The State *of* Ohio,)
County *of* Lorain.) SS:

IN THE COURT OF COMMON PLEAS

HUBERT PORTER, Administrator of)
the Estate *of* BRAD PORTER,)
Deceased,)
)
Plaintiff,)
)
vs.) Case No. 96 CV 115689
)
MANHAL A. GHANMA, M.D. et al,)
)
Defendants.)

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THE DEPOSITION OF HARRY **J.** BONNELL, M.D.
TAKEN TUESDAY, DECEMBER 2, 1997

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The deposition *of* HARRY J. BONNELL, M.D., via videoconferencing, called by the Plaintiff for examination, pursuant to the Ohio Rules of Civil Procedure, taken before me, the undersigned, Judith Ann Volak, a Registered Professional Reporter and Notary Public in and for the State of Ohio, taken at Kinko's Copy Center, **6901** Rockside Road, Independence, Ohio, commencing at 1:35 p.m., the day and date above set forth.

APPEARANCES:

On behalf of the Plaintiff:

Dennis R. Lansdowne, Attorney at Law
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On behalf of the Defendant Dr. Ghanma:

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On behalf of the Defendant Dr. Quansah:

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On behalf of Defendant St. Joseph Regional Health Center:

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HARRY J. BONNELL, M.D.

of lawful age, called by the Plaintiff for examination, pursuant to the Ohio Rules of Civil Procedure, having been first duly sworn, as hereinafter certified, was examined and testified as follows:

EXAMINATION OF HARRY J. BONNELL, M.D.

BY MR. LANSDOWNE:

Q Doctor, as I mentioned when we just met, my name's Dennis Lansdowne. I represent the family of Brad Porter in this case, and I'm here this afternoon to find out what your opinions are going to be in this case.

I'm going to be asking you some questions. If at any time you don't hear my question, please tell me so that I can restate it and so that your answers match up with my questions on the transcript, okay?

A I understand that. And even though we're doing video, I'll try to answer with words not gestures or shakes of the head. And I know that this testimony is the same as being in a courtroom, and one of the questions we're asked in California is no, I'm not under any drugs that would alter my memory or my ability to provide accurate testimony.

Q Thank you, Doctor.

I take it you've had a few depositions taken in your time?

A Probably somewhere between one and 200, I guess.

Q All right.

Can you give me your current professional title?

A Yes. I am Chief Deputy Medical Examiner for San Diego County.

Q And how long has that been your position?

A February of 1991.

Q Just preliminary information here. Can you tell us what your hourly charge is for medical/legal work?

A For things that I can deal with at my own leisure that don't interfere with my regular work hours, I charge $150 an hour. For those where I have to take time off of my work, it's $200 an hour, which is maximized to $2000 a day.

Q Court time then would be $2000 a day?

A Or two hundred. But if it's -- two thousand. Yes.

Q What percent of your time is spent on medical/legal work?

A All of my time is spent doing medical/legal work

because I'm a forensic pathologist. Outside work in addition to my regular job, I would say 5 to 10 percent.

Q And what percent of your income's derived from "outside work," as you describe it?

A Approximately the same, 5 to 10 percent.

Q Are you still licensed in Ohio, Doctor?

A Yes.

Q When did you leave practice in Ohio?

A February of '91 when I took my current job.

Q What was the reason for your leaving Ohio?

A Basically, as chief deputy coroner for Hamilton County, I wasn't going to advance. There was no room for advancement. I was competing for -- was one of the five finalists to be the chief medical examiner for Los Angeles County when the chief medical examiner in San Diego found out that I was interviewing up there, so he gave me a phone call and basically said: How would you like to be No. 2 in San Diego instead of No. 1 in Los Angeles? And that took about five seconds and here I am.

Q In your CV you say that you've done 4400 medical/legal autopsies. When you say "medical/legal autopsy," what do you mean?

A Those are autopsies done under the jurisdiction of a coroner, medical examiner.

Q Those that you would do in your regular job.

A Those I would do on my regular job. A very few times I have been asked to do an autopsy purely as an expert outside of my normal job. But those I can probably count on one hand.

Q And you noted that you had been deposed 200 times. Let me ask you, how many times have you appeared as an expert witness as you are in this case?

A Okay. My total numbers of testimonies are well over 200. My actual depositions, I would say, are probably somewhere between a hundred to 200 or less.

As an expert witness, I would say I have been deposed probably 60 to 70 times as an outside expert witness. And of those, I think it's somewhere in the range of 60/40 for defense, 60 percent for defense, 40 percent for plaintiff, last time I looked, which was about six or eight months ago.

Q When you looked, what did you look at? Do you have a running tabulation of your cases?

A What I did is, is I just kept numbers and the

date of the last time I checked. It's not terribly accurate because the time I had to do it, I had to go back four years. There was a Federal Court case that I testified in. As one of the requirements in Federal Court, they obtain a list of all cases. So I went back four years from then. Before that is memory, and since then it's just kind of adding up numbers.

Q Where was the Federal Court case?

A The one that required this was in Hilo, Hawaii. It was an aircraft accident, it was not medical malpractice.

Q I notice that your CV lists aircraft mishaps. What is your involvement in aircraft mishaps?

A For three years of my government service I investigated aircraft mishaps. Our primary job was to examine the remains, examine the crash site, brief the safety board, and render opinions on survivability based upon impact speeds, preservation of occupiable space, and the post-crash environment.

Q I see.

What have you reviewed relating to the case of Porter versus Ghanma, et al.?

