the standard treatment. Oxygen, heparin, and in her case fibrinolytics are the standard treatment.

Q. Okay. And other than pointing me to these textbooks which talk about may use and -- and things like that, is there anyplace that you can point me to where there is a standard of care that says that in patients presenting with pulmonary embolism with whatever criteria you want to add to it, that the standard of care is for them to get thrombolytics, systemic thrombolytics?

A. I -- I don't know if anybody -- of any articles that use those specific -- all of those specific words, no.

Q. Well, what do you rely on to -- to say that that's a standard of care?

A. Actually, what's said in those -- in that page there is what is the standard of care.

Q. Okay. Is there anything else that --

A. There are many other articles that -- that demonstrate the difference between heparin use alone in PE versus heparin plus thrombolytics --

Q. But those articles --

A. -- and point out the difference and -- and contrast the difference between the two.

Q. Has any -- any article or any book or anything else that you've ever read or any study that you're aware of that's ever been done shown a difference in the mortality rate between patients treated with thrombolytics versus patients treated with heparin alone? And I'm talking about a statistically significant difference in mortality.

A. Yes. The numbers that are quoted are 11 percent death rate for people with PEs and treated with heparin and 5.1 or something percent death rate in PEs -- from people treated for PEs who have -- in addition to heparin have thrombolytics given.

Q. And --

A. It doesn't say systemic thrombolytics, however.

Q. Okay. And where is that? Where are those figures?

A. That's in the same article.

Q. The --

A. Not the same article, the same copy that I --

Q. Rosen -- the Rosen book?

A. Right, yeah.

Q. And were those people in whom pulmonary embolism had been confirmed?

A. They were I think highly suspected or confirmed.

Q. And were those people -- were those -- were those -- were -- was that a population of pulmonary embolism patients that was considered stable or unstable or massive or submassive pulmonary embolism? Do you know what they were looking at specifically?

A. They were either unstable or had evidence of right heart strain.

Q. I take it -- well, withdrawn.

Can you speak to the issue -- you know that [Patient] was weighed when she got to [UNIVERSITY HOSPITAL] and they discovered that she -- or they -- they found out that she weighed 79.1 kilograms, I think it was?

A. Right.

Q. In your opinion -- and -- and you also know, I take it, that they increased her heparin drip?

A. They -- an order was written to increase

it.

Q. Okay.

A. I don't know if it was -- I don't know, honestly, if it was increased or not.

Q. Okay. You don't -- you don't know one way or the other, but you know that an order was written?

A. Yeah.

Q. And I take it you have no knowledge or information that the heparin drip was not, in fact, increased?

A. It was not documented as being increased. I don't know what happened.

Q. You don't know that it wasn't, though?

A. I don't know that it was or wasn't.

Q. Okay. So, now, having gotten through that, let me ask you if you -- if you have any criticisms of the amount by which the heparin dose was increased?

A. The drips sound right.

Q. From 1,000 to 1,260?

A. Right.

Q. Based on her weight?

A. Right.

Q. But I take it you believe they should

have done something else in the way of bolusing?

A. They could have re-bolused her up to the level that was indicated as --

Q. You say that --

A. -- as we discussed earlier.

Q. Right. You say they could have re-bolused her. Based on her PTT do you believe that it was a deviation from the standard of care not to re-bolus her?

A. Yes.

Q. Okay. And tell me why.

A. Because the standard of care says X, you know, you give this amount, and she didn't get it.

Q. And the standard of care says X. What is it? I don't --

A. Eighty to 100 bolus.

Q. The standard of care says 80 to 100 units per kilogram as a bolus?

A. Uh-huh, yes.

Q. And you said that's -- that standard of care is set out where?

A. In the texts.

Q. The ones that you gave me?

A. Yep.

Q. Rosen and Tintinalli?

A. Right.
Q. And they say that that's the standard of care?
A. Well, I don't know about -- one of them has those numbers in that.
Q. Are there --
A. One of them also suggests maybe even higher because of their hypercoagulable state.
Now, if it was 80 you decide to give, she'd only get 6,400 units, which is not a whole lot more. If it was 100, then -- then she'd be up to 7,900 units.
Q. So it would have been acceptable to give 80 --
A. I believe so.
Q. -- in your opinion?
And so since she had already gotten a bolus of 5,000, you're saying they should have given a bolus of an additional 1,400?
A. Right.
Q. And what effect do you think that had on her outcome, if any, not getting that additional bolus?
A. I don't think the heparin was going to save her. She needed fibrinolytics.

Q. So no -- so no effect on causation?
A. I don't believe so.
Q. Do you intend to limit your opinions in this case to your specialty of emergency medicine?
MS. LORANT: Objection.
THE WITNESS: I intend to limit my questions and opinions to what went on in the ER.
BY MS. CHENEY:
Q. Let me put it another way. Which defendants do you intend to testify violated the standard of care?
A. Well, the -- the attending ER physician.
Q. [Doctor #1]?
A. Yes.
I think [Doctor #3] if she didn't do what [Doctor #1] asked her to do violated the standard of care.
Q. If she didn't do what?
A. Make the plan happen.
Q. And what specifically --
A. If that was the sequence of orders and responses, then [Doctor #3] didn't do it and didn't relay that information to the oncoming resident that it wasn't done.
Q. Okay. And what specifically are you

talking about?

A. To establish the contact with the VIR, to see if that could go down, when it could go down, how rapidly, and so forth.

Q. So you say if [Doctor #3] didn't do what Dr. [Doctor #1] asked her to do -- i.e., establish contact with the VIR team --

A. No, establish contact and make a plan -- I'm sorry, make a time that we could get this patient, and a very soon time, as a matter of fact, to get this patient up to get everything done that had been part of the big plan.

Q. Okay. So if the evidence in this case shows that it was not [Doctor #3] who -- who did this but [Doctor #6] or Dr. Carrizosa, the medical team, who did this, with [Doctor #1]'s knowledge, then what are your criticisms of [Doctor #3], if any?

A. Well, if that was done and -- and the plan had a time to it, it was very soon after that echo was done, then that would have been satisfactory. But that didn't come out, didn't come about at all.

Now --

Q. Now, what do you mean?

A. If these two medical residents, in fact, made contact but didn't inform the VIR that this had

to be done right now, that's unsatisfactory. Just making contact is not good enough. You have to make contact and get the job done as rapidly as possible --

Q. Okay.

A. -- after you have all the evidence you had with the echo.

Q. All right.

A. That information should have been relayed back to [Doctor #1] one way or the other so that Dr. [Doctor #1] could put accessory plans in place if it couldn't be done with --

Q. Okay. And I kind of got ahead of myself.

MS. LORANT: Did you finish your answer?

THE WITNESS: -- with the -- with the expected efficiency --

BY MS. CHENEY:

Q. Sorry.

A. -- and expediency that she would like it to be done.

Q. And I got ahead of myself, because I'm actually going to come back and talk to you in great detail about [Doctor #3]. I was just trying to get a list here of which defendants you intend to testify violated the standard of care.

A. Okay.

Q. Just kind of got --

A. And so we got two.

Q. -- diverted there.

A. Yeah, we got two.

Now, I don't know what Dr. --

Q. There's two left, [Doctor #2] and Dr. [Doctor #4].

A. Yeah. [Doctor #2] thought everything was done. He got the patient intubated adequately. I don't have a significant criticism with him.

Q. No criticism with him.

A. [Doctor #4], I don't know what part his -- I don't know what part he really played in the development of their VIR -- I'm sorry, CT/VIR plan. I don't know what he -- you know, was that in place of the fibrinolytic systemically? And I don't know what that would mean, because I can't find any literature comparing the two.

Q. Uh-huh.

A. But if he caused the delay in -- from her getting systemic fibrinolytics after the echo, then he has a big part in this play as far as delaying the care that would have prevented her death.

Q. Okay. Now, as to [Doctor #4], since you don't know what part he played, are you able to

say to a reasonable degree of medical certainty that he violated any standard of care applicable to him?

A. Well, the standard of care would be the standard of care for the ER, number one.

Q. For an emergency physician?

A. Because it happened in the ER.

Q. Okay. So the standard of care applicable to a pulmonary medicine specialist is identical to the standard of care applicable to an emergency medicine specialist because the pulmonary medicine specialist was treating the patient or was seeing the patient in the emergency department; is that --

A. That's correct.

Q. -- your testimony?

A. Now, his -- his standard may be higher than the ER physicians in that care, but at least it has to be to the level of that ER physician.

Q. Okay. Okay. I just wanted to make sure that I had that.

Now, I need you to give me every reason that you think you should be allowed to testify concerning the standard of care applicable to a pulmonary medicine specialist. And I need you to be specific about this, because this is something -- a part of the deposition that we're actually going to be

having the court look at.

A. Okay.

MS. LORANT: Objection.

BY MS. CHENEY:

Q. So I just need a complete and specific answer.

A. Well, the fact that the patient's receiving treatment in the ER for a -- a pulmonary problem doesn't take that patient's critical disease out of the ER medicine. It has to be at least at the level of the emergency medicine treatment for that particular patient.