A Prior to rendering my opinion on the 25th of

June, and I'm referring to my opinion letter dated the 25th of June, I reviewed the records from Lorain Community and St. Joseph Regional Medical Centers from July 13th through July 15th of '95; Lorain County Coroner's autopsy report, verdict and photographs taken during the autopsy; microscopic slides provided by them as well as additional slides of the liver tissue which I had stained for iron; the deposition transcripts of Drs. Ghanma, G-H-A-N-M-A, Salka, S-A-L-K-A, Quansah, Q-U-A-N-S-A-H, and Dr. Onyekewere, O-N-Y-E-K-W-E-R-E, as well as depositions of Mr. and Mrs. Porter.

I reviewed letters of opinion by Dr. Shapiro and a Dr. Klein dated April 28th of '97, and the Ohio Division of Watercraft Boating Accident Report No. 95-05136.

Subsequent to that opinion I was also provided opinion letters by a Dr. McCauley, M-c-C-A-U-L-E-Y, Dr. Zumwalt, Z-U-M-W-A-L-T, a Dr. Cuydulka, C-U-Y-D-U-L-K-A, and a Dr. Klein, K-L-E-I-N and a Dr. Shapiro, S-H-A-P-I-R-0. I think that's everything.

Q The Shapiro and Klein letters you had had

previously.

A Let me see. The cover letter date -- let's see. That's correct. June 4th, right, I had those. As referenced in my report, correct. Correct. So just the other three, I guess, that I mentioned.

Q Do you know Dr. Zumwalt?

A Professionally, yes. Personally, no. I basically replaced him when he left Cincinnati for New Mexico. It was his position that I filled when I went to Cincinnati.

Q Did you discuss this case with him?

A The only thing I did on this case with him was to call him up and tell him that if he were going to order recuts of the liver to do iron stains, don't bother, I had already done it and he could review the ones that I had if he wanted to do it and save repetition. We did not discuss the case.

Q How about any of the other doctors whose reports you've read. Do you know any of the other physicians?

A No, I do not.

Q Have you been retained by Jacobson, Maynard & Tuschman prior to this case for other cases?

A Yes, I have.

Q How many occasions?

A My estimate would be total number, probably 15 to 20 over six years

Q While you were in Cincinnati, were you represented by Jacobson-Maynard at any time?

A No.

Q Were you insured by PIE?

MR TABER: Objection

A No Hamilton County was self-insured I did not have any personal or private insurance

Q Doctor, if a person dies of a thrombotic embolism that lodges in the lungs, you would expect to find evidence of that at autopsy, correct?

A In general, yes, if it's adequately looked for Which I don't think it has in this particular cas(D)

Q Well, what I mean is that if a person dies of a thromboembolism in the lungs, you yourself should expeot to be able to find it, correct?

A Yes.

Q And you should expect that, really, any competent coroner or medical examiner should be able to find evidence of a thrombotic embolism in the

lungs if that's what caused the person's death.

A I think the obvious ones that are in the main pulmonary artery or at the saddle or very proximal are easy to find and I would expect a competent pathologist to be able to find them. Those that have been extensively resuscitated and given clot-breaking drugs, you have to look a lot more closely and a lot more at the periphery or end of the pipeline, so to speak, to find them.

Q But wouldn't you expect that a competent coroner or medical examiner would be able to find evidence of a thrombotic embolism in the lungs even when there's been resuscitation and clot-dissolving drugs?

A I would expect a competent forensic pathologist who is trained and board certified should be able to. I don't know if the average hospital pathologists have enough familiarity with it to find it

Q You had slides of the lung to look at yourself.

A Yes.

Q Did you see any evidence of an embolism in those slides?

A No.

Q Do you know of any evidence at autopsy that there was a thromboembolism in the lungs?

A The only evidence at autopsy to indicate a thromboembolism being present is the fact that all the blood vessels in the lung are dilated and engorged with blood. So it's indicative that there's an obstruction to flow. It's certainly not the embolizing you would expect with somebody who had bled out.

Q Besides that obstruction, what else would cause the finding of blood in the vessels in a patient like this who has been resuscitated for over an hour?

A Again, the fact that the blood vessels are engorged indicates that there's some obstruction to flow, whether they die immediately or whether they're resuscitated.

Q Well, what is the obstruction?

A The obstruction in my mind are peripheral emboli blocking the flow of blood through the lungs.

Q Why weren't they found?

A You'd have to ask the pathologist who did the autopsy.

Q Why didn't you find them in the slides that you had?

A Because the slides that I had don't show them. There are insufficient numbers to adequately sample the periphery of the lung.

Q Where are the slides that you have? Where on the lung are the slides that you had?

A As I remember, two do not show a pleural surface and one does show a pleural surface. So one is from someplace in the periphery of the lung, the other two are not from periphery.

Q And the one that you have from the periphery of the lung doesn't show any evidence of embolism?

A That's correct.

Q Have you ever signed a coroner's verdict and listed as the cause of death a thrombotic embolism in the lungs when you could find no evidence of the embolism in the lungs?

A If I cannot find any evidence of embolism in the lungs, I have never signed the case out as thrombotic embolism, that's correct.

Q Have you ever concluded in a case where you could not find any evidence of embolism in the lungs on the slides that a person had died as a result of a thrombotic embolism in the lung?

A No. All other cases I have done or reviewed there was some evidence of there being emboli

there.

Q So this would be the first and only case, correct?

A The first so far, yes.

Q Do you believe that Dr. Matus, Dr. Daniels, who performed the autopsy of Brad Porter, are incompetent?

A I don't know what -- I don't think I'd call them incompetent. I don't think I'd employ them in my office though.

Q Why not?

A They don't have the necessary forensic qualifications or knowledge apparently.

Q What do you base that on?