If the pulmonologist had extra training and extra techniques and extra skills that the ER -- that the -- the standard ER physician had, then I can comment on that. But I certainly would expect that ER physician level of care to be done by the pulmonologist and not to prevent that level of care from happening.

Q. Okay. Now, before I get into what your specific opinions are about [Doctor #4], can you tell me every fact upon which your opinions about Dr. [Doctor #4] are based?

MS. LORANT: Objection.

THE WITNESS: Number one, he came down

and saw the patient.

BY MS. CHENEY:

Q. Do you have an assumption or any knowledge or information about what time he came down and saw the patient?

A. Yeah. Let me see.

He arrived I believe shortly after the patient did, within probably 15, 20 minutes after the patient arrived in the ER, was with the patient from around 4 -- 1625 to 1700 hours, on and off, and discussing the case, the care and treatment with Dr. [Doctor #1], the attending ER physician.

Q. What is the time on [Doctor #4]' note?

That might be one of the things that we had marked as an exhibit.

A. Looks like 1815.

Q. Okay. Is it your opinion -- and 1815 would be 6:15 p.m., correct?

A. Yeah.

Q. Is it your opinion that he was -- and you were talking about 16 something --

A. Right.

Q. -- which would be in the 4 range. Is it your opinion that he was there for two hours before this note was written?

A. I don't know if he was there the entire time.

Q. Okay.

A. But he saw the patient at 1630, 1615.

Q. If he has testified that he saw the patient at around 6 p.m., or 1800, or shortly thereafter, do you have any knowledge or information upon which you base your opinion that it was a different time?

A. Well, the times that were described earlier in the other depositions certainly were at a much earlier time in the day and -- and much sooner than two hours after the arrival of the patient.

Q. Okay. Let me -- let me ask you this: If -- does it matter to your opinions whether he was there in the 4 p.m. range as opposed to the 6 p.m. range?

A. Sure.

Q. Okay. Tell me why. If he got there --

A. If he was involved at all in the delay in treatment of this patient and got there at 4 p.m., or 1600, 1630-ish, then he could have delayed the patient's treatment for -- from that time on.

Q. Uh-huh.

A. If he didn't get there until two hours

later, then he could only delay the patient's treatment for -- from that time on.

So the time he got there is fairly important, if, in fact, he had any play in the delay of treatment of the patient.

Q. Okay. We were talking about the facts upon which you based your opinions about Dr. [Doctor #4], and you said he came down and he saw the patient, he arrived shortly after the patient, and then we got into this discussion. So whatever time he arrived, he arrives, and then what are the next facts that you base your opinions on?

A. That after arriving, seeing the patient, examining the patient, he discussed the care of the patient with [Doctor #1], the attending ER physician, and a plan was hatched at that point to do the endo -- intubation on elective basis, to do the CT, and to do the VIR and get all that implemented as quickly and as efficiently as possible.

Q. Okay.

A. He was a part of that plan.

Q. Okay. And what's your -- what's the next fact that you're basing this -- your opinions on?

A. That he realized, number one, the patient had a right ventricular heave on his examination,

which indicates a right heart strain.

Q. Okay.

A. I don't remember if he saw the echo or not. I believe he did.

So at that point whenever the echo was done and he got the information about it, he was aware of the right heart strain both on physical exam and on echocardiography.

Q. Okay. And what other facts?

A. That's all the facts.

Q. Okay. Now, tell me each and every way that you, an emergency room physician, say that Dr. [Doctor #4], a pulmonary medicine specialist, violated the standard of care that's applicable to him as a doctor specializing in pulmonary medicine.

A. Okay. If he, in fact, had some part in the delay in treatment of the patient, [Patient] -- I don't know that he did, but if he did delay the treatment, then he's -- he stopped the normal treatment of an -- of an emergency patient from happening.

Q. Okay. Anything else?

A. That's it.

Q. From happening.

Now, what facts do you need in order for

you to determine to your own satisfaction that he did or did not have a part in what you characterize as a delay in treating the patient?

A. Well, we know there was a discussion between he and [Doctor #1], okay. We don't know what that discussion entailed. We don't know what elements of his experience versus her experience were brought into -- into the mix. I don't know if he told her about new statistics out proving that catheter-directed t-PA was better than systemic t-PA and what those numbers were. I don't know what that discussion was all about.

Q. Okay.

A. I'd like to hear them describe to me or to -- in general what alternative plans were discussed and why this one plan was chosen overall.

Q. Okay. And what is it about that discussion that will help you to decide whether he had a part in delaying treatment of this patient?

A. Well, if -- if the ER physician wanted to give systemic thrombolytics and the pulmonary guy comes down and says, no, we have to give catheter-directed thrombolytics in this patient and I'll take care of it and I'll be responsible for it and I'll get my guys to set up the -- the three parts

of that plan, then the ER person would say, okay, it's your patient, even though it's in the ER it's your patient and you're going to get that all done and -- and you have statistical proof that's a better way to handle it in this case, then he's, obviously, delayed the -- the incipient use of the thrombolytics that she wanted to do.

Q. Okay. Now, what if it was not his plan but it was a joint plan between him and the emergency physician?

A. Well, I want --

Q. What if they conferred and they agreed that, you know, after conferring and weighing risks and benefits and using -- each of them using their best medical judgment, what if they conferred and reached the opinion that this was the -- this was the best plan for this patient?

A. I'd like to know what part he played in that, period.

Q. Okay.

A. I want to know what statistics -- or if he quoted statistics what they were, what research he had done to -- or was aware of that would raise the VIR treatment plan above the systemic treatment plan in this critically ill patient.

Q. If you don't have that information, are you in a position -- let's say [Doctor #1] and [Doctor #4] can't remember the specifics of their discussions and you -- you never get this information. Are you in a position to testify that [Doctor #4] to a reasonable degree of medical certainty violated the standard of care applicable to him?

A. Yes, because --

MS. LORANT: Objection.

THE WITNESS: -- the patient should have gotten thrombolytics right after the echo report came back.

You have to weigh the illness -- the degree of illness in the patient versus the degree of satisfaction from treatment in the studies. I don't know what the degree of satisfaction studies in the VIR, but we do know what it is in systemic treatment. It's pretty darn good.

BY MS. CHENEY:

Q. I'm sorry. Say that again.

A. I don't know what the -- the catheter-directed thrombolytic effect is --

Q. Okay.

A. -- versus.

Q. So even without the information that

would tell you what role he played, it would still be your opinion that he violated the standard of care applicable to him just because the patient didn't get thrombolytics right after the echo?

A. Patient should have gotten thrombolytics right after the echo. If there was someone that stopped that from happening, they're responsible.

Q. Uh-huh. If the echo -- those results were available that we said around shortly after 5; is that right? You said the echo start time was 4:50 something?

A. Six, 4:56.

Q. Yeah, something like that. So the results would have been available shortly after 5?

A. Yes.

Q. And --

A. Verbally. I mean, not -- not written up but verbally.

Q. Right. And if [Doctor #4] didn't get down there to the emergency room -- assuming for purposes of this question that he doesn't get there until 6 --

A. P.m.

Q. -- p.m., what are your criticisms?

A. I really don't have any criticisms of him

if he didn't get down there until 6 p.m.

Q. Okay. So if the facts --

A. Because the -- because the plan was already put -- you know, the plan was supposedly made and put into effect.

Q. So if the facts of this case, the jury finds them to be that [Doctor #4] does not arrive to the emergency room until around 6 p.m., then you would have no criticisms of him in terms of violations of the standard of care?

A. If that was the first time [Doctor #4] got down and saw the patient and participated in the patient care, I wouldn't have any criticisms of that.

THE VIDEOGRAPHER: I've got just a couple minutes left on this video.

MS. CHENEY: Okay.

BY MS. CHENEY:

Q. Do you believe --

MS. CHENEY: Well, you want to change it now?

THE VIDEOGRAPHER: That would be fine.

MS. CHENEY: Okay.

THE VIDEOGRAPHER: We're going off record at 1:58 p.m.

(A recess was taken.)

THE VIDEOGRAPHER: This is tape three -- four of the continued deposition of Dr. Philip Leavy. We are back on the record at 2:03 p.m.

BY MS. CHENEY:

Q. Okay. Dr. Leavy, we were talking about your opinion that this patient should have gotten thrombolytics right after the echo, which we think the results were probably available shortly after 5 p.m. What is the latest amount of time after the echo that you believe thrombolytics could have been administered to this patient and within the standard of care?

In other words, if they had given thrombolytics at 5:45, would that have been within the standard of care?

A. They got the information around 5:00?

Q. Uh-huh.

A. You have to give a lot of little leeway for the information to get back to the responsible physician, for the -- to get the fibrinolytics where they keep them in the ER or pharmacy.

The objective would be to give them as soon as possible after that definitive diagnosis was made by the echo.

Q. Uh-huh.

A. You know, if it's going to be 15 minutes

or 45 minutes, probably both are acceptable if they can get the high-dose -- high doses of thrombolytics in early.