A The fact that they did not look in the periphery for a thrombotic emboli, they did not look in the lower extremities for evidence of blood clots forming there, they did not look at the brain or rule out the possibility of air embolus as well as thrombotic embolus, all of which are obvious things to look for from a forensic standpoint in a death like this. They also misinterpreted the laceration in the liver.

Q The timing?

A Timing and as the cause of death.

Q How large does a thrombotic embolism in the lung have to be to cause a sudden death?

A For it to cause a sudden arrest, it depends upon how healthy the pre-existing lung is. Normally we would expect in a healthy individual that you would want to block approximately 40 percent of the total lung volume for blood supply to cause sudden death.

Q That's considered a large embolism, isn't it?

A It takes out -- well, it can only be a large embolism that takes out 40 percent or it can be multiple smaller emboli. A lot of times they shower with smaller emboli rather than just having one big one.

Q But the smaller emboli have to assemble to create a 40 percent blockage, don't they?

A Not really. They can go one to the right upper lobe of the lung, that may knock off 5 or 10 percent; one can go to the right lower lobe, knock off 5 or 10 percent; another one can go to the same lobe or to the left lung. It just depends where the flow carries it.

And if they start adding up, knocking off 40 percent of the lung, you're certainly at the risk factor of cardiac arrest. Although now

those are certainly easier to resuscitate than the massive embolism, but they're still potentially lethal.

Q If it was one large embolism in Brad Porter's case, you'd expect anybody who is qualified to do any autopsy would be able to find that, wouldn't you?

A If it was not treated. And the treatment of choice, if you can't get in there with a catheter, is CPR and blood clots -- blood clot breakers, excuse me.

Q Even those though, a TPA -- which is what we're talking about, right, TPA?

A Yes.

Q Even use of TPA doesn't totally dissolve a large clot so that you can't find it at autopsy, correct?

A That's correct. The mechanics of CPR have been shown on a few occasions to actually break up the clot. And then the TPA also acts to break up the clot. If you look carefully enough and follow all the vessels out, you should be able to find some residual.

Q Do you have any reason to believe that Dr. Daniels or Dr. Matus didn't look for clots

in the lung?

A I would hope they looked. There is a generic statement, something to the effect that no thromboemboli are found. I don't know how hard they looked.

Q Assuming that there was thrombotic emboli, have you made a determination in this case as to whether it was more likely one large embolism or multiple emboli?

A Looking at the records, particularly anesthesia records, it would seem more indicative to me that a clot broke loose during the procedure which caused the sudden drop in blood pressure but it was not a lethal clot or a fatal clot. It was just enough to decrease blood flow through the lungs and cause a drop in blood pressure, and then the fatal one, which, again, would have been additive to the effect of the first one.

Q So your thinking is two large blood clots?

A Well, the first one, I think, is large enough to decrease blood flow and cause a drop in blood pressure. It's obviously not immediately lethal. And then a second clot, it could be. Or it could be the drop in blood pressure is due

to something different and there was just the blood clots at the fatal episode.

But it's not uncommon to have a previous showering or a clot breaking loose before the final one. Of those people with lethal saddle emboli, it's often in those that **block** the outflow from the heart that we see evidence of previous smaller ones out in the periphery.

Q Well, what is it that you think happened in this case?

A In this case I'm left with two possible emboli, one thrombotic, one air. I cannot rule out air because it simply wasn't looked for. So I'm left with although that is a possibility, the more well-documented one is thrombotic emboli. And based upon the anesthesia record, probably two events.

Q One event occurring earlier in the surgery and causing a decrease in blood pressure. That would be the one event.

A That's correct.

Q And then a second event, meaning a second clot, being the lethal event?

A Right. Breaking loose when he's being manipulated or prepared to be moved off the

table onto his bed or gurney or whatever they were moving him onto.

Q You don't think it was a series or shower of emboli?

A There's no evidence at the autopsy that there was repeated showerings and **there's** just that one episode of significant blood pressure drop. There's no evidence to suggest that constant showering. That's why I would -- my opinion would be two, two separate events.

Q Would those have to be two fairly sizable blood clots?

A In my opinion, yes. To cause a drop in blood pressure it would have to be a good-sized clot. And obviously, although the lung's already compromised if that first one occurred, then the second one also has to be significant to push him over the edge.

Q And somehow Dr. Daniels or Dr. Matus missed these two large clots at autopsy. Is that what you believe?

A Well, I don't know if they were still large at autopsy after the resuscitation and the TPA. But they did not describe clots being present in the lungs, and I think the indications are that

they are there.

Q And the indications that they are there are what?

A Are both the vascular congestion seen microscopically in the lung tissue and the clinical history of him developing what's called EMD, or pulseless electrical activity, as well as the echocardiogram that showed a massively dilated right side of the heart. These all would be indicative of an obstruction in the lungs and dilatation of the right ventricle and the outflow of blood.

Q When did the first clot begin to affect Mr. Porter's blood pressure?

A Let me refer to his medical records and look at the anesthesia record.

It would appear to have occurred somewhere around 10 a.m. when the blood pressures which seemed to be running approximately 100 over 40 drops down to approximately 60 over 40 or 60 over 50, something like that.

Q You believe that at that time a clot had lodged in Mr. Porter's lungs, correct?

A I believe that that is a good explanation for that pressure drop if there were two clots

breaking loose at two different times. I have not found anything else at autopsy or in the records that would explain that sudden of a drop in blood! pressure and the fact that it then bounced right back up again.

Q If the procedure had been stopped at ten o'clock, could the second and lethal event have been prevented?

MR. WALTERS: Objection.

A It depends upon what precipitated that second event. If that was precipitated by movement of the patient off the operating table, it equally could have happened right away if they stopped the procedure then. I think the latter event by records coincided with the body -- at that point in time, still the patient -- being manipulated and being transferred off the operating room table. And just historically in my experience that's a risky point in time for breaking loose clots.