The longer out it goes, the less -- less standard it becomes. I don't know if there's an end point. Certainly after she arrests is not --

Q. Uh-huh.

A. Whether they used thrombolytics then or not wouldn't make any difference.

Q. So it could have even gone after 6:00 and still been within the standard of care?

MS. LORANT: Objection.

THE WITNESS: Yes, but how far after I don't know.

BY MS. CHENEY:

Q. Okay. Let's just -- let's just work with 6:00 p.m. Say they -- they give her all the appropriate doses of t-PA. And we're saying t-PA. I'm assuming that it would be t-PA or an equivalent thrombolytic.

If they give her all the appropriate doses at 6 p.m., do you have an opinion to a reasonable degree of medical certainty as to whether that would have changed the outcome in this case for [Patient] ?

A. I believe it would have, yes, 6:00.
Q. And what is the basis for that opinion?
A. Because t-PA works pretty quickly.
Q. It works pretty quickly to do what?
A. To improve vascular supply through the pulmonary artery and, therefore, include -- improve oxygenation.
Q. Okay. T-PA works quickly enough to have made a difference in this patient so that she -- assuming that she arrested as a result of pulmonary embolism that she wouldn't have arrested when she did?
A. I believe she would not have, correct.
Q. And other than your opinion that t-PA works that quickly to change outcomes, had -- do you -- do you base your opinion on any -- any specific data that proves that?
A. Just my experience.
Q. If the data show certain end points but not an improvement in mortality, how do you explain that your experience is different from the experience of the researchers who have actually looked at this issue?
MS. LORANT: Objection.
THE WITNESS: Would you rephrase that -- rephrase that, please?

BY MS. CHENEY:

Q. Okay. If -- if there are no studies that have shown a statistically significant difference in mortality in patients who have received t-PA --

A. Versus patients who have not received it?

Q. -- versus patients who have not received it, then how do you explain the difference in your clinical experience from the difference in the experience of those researchers who have been specifically looking at this question?

A. Well, in -- in fact, the patients with pulmonary emboli who are not treated, about 30 percent of them die.

Q. Wait. Patients with PE who are not treated?

A. About 30 percent of them die.

Q. Not treated with --

A. Anything.

Q. With anything, okay.

A. About 10 percent of those people who are treated with just heparin die within the first month or so, the first week even.

Q. Uh-huh.

A. Of those people treated with heparin and thrombolytics together, 5 percent of them die, 5 point

something percent.

I mean, that's proof to me that the thrombolytics are of value.

Q. Okay. And your -- what are you relying on for these figures?

A. The articles that I presented -- presented to you.

Q. Okay. So somewhere in this group of articles that's been marked as Exhibits 33, 34, or 35 I would find those data?

A. Yes, ma'am. Plus others, but those are the ones I remember specifically.

Q. Okay. What others?

A. There are other -- there's other data there that are similar, but those are the ones that I remember specifically.

Q. Okay. And as you sit here today I take it you can't specifically cite me to any of those other data?

A. No, I can't.

Q. Okay. Do you believe -- do you give t-PA to patients who have contraindications for t-P -- for receiving t-PA?

MS. LORANT: Objection.

THE WITNESS: You mean relative

contraindications or -- or solid contraindications?

BY MS. CHENEY:

Q. Okay. Let's talk about some definitions. What -- what's an absolute contraindication?

A. For t-PA?

Q. Uh-huh.

A. Recent brain or closed space surgery, eye surgery, active GI bleeding.

Q. Any others?

A. There are others. I'd have to look up the list.

Q. Okay. So there are others, but you don't know what they are?

A. I'd have to look it up.

Q. What are the relative -- wait. Before we get to that let me just -- let's stay with definitions.

What -- what do we mean when we're talking about absolute versus relative contraindications?

A. It's a matter of degree. Absolute means this should not be used ever. Relative means it can be used but should be used under consideration of the complications.

Q. Okay. And what are you aware of that are

some of the -- well, not some. What relative contraindications to t-PA are you aware of?

A. Actually, the postpartum phase was mentioned at one time as being a relative contraindication.

Q. That was mentioned at one time?

A. Uh-huh.

Q. Is that no longer the case?

A. I believe it's up in the air whether that really is even a relative contraindication.

Q. And when was it that it was mentioned as possibly a relative contraindication?

A. That was in Rosen's book.

Q. So Rosen's book mentioned that it was a con -- a relative contraindication, but since that time that has been questioned?

A. Other -- other -- other publications have taken that off -- off the list of the relative contraindication situations.

Q. Okay. Now, when -- what -- how does -- how is postpartum defined?

A. I guess within the first 20 to 30 days after delivery.

Q. Does it matter whether it's the first three days as opposed to the first week as opposed to

the first three weeks?

A. Oh, it matters to the -- the intensity of the coagulation situation is -- is greater the closer to the pregnancy delivery.

Q. Does it matter whether the patient is having active bleeding still or not?

A. Bleeding from where?

Q. Well --

A. Uterine bleeding?

Q. After patients deliver they have a period of time when they have active bright red bleeding and they have to wear pads and --

A. Some do, yes.

Q. -- and then that lasts for however long it lasts and then it subsides.

A. Right.

Q. Does it make a difference to whether this is a relative contraindication or not as to whether the patient is still bleeding?

A. No. The amount of bleeding that you do through the uterus can be controlled, and it can be treated in other fashions.

Q. So at --

A. Once you get the fibrinolytics in there. You don't know that the bleeding is going to get any

worse or not.

Q. Okay. Now -- and -- and that's not my question. My question is, you've got a patient who's having active bright red bleeding per vagina following delivery.

A. How active?

Q. Are you saying that that's --

A. I'm sorry.

Q. Are you saying that that's not a relative contraindication in this day and age?

A. In a patient who was critically ill from a pulmonary embolus and was even hemorrhaging from the uterus, you can take the uterus out and still save the patient.

Q. In a patient --

A. Or you can pack the uterus. You know, there's other treatments, but you have to -- A, B, C, and B is breathing. You have to continue that --

Q. Okay.

A. -- before you do anything about circulation.

Q. So you would agree that it might be a relative contraindication; but in a patient who's critically ill, you would still elect to go ahead and treat?

A. Right.
Q. And --
A. You're talking about a uterine hemorrhage now, right?
Q. No, I'm just talking about active bright red bleeding --
A. No.
Q. -- per vagina.
A. That's --
Q. So that's not even a relative contraindication in your opinion?
A. No, not to me.
Q. Okay. Are you critical of authors who have written on this subject who say that it is a contraindication?
A. I'd like to see what they wrote.
Q. Okay. Do you agree that this could be an area in which reasonable physicians in this area disagree?
A. If -- if they're saying something differently than I, I'd just like to see what they're saying.
Q. Do you believe that in a patient of yours who is having uterine bleeding in whom you give t-PA, if that patient starts hemorrhaging and somebody is

called in to have to do emergency surgery on a patient who has just received t-PA and things don't go well, you believe that you would be in pretty good standing if somebody came by to review your care in giving t-PA to that patient; is that right?

MS. LORANT: Objection.

THE WITNESS: Yes. If the patient was critically ill from a pulmonary embolus, you have to treat that. If you get complications from your treatment, then you treat those complications.

BY MS. CHENEY:

Q. So as far as you're concerned, if a patient is critically ill there's no weighing of risks and benefits; there's just treat the patient regardless of risk?

A. No, that's not what I said.

Q. Okay. What did you say?

A. You have to weigh -- you have to do exactly that. You have to weigh the risks and the benefits. If the -- if the risks of not treating the patient are death and the risks of treating the patient is uterine bleeding, there's really no discussion there. You prevent the death.

Q. Well, in this case prospectively the risk of treating the patient was 90 percent at least, if

not greater, that the patient was not going to die; isn't that correct?

MS. LORANT: Objection.

THE WITNESS: That's incorrect, because in this particular case it was very sick, didn't fall into the nine out of 10 category, and, in fact, was getting worse despite heparin.

BY MS. CHENEY:

Q. Okay. And -- but you said -- that's right. You said you didn't have those figures for patients who present as [Patient] did in terms of how many of those survive with heparin alone, correct?

A. Correct.

Q. So in this case if multiple physicians were conferring, were weighing the risks and benefits, and discussing and agreeing upon a treatment plan for this patient and using their best clinical judgment, you're saying that -- that they just -- that they just got it wrong?

MS. LORANT: Objection.

THE WITNESS: No, I'm not saying that. I'm saying that there was a -- too long a delay from the patient's arrival to the initiation of the only definitive treatment that was going to help her, and that was thrombolytics. If they had a plan and if

that plan was put into effect and she had gotten the treatment early enough to save her life, obviously, I wouldn't have a complaint. But there wasn't any plan that really became effectual.

BY MS. CHENEY:

Q. Okay. What if -- what if the treatment --

A. And all it did was delay the treatment.

Q. Okay. What if the treatment hadn't saved her life?

A. We wouldn't be here.

Q. I take it we wouldn't be here.

Well, you wouldn't be here. Somebody may be, but you wouldn't be here, right?