Q And if the second event occurred as a result of further debridement of the wound, that could have been avoided?

A It is possible that he could have survived the first event, yes, sir.

Q Doctor, is it true that Mr. Porter had a low blood pressure even before the procedure began?

A Well, to the best of my memory, and I can **go** through it, the base line values were 110 over 60 on his anesthesia report. And at the beginning of it he's **a** little bit under **100** over 40.

It doesn't surprise me that his blood pressure dropped under anesthesia and going into the operating room. His blood pressures previously, I think by the paramedic report and the ER report, were relatively stable. Maybe a little bit high, but not what **I** wouldn't expect for somebody under stress.

Q So you're saying that his blood pressure really wasn't that low prior to the procedure?

A No, not in my opinion and not to my memory. I've not looked at everything immediately prior to this deposition, but I did prior to rendering my opinion.

Q Well, are you aware that prior to the actual surgical procedure starting, Mr. Porter's blood pressure was being artificially elevated by the use of drugs on the part of the anesthesiologist?

MR. WALTERS: Objection.

MR. TABER: Objection. Can you be more specific about where in the chart you're pointing?

Q You have the chart right in front of you, Doctor. You can see where phenylephrine was given.

MR. TABER: What page?

MR. LANSDOWNE: It's on the anesthesia record.

A Well, on the chart that I have it says phenylephrine, it says phenylephrine given and it has it at approximately 9:30 and then at ten. I don't see it before then. At least not on the anesthesia record.

Q The surgery was begun when?

A I believe at 9:35 the anesthesia report says surgery started. 9:35, with anesthesia starting at nine o'clock.

Q So he was given at least one dose of phenylephrine before the surgery even started, correct?

A That's what it appears to be, yes, sir.

Q Let me just ask it this way. Are you aware that the surgeon has testified that if he had been

aware, the surgeon, that the patient's blood pressure was as low as it was before he started his surgery, he would not have even begun the surgical procedure?

MR. TABER: Objection.

MR. WALTERS: Objection.

A I don't remember reading that, but it wouldn't surprise me if he thought hey, a low pressure, he wouldn't operate.

Q Well, does that indicate to you that Mr. Porter's pressure was low before 10 a.m. when he had the sudden drop that you're attributing to a clot?

MR. WALTERS: Objection.

A Well, looking at the record, he starts at a hundred over 40 and he apparently drops it down to 80 over 38 or something like that approximately 9:15 or so. And then he's given the phenylephrine which brings his systolic back up to somewhere in the range of 90 to the high 80's, and then it appears he may be given another dose which brings it up to a hundred again, with the diastolic staying in the range of 35 to 40, until the ten o'clock event when the systolic drops out and the diastolic goes

slightly higher.

Q So would that indicate to you that his blood pressure was low even before the time when you are positting that there was a clot?

A It's low. It does go down to 80 and it's enough apparently for the anesthesiologist to feel that a drug or support is necessary. It certainly is not as precipitous a drop as the event at ten o'clock where it goes from a hundred down to 60 in one fell swoop. It does appear that he is slowly losing some -- losing some blood pressure between nine and ten, which is then treated with drugs to get the systolic back up. But his diastolic does not drop.

Q Well, what was causing him to lose pressure prior to ten o'clock?

A I haven't the slightest idea.

Q Does bleeding cause a loss of pressure?

A Bleeding causes a loss of systolic pressure, a loss of diastolic pressure, and in general also would indicate an increase in pulse rate, depending upon how rapid it is.

Q So that the fact that he had low pressure prior to the time that you say a clot caused a precipitous drop in blood pressure is just a

coincidence.

MR. TABER: Objection.

MS. MASSEY: Objection.

A I don't know if I would call it a coincidence. As I testified, I don't have an explanation for the slow drop in the systolic pressure. The significant drop I think is most consistent with him throwing an embolus probably at that point in time.

Q Just assume for me that at 9:12 Mr. Porter's blood pressure was 67 over 46. Can you tell me what caused that drop?

A If he's at 67 over 46, it could be that he's already been showering emboli. It could be something else is going on that's not documented by the records or the autopsy.

Q So you really don't know what would have caused a drop to 67 over 46 at 9:12 a.m.

MR. WALTERS: Where is that in the record?

A Not that I could see or have evidence to explain either in the records or by the autopsy.

Q Have you seen the photographs of the anesthesia equipment that were taken after the arrest in this case?

A No. The only photographs I've seen are those of the autopsy.

Q How much blood was found in the abdomen?

A I believe it was 1500 cc's. Or milliliters. About three pints.

Q How much does that correlate to in terms of circulating blood in the body?

A Well, let's see. They say he weighs 200 pounds. That would be approximately 91 kilograms. If he's the average person, he should have approximately not quite six liters of blood. so this would be about 25 percent of his total blood volume.

Q Is that enough to cause a drop in blood pressure?

MS. MASSEY: Objection.

A Sure is.

Q Is that enough to cause an arrest?

A Yes, it is.

C You mentioned air embolism, Doctor. Let me just ask you, from your report, it seems to me that you say that that is a possibility, correct?

A Yes.

C But that you cannot substantiate it or disprove it. Correct?

A That's correct.

Q So in terms of your opinion, do you have an opinion with reasonable medical probability as to whether or not Mr. Porter had an air embolism?

A I don't think there's enough information there to reach any opinion with medical probability. It wasn't looked for, although it's a possible -- it certainly could be a possibility for his cause of death. It wasn't looked for. Since it wasn't looked for, I cannot say probably whether it was or was not there.

Q Well, what I'm trying to find out is when you come into court in Elyria, Ohio, is it going to be your opinion that Mr. Porter had an air embolism?

MR. TABER: Objection.

A It's going to be my opinion that the information clinically would suggest that an air embolism was a possible cause for his death. But I cannot tell you with any probability whether it was or was not the cause of his death because it was not looked for.

Q And is that really the same with respect to the thrombotic embolism?

A I think the thrombotic embolism was also not adequately looked for. But the fact that there is the vascular congestion in the lungs would be more indicative of that being the cause of death than an air emboli. And there is certainly more information indicative of either one of these two being the cause of death than there is from bleeding out from the wound in the liver.

Q Well, let me ask it this way. Do you have an opinion, given the information that you have and don't have, do you have an opinion with reasonable medical probability that Mr. Porter had two thrombotic emboli that caused his death?

A With reasonable medical probability, I am sure that he had at least one. And based upon the records, I would think that it's 50/50, it's real close to probability, that he had the previous one.

Q When you said "the previous one," you mean the non-lethal one at ten o'clock that we've talked about?

A Right. The non-lethal one occurring intraoperatively with the ten o'clock blood pressure drop.

Q And if we could just tick these off, the basis

for your conclusion with probability that he had one thromboembolism, I guess engorged vessels in the lungs would be one?

A Seen microscopically, correct.

Q And two would be what -- the dilated heart?

A The dilated right side of the heart seen on echo during the resuscitation.

Q What else?

A The third would be the rhythm of EMD, or pulseless electrical activity, which means that the heart is apparently beating but it's not pumping anything would be indicative of some type of obstruction between the right side of the heart and the left side of the heart.

Q Where are you getting that from, the pulseless electrical activity?

A I think they actually call it EMD. I'm trying to remember whether it was in the charts or in a depo. Let me see.

This is looking at the CPR, the Code 4 record. I believe it's on Page 2 where at I think it looks like the time is 10:37 he has a heart rate of 52 beats per minute and no palpable pulses. That indicates he's got electrical activity and he're not generating any

pressure.

Q Is this at a time when he's getting CPR?

A This is during the resuscitation. This would be -- well, to get the heart rate of 52 with no palpable pulse, they would -- the no palpable pulse would be during CPR. The heart rate of 52 would be what was showing up on the monitor.

Q While they were giving him CPR.

A Right, while giving him CPR. CPR does not cause electrical activity in the heart.

Q It doesn't cause a heart rate to show on the monitor?

A The heart rate on the monitor should be electrical activity. The heart in the CPR would not cause electrical activity.

And actually, if you look at the rhythm strip from 10:37, you can see that there is -- and it's so noted -- that there is a heart rate of 52 and there's no palpable pulses and it shows electrical activity at the rate of 52 and that's not CPR-induced.

Q What other cause would there be besides an obstruction for a heart rate of 52 with no palpable pulses?

A With a heart rate that slow, that's the only

thing I can think of. I would not expect blood loss to cause a heart rate that slow.

Q But I mean what would cause electrical activity and no pulses?

A Other possibilities of electrical activity without pulses would be total left ventricular failure, muscle failure, pericardial tamponade would do it. Those would be the three primary ones off the top of my head.

Q What about drug-induced like epinephrine?

A Epinephrine **would** normally aggravate the conductivity of the heart and increase it. It should not result in an absence of blood pressure. Epinephrine usually raises blood pressure so you would expect to palpate a pulse.

Q But would you expect epinephrine to increase the electrical activity of the heart?

A Yes, it increases the electrical activity and it increases the excitability of the heart.

Q And he had been given several doses of epinephrine by 10:37.

You don't have to look, it's in the chart.

A If he has, okay.

Q I think I interrupted you then. You had listed the vessels in the lung, the dilated right side

of the heart, and then the heart activity without pulse as number three. Anything else supporting the probability of embolism?

A No. Those would be the three primary data that I would base the embolism on.

Q The dilated right side of the heart, how does that support the conclusion of an embolism?

A The right side becomes dilated because it's trying to pump against an obstruction. The blood that is pumping cannot go anywhere because of the obstruction, so it dilates.

Q So that would mean the obstruction was where?

A Somewhere in the lungs.

Q Just anywhere in the lungs?

A That's correct.

Q What did the heart look like on autopsy?

A Probably collapsed, as most of them do. Says he weighs it at 460 grams, which is a little bit big, but I don't know whether he's weighing it empty or full. Shows no evidence of injury, which would suggest that massive left ventricular muscle failure was unlikely. The valves look okay. Thicknesses look okay. The right ventricle's a little bit thicker than normal but not in the pathological range.

Q Any evidence of dilated right side of the heart?
A Post-mortem? No.
Q Would you have expected there to be if there was, in fact, an obstruction?
A Not following death, no. Following death, it's like you let the air out of a balloon. It comes back down.
Q You mentioned something about dissecting the legs to look for other emboli, is that right?
A You would be looking for blood clots that have formed in the veins. They're not emboli until they break loose and go someplace.
Q So you would just be looking for clots to sort of substantiate that the blood was clotting and that one of these or more may have broken off.
A You would be doing a complete autopsy and documenting whether there was thrombosis or thrombus formation in the area of the legs in the area of injury, which would be a possible source. You would need to do both legs because you also have to make sure it's from the injured leg, not from the other leg. If he's on bed rest, he can certainly get it in the other leg, too.
Q Do you dissect the legs on every patient or

every body you autopsy?

A If I have any concerns about a possible pulmonary embolus, yes.

Q Do you do it even if you don't find any evidence of emboli microscopically in the lungs?