A. I mean, we wouldn't be discussing the case is what I'm saying.

Q. What if the treatment had caused a complication that had caused her death, might -- might we be here?

A. No.

MS. LORANT: Objection.

BY MS. CHENEY:

Q. Okay.

A. If the complication was attempted to be taken care of properly, we wouldn't be here.

MS. LORANT: Are you watching the time?

MS. CHENEY: Yeah, I know.

BY MS. CHENEY:

Q. So we were talking about [Doctor #4], and I asked you what was the latest time that systemic t-PA could have been -- or even catheter directed, I take it, that t-PA could have been gotten into this patient and still be within the standard of care, and we got up to 6:00. And it's possible that it could have been later, but you're comfortable with at least 6:00, right?

A. Right.

Q. And you think that if she had gotten it by 6:00 that that would have made a difference between life and death for this patient?

A. Yes, ma'am.

Q. And you base that upon these statistics that you gave me that you say are -- are in this medical literature that you provided, as well as other data, correct?

A. That's correct.

Q. Now --

A. In addition to my own experience with -- with the use of the drug in this similar situation.

Q. Okay. And your own experience in -- do

you give t-PA in every patient who presents as [Patient] presented?

A. Yes.

Q. Okay. Let me ask you about your opinions regarding [Doctor #3]. She was the next person on your list, I think.

No, [Doctor #1], the emergency department attending.

A. Okay. Well, did we finish talking about Yaskouskas?

Q. About [Doctor #4]?

A. Yeah, [Doctor #4].

Q. Well, I thought you said that if he didn't come until 6:00 that you didn't have any criticisms of him?

A. Well, except that his residents were responsible to him, I would presume, in their care and treatment, if they got into it.

Q. Okay. Now, when did you think of that one?

A. Well, I mean, that's a continuation of his -- of his -- his job is to do the right thing for himself and his job is to make sure that his residents, if they're involved, do the right thing.

Q. Okay. Because, I mean, we had pretty

well covered this, and you said you would have no criticisms if he didn't get there until 6:00.

A. No criticisms of him.

Q. And then we took a break and you guys disappeared, and now you come back and you have another criticism.

MS. LORANT: Objection.

THE WITNESS: These are --

BY MS. CHENEY:

Q. Okay.

A. These are criticisms of the team, really.

Q. Okay. So --

A. He has his own --

Q. -- your additional criticism now after the break is that --

A. Of the team.

Q. -- [Doctor #4]' residents were responsible to him. So if they didn't do something right, then he would be liable for that?

A. Well, it's -- it's a sticky situation. Are they going to be responsible to him after talking to the attending ER person if he's not there or what?

Q. Okay. Now, what --

A. If they -- if they are really responsible for setting up the VIR and getting everything to run

smoothly, then they really should report to the attending in the ER to let him -- let her know that this was happening and will happen at such-and-such a time.

Q. Okay. Do -- do you have any knowledge or information one way or the other about things that his residents did?

A. I don't know what they did.

Q. Okay. Now, [Doctor #6] was the medical --

A. Wait a minute, wait a minute, excuse me. One of the residents I guess consulted or discussed with [Doctor #3] about the orders that were written at 1610.

Q. Uh-huh.

A. So that was some precip -- participation there. But I don't know what exactly that resident did. I don't see any writings that he actually saw the patient. Or -- or maybe it was just a curbside consult of some type.

Or if there -- there was any discussion at that time who was going to make the -- the calls to set up the -- you know, the CAT scan and the VIR.

Q. Okay. You say "at that time." Are you talking about at the time that this resident consulted

with [Doctor #3] --

A. Yeah. [Doctor #3] wrote the --

Q. -- about the orders?

A. [Doctor #3] wrote the orders about 1410.

Q. Okay. So this would --

A. No, 1610.

Q. Yeah. So this would have been the -- the person they're referring to as the medical admitting officer, [Doctor #6]?

A. Right.

Q. Is it your opinion or do you have any knowledge or information that [Doctor #6] was reporting to [Doctor #4] and that [Doctor #4] was supervising [Doctor #6]?

A. I don't know where -- I don't know where this guy flies.

Q. Okay.

A. I don't know.

Q. Okay. So I'm just trying to --

A. If he was -- you know, if he was under [Doctor #4], then whatever effect he had would eventually be backed up to [Doctor #4] as his director.

Q. And if he was not under [Doctor #4]?

A. Then there's no.

Q. Okay. And any -- you said his residents.

Are you also referring to Dr. Carrizosa?

A. Yeah. And I don't know who that is. You mentioned him earlier.

Q. Uh-huh.

A. I don't know what part that individual played either.

Q. Okay. So other than --

A. But if those two folks were given the job of getting the CAT scan and the VIR set, organized, and ready, I don't see where that was done. So if they were responsible for it, they should have mentioned to somebody they couldn't get it done.