A Well, the microscopics you don't get back for a few days following the autopsy, by which time in most places the body is gone. If the clinical history suggests an embolus, then you go ahead and do it even if you don't see anything grossly because you may not see it until you get to the microscopics.

Q When a person dies of a thrombotic embolism in the lung, can you tell me how that occurs clinically, what happens to the patient?

A It depends upon the circumstances and upon the size of the clot. In general, what happens is if it's a massive one, they usually just pass out and go to the ground or go to the floor.

If there are smaller ones beforehand and they don't immediately pass out, then they usually have a feeling of light-headedness, dizziness, shortness of breath, they usually increase their respiratory rate, and if it's being monitored, their blood pressure usually

drops. And depending upon how much obstruction, you may see the veins in the neck start dilating.

Q In Mr. Porter's case you believe that the terminal event or the lethal emboli would have been a relatively large one, correct? That's what we've discussed.

A Depending upon the size of the first one, if there was a first one, yes.

Q All right. But you're not really sure that there was a first one.

A That's correct.

Q So we have to kind of go with what your opinions are with reasonable probability. So with reasonable probability you believe that the emboli, the lethal emboli, was a relatively large one?

A Yes.

Q And it set up somewhere in the lung?

A Correct.

Q Do you have an opinion as to where was the most likely place for it to set up?

A I think originally, because he went into total arrest, it's most likely to have set up where the pulmonary artery comes out of the heart and

splits into the right and left. And that with the chest compressions and the blood clotting, the TPA, that it would have been spread out probably to both lungs after the periphery.

Q So are you saying initially it was a saddle embolism?

A I think if there was no first embolus, then the most likely thing is that the second one is a saddle embolism that would acutely block effectively either one side of the lung or the other side of the lung or a combined 40 percent or so of blood flow.

Q And saddle embolism, I mean that's the easiest one to find on autopsy, isn't it?

A If it's still there, you should not miss it.

Q Well, some evidence of it certainly would be there, of a saddle embolism, right?

MR. TABER: Be where?

Q In the lung.

A No, not in a person who had been resuscitated. You can actually break up a saddle embolism and cause it to dislodge and break into smaller pieces. And that's actually been documented in a few cases in the literature.

Q You could break it up. But there would be

evidence of it.

A There should be evidence of it, yes, and you should look for it.

Q And if you looked for it, you'd find it?

A I think I would, yes, sir.

Q So when this clot set up, this saddle embolism set up, Mr. Porter had an immediate drop in his blood pressure, correct?

A Yes.

Q And the blood pressure never returned. Correct?

A Not according to the records, no.

Q And so he was dead within how many minutes of this embolism setting up?

A Well, he's not dead until somebody pronounces him dead. I think with this degree of embolism, he's going to die once that embolism breaks loose and goes into his lungs. He's not dead until somebody pronounces him. But with the 20/20 vision of hindsight, he's dead once it breaks loose and blocks the blood flow to the lungs.

Q And if this is what happened, this saddle embolism set up and caused that blood pressure drop at what time, is it, the --

A Appears to be about 10:35 or so.

Q And you're getting that from the what?
A The anesthesia record. The last set of vital signs are at about 10:15, then it says "Code, going to CPR."

And then that's the operative note, says the code was called at 10:28. So we're somewhere between now what -- 10:15 and 10:28.
Q Well, whenever that precipitous blood pressure drop was, if it was caused by a saddle embolism as you believe, from that point forward he would not have any further elevations in his blood pressure, correct?
A Anything that happens after that is CPR and is artificial.
Q If he had a spontaneous return of his blood pressure after the precipitous drop at 10:28, would that tend to indicate that this was not a saddle embolus?
A If he had high blood pressure returning following that?
Q Yes.
A I would -- then I would say it was not a saddle embolus
Q And then most likely -- again assume for me that he had a return of his blood pressure after this

precipitous drop at approximately 10:28. What was the cause of death under those circumstances?

MR. TABER: Could you point us to the record where you're referring to?

A If he gets a good blood pressure back after this event, then either it was not a saddle embolus or their treatment was somewhat effective in breaking it up so it didn't obstruct as much flow as it did when it was originally in the saddle.

Q You're talking about treatment. CPR treatment, resuscitation treatment?

A Resuscitation and chemicals, yes.

Q I'm talking about an elevation in blood pressure before any resuscitation is begun.

A Then that would indicate to me that either he did not have a saddle embolus or you've got some real interesting monitoring equipment.

Q When you do an autopsy, you do what is called a gross examination, is that right?

A Well, you start with an external examination, then an internal examination, then microscopic examination and drugs or other things, if indicated.

Q When you're doing just the external and internal before you get to the microscopic, is that what is sometimes referred to as the gross examination, you're just looking at it with your own two eyes?

A Well, I don't -- I have not heard that referred to as the gross examination. It's usually split between the gross and the microscopic And the gross is everything you do at the autopsy table to include the internal exam, and the the microscopic is obviously what you do with the microscope.

Q Okay What I'm really getting at, is part of the exam just looking at the organ and looking at the internal organs with your eyes? Is that --

A Yes.

Q -- considered part of the autopsy?

A Yes

Q And do you use that to support some of your conclusions, what you actually see with your eyes as you're doing the examination?

A Correct That you see as well as what you don't see, yes.

Q And that's -- you teach, don't you? You teach

A Yes, I do.

Q What's one of the things that you tell your students, that they have to be alert and be watching everything that they do during that autopsy. Watching for evidence, clues, et cetera.

A I tell them that they should be observant, they should note things, they should be constantly thinking and looking for what the presence of something means and what the absence of something means; that it is not just a checklist of looking at things, but to be thinking: Is this what it appears to be or what else could it be?

Q And when you do an autopsy yourself, do you feel that you are in the best position to conclude what the cause of death is?

A In general, yes. There are certain areas where I look for other people's expertise such as in neuro or brain pathology, pediatric pathology When I was at the Armed Forces Institute of Pathology, that was our major purpose there, was to be a consultant for the military and the civilian population. So I have my knowledge bank, and if it's something outside my knowledge base, I go to experts in the field

Q But outside of the situations involving, say, neuroradiology or pediatric -- let me rephrase that

In the autopsy that does not involve, say, brain pathology or pediatric pathology, when you do the autopsy, you feel that you're in the best position to determine the cause of death Correct?

A In general, that's correct I I see something I've never seen before, I may call in one of my colleagues and say: What do you think about this? But in general, yes, I feel I'm in a better position to do it.

Q And part of that is because you're able to be there, see the internal organs, visualize them, feel them, correct?

A That's part of it, yes.

Q Do you think that someone coming in two years later after you've done an autopsy is in just as good a position as you are when you do the autopsy to determine cause of death?

MR. TABER: Objection.

A Not if I did an inadequate job, no.

Q Have you ever heard of the term 'sudden bacterial sepsis'?

A Yes.
Q What is that?
A Sudden bacterial sepsis is pretty much what it describes. It's sudden, it's not a slowly progressive thing. It's bacterial where bacteria and, more worrisome, some toxins produced by bacteria get into the bloodstream and they usually call it -- "sepsis" usually initiates a bacteremia in the bloodstream. It really isn't sepsis until they proliferate in the bloodstream and start causing symptoms.
Q Have you ever listed that as a cause of death?
A Yes, once, due to spontaneous bacterial peritonitis, yes. I think one time.
Q Did Mr. Porter have a sudden bacterial sepsis?
A Not that's documented, no. And the clinical history of a sudden total collapse is unlikely with that diagnosis.
Q Did he have sepsis at all?
A Not that I have seen documented. I'm sure he did. I cannot imagine him having this type of injury without bacteria getting into his bloodstream. So he certainly had a bacteremia. I don't remember seeing in his chart anything where I would say that he was septic.

And a lot of people use "sepsis" to mean bacteria in the blood. And I prefer the term "bacteremia" to mean bacteria in the blood.

Sepsis, or being septic, to me indicates that there are signs and symptoms of shock and damage to the body because of the bacteria.

Q Under that definition you do not believe he was septic, correct?
A No, I do not.
Q Is sepsis generally a sudden process?
A No.
Q Generally it's something that occurs over a period of time?
A Generally it's progressive with seeding of bacteria into the bloodstream and then those bacteria multiplying and additional bacteria going into the bloodstream and release of toxins by the bacteria and then development of sepsis.
Q You did iron staining in this case?
A Yes, I did.
Q I'm not sure I can follow a detailed description, but can you just generally tell me what that means?
A It's basically taking the microscopic tissue, cutting it very thin like you do for any

microscopic slide, and then you stain it with a combination of a hydrochloric acid, which reduces the iron, and then a blue stain that reacts with iron, and then you look for that blue-stained iron in the microscopic sections.

Q And what is the end purpose of all that?

A The end purpose of all of that is to see if there's any free iron in that slide or in that field which would indicate that there has been breakdown of red blood cells and release of iron into that area.

Q And that correlates to timing of injury or what?

A Yes, it correlates to timing of injury. Red blood cells, once they get out of the bloodstream, begin to hemolyze and break down. And depending upon whose studies you look at, usually 24 to 36 hours following this there is free iron which will stain positively in the tissues.

Q Okay. So in this case you did the iron staining for the purpose of determining what?

A Whether or not there was any iron, free iron, in the area of injury of the liver as shown on the three different slides.

Q And the three different slides you had were from

what?

A They were from the autopsy and they were from, hopefully, blocks of tissue retained at the coroner's office that we asked them to recut and send.

Q What blocks of tissue? From what? The liver or what?

A From the liver laceration.

Q The entire laceration or just a part of the laceration?

A Just part of the laceration. Whatever part the autopsy pathologist took and submitted for the blocks and microscopics.

Q So you had three slides of a part of the laceration. Correct?

A Correct.

Q And how much would that -- how long was the laceration altogether, the liver laceration?

A It says five by two centimeters. That would be approximately two inches by one inch.

Q And the slides that you had covered how much of that? A millimeter or something?

A Probably slightly more than that, depending upon how he sampled it at autopsy.

Q Well, a millimeter, maybe two?

A To my memory there were maybe three different blocks of tissue so he would have taken three different areas. Whether they were adjacent to each other or whether one is from the middle and one from each end, I have no idea.

Q It would be better if you had one from each end than from the middle, I guess. I mean better forensically.

A That's what I would have done and that's what I would have taught a resident doing the case, yes. Also, label which was which was which.

Q Were they labeled?

A No.

Q Of the three that you did, what did you find? What's your conclusion?

A I found there was no evidence of iron, there was no evidence of an inflammatory response. That is, there were no white blood cells that had gone into the area of the liver that was damaged. There was -- there were a few fibrin adhering to each other, but no advanced clot formation. And there was no damage to the liver cells. They looked -- except for the fact that they were separated from each other, due to hemorrhage, there was no damage to the liver

cells themselves.

Q Indicating to you what?

A What there's no evidence of any injury 36 hours old or older than that Not even 24 hours old As a matter of fact, it looks like an acute injury, something you would see if you did an autopsy on somebody who died at the scene of a traffic accident and had a lacerated liver

Q So do you have a conclusion as to when that injury occurred?

A It's perimortem Occurring around the time of death

Excuse me for one second I'm not going to disappear, but I am on call for court so I'm going to mute it I'll be right back

(Short break)

THE WITNESS: I'm sorry I'm not going anywhere right now.