Q. And by saying they couldn't get it done, you're saying that they couldn't get somebody there before 7 p.m.; is that it?

A. Right.

Q. Okay. So if they -- if they contacted somebody from VIR and if the VIR team was on their way in but had not gotten there by 7 p.m., that's what you mean by --

A. Six p.m. we were talking about.

Q. Okay.

A. Six p.m.

Q. Well, I'm -- I mean, I'm -- I'm going even later than that. The VIR team by 7 p.m. we know

was not there.

A. Okay.

Q. So you're saying that -- that these residents and, therefore, [Doctor #4] would be liable for not getting the VIR team there sooner?

A. If that was their responsibility.

Q. What if it --

A. No, they were -- they were liable -- if -- if their job was to get that organization set and if it could not be set for whatever reason, the table wasn't working or whatever --

Q. Uh-huh.

A. -- I don't find them at fault for that. Just let them -- their responsibility is to let the ER doc know that so that the ER doc can then make other -- have other choices as to how to treat the patient.

Q. What is a length of time that you consider to be okay or within the standard of care for the VIR team's response once they're called?

A. I don't know what their -- what they are -- are required to by the hospital or by their standard of care, but this lady had to be taken care of by 6:00. So if they couldn't get there until 8 and that's within the hospital policy, that's too late for

this lady.

Q. Okay.

A. And I -- you know, it's getting --

Q. Yeah, it is, and I just wanted to make sure that we covered all of the additional opinions that you are now giving me about [Doctor #4].

And I know you got to go, so is there anything else other than his two residents based on facts that you don't know right now may cause liability for him?

A. That's -- that's it.

Q. And you can't say right now to a reasonable degree of medical certainty whether anything about the residents constituted a deviation from the standard of care on the part of [Doctor #4] based on your current knowledge, right?

A. That's correct.

MS. CHENEY: Okay. So the doctor has to go now, and we are going to agree to adjourn the deposition. And I've agreed with Ms. Lorant that I'm perfectly willing to do it by telephone so that we don't have to drive up here again and we --

MS. LORANT: Will another 10 minutes help you, because that's about how much you've got?

MS. CHENEY: Well, it's not going to --

I'm not going to finish in 10 minutes. I mean, we -- my next person that I was going to go on to was Dr. [Doctor #3]. So it's up to you. We can talk about [Doctor #3] or you can split and try to get something to eat on your way to --

THE WITNESS: Yeah, exactly. I'd rather go to work.

MS. CHENEY: I can't imagine why.

MS. LORANT: Let me ask -- go ahead and go off.

THE VIDEOGRAPHER: You want to go ahead and go off?

MS. LORANT: Go ahead, go off.

THE VIDEOGRAPHER: We are adjourning the depo for the end of today, and we are going off record at 2:27 p.m. A total of four tapes was used today.

(There was a discussion off the record.)

MS. CHENEY: He has now decided he wants to read and sign his deposition.

(The deposition was adjourned at 2:30 p.m.)

C E R T I F I C A T E

I, the undersigned, PHILIP G. LEAVY, JR., M.D., do hereby certify that I have read the foregoing deposition and that, to the best of my knowledge, said deposition is true and accurate (with the exception of the following corrections listed below:)

Page	Line	Correction

_____ _____

Date Signature

CITY OF _____,

STATE OF _____.

I hereby certify that PHILIP G. LEAVY, JR., M.D. appeared before me this _____ day of _____, 2005 and affixed his signature to the foregoing deposition.

_____

Notary Public

My commission expires:

_____

COMMONWEALTH OF VIRGINIA AT LARGE, to wit:

I, Kristi R. Weaver, RPR, a Notary Public for the Commonwealth of Virginia at Large, of qualification in the Circuit Court of the City of Chesapeake whose commission expires September 30, 2006, do hereby certify that the within deponent, PHILIP G. LEAVY, JR., M.D., appeared before me at Norfolk, Virginia, as hereinbefore set forth; and after being first duly sworn by me, was thereupon examined upon his oath by counsel; that his examination was recorded in stenotype by me and reduced to typescript under my direction; and that the foregoing transcript constitutes a true, accurate, and complete transcript.

I further certify that I am not related to nor otherwise associated with any party or counsel to this proceeding, nor otherwise interested in the event thereof.

Given under my hand and notarial seal at Norfolk, Virginia this _____ day of _____, 2005.

_____

Kristi R. Weaver, CCR No. 0313158

Notary Public