Q Okay Well, that's good

So you believe that this was an injury that most likely occurred as a result of resuscitation then?

A Yes, sir.

Q Attempted resuscitation.

A Yes, sir.

Q Let me just ask you this. Is it possible that there was a laceration smaller than the one that was ultimately found on autopsy, but a smaller laceration that then was opened up more by the resuscitation efforts?

A Yes, that's possible, yes.

Q And that, for whatever reason, the three slides you have just didn't include the older part of the laceration?

A That's possible, yes, sir.

Q What about are there other ways to date an injury besides staining, iron staining?

A What you look for on internal injuries is you look for the body's response to the injury such as death of the cells, an inflammatory or white blood cell response, the formation of a clot or a thrombus around the injury. Externally there are colorations that you can look for.

Q Colorations like what?

A Purple, blue, green, red, yellow, brown. Different progressions of a bruise or injury as it disappears. Those are for bruises externally, in the skin.

Other types of wounds externally such as lacerations or cuts, again, you go back

basically to the microscopic, to the body's response to the injury.

Q Looking at the -- well, let me just ask you about the blood itself. Blood in a cavity like the abdominal cavity. Does the blood itself have an appearance change over time?

A Over time it usually gets darker and begins to liquify.

Q Is that something that the doctor who did the autopsy on Brad Porter would have had an opportunity to see?

A Yes. And he describes it as red blood and clots.

Q "And clots"?

A "And clots," yes.

Q What would the clots indicate?

A The clots would indicate that the blood has not been in there a long period of time because the clots usually begin to break down to the abdominal cavity quite quickly. So it would indicate to me that's a relatively fresh bleed, as does the coloration of red blood indicate that it's a fresh bleed.

Q If this was caused by that, the liver laceration was caused by resuscitation efforts, what you're

talking about is somebody actually compressing his chest and abdomen and causing that injury?

A That's correct.

Q Would you expect there to be bruising caused by that kind of compression, enough to cause an injury to the liver?

A In general, no. Even really good CPR in younger people, because they're so flexible, doesn't leave bruising. And then we're also faced with the fact that to develop a bruise, you've got to have blood flow into the area of damage. And looking at this situation, since it's on the front of the chest, following the CPR, most of the blood during resuscitation is going to be going out into his abdomen. And after he dies, there's basically not going to be any blood flow into the area of his chest or the skin of his chest when he is being compressed.

So it doesn't surprise me at all that we do not see bruising on the chest. I see many people who have been CPR'd and show no bruising on the chest.

Q We're getting a notice here, five minutes remaining. I don't know if they're going to shut us down here or not. But if they do, we

have a speakerphone here, and I think you do there, we can probably just finish this without the picture, I'm told.

A That would be fine. Also, I just found out that I was supposed to fly back to Cincinnati on the 4th and testify on the 5th, and that settled. So if need be, we can probably arrange something on the 4th or 5th if your schedules allow that.

Q Well, I don't think we'll go that long anyway.

A Okay. I'll shut up. Ask questions.

Q In terms of these resuscitation injuries, is that something that's been written about in the literature that you're aware of?

A I would expect so. I would doubt that it's been a forensic pathologist because most of us don't have a whole lot of time to write. We certainly see it and we certainly teach people about them. There's certainly enough common knowledge, I think, in my field that I don't go looking at a book to document it.

Q When you're talking about a liver injury caused by resuscitation, what is the process that causes the injury?

A The process that causes the injury is either bad CPR where the pressure is applied directly to

the liver or extensive, very deep chest compressions, the liver is pushed backwards It is then somewhat stretched as portions of it are over the spine and portions of it are around the falciform ligament area where it's firmly attached

So you get either a compression squishing laceration or you get a spreading because some portions of it are going over the spinal cord and the other portion.s firmly attached And it has to give somewhere and it gives posteriorly near the falciform ligament It.s a classical site for it.

Q Are there injuries also caused to the anterior portion of the liver by, say, the xiphoid process being compressed down on top of it?

A Usually the only -- it.s very rare to see an anterior injury without a posterior injury unless you've got a rib -- or the sternum, actually, be more accurate than the xiphoi -- but unless you have a rib fractured and then that gets pushed in against the front of the liver Otherwise, you normally see a posterior injury before you see an anterior.

Q When you were back here in Ohio, were you

familiar with the procedure for challenging the results of the coroner's autopsy conclusions?

A Not real familiar because it was handled by the coroner. I think there was one case in my experience that the cause of death was challenged. I think the attorney went to get a court order to get it changed or something along those lines. Most of it happened after I left. And the coroner then, Frank Cleveland, I don't think he would change anything if God ordered. But he's been replaced and I don't know if his replacement changed it or not.

Q Well, let me ask you this. Do you know of any evidence that anyone objected to the autopsy results relating to Brad Porter until this lawsuit was filed?

MR. TABER: Objection.

MS. MASSEY: Objection.

A As far as I know, no. I've got no knowledge of this. I obviously had no knowledge of the death prior to my being retained, and I have been shown no records that anyone objected to cause of death prior to when I -- as far as I know, prior to my looking at it.

MS. MASSEY: It says: Do you

wish to extend meeting, yes or no?

MR. LANSDOWNE: Yes. If we can just extend it, let's just extend it.

MS. MASSEY: Want me to hit Yes?

THE WITNESS: Are you dropping a few more quarters down the slot?

MR. LANSDOWNE: That's about what it is.

MS. MASSEY: Go ahead.

BY MR. LANSDOWNE:

Q When were you retained, just so we have that date?

A Let me look at the records. Let's see. The first letter I have is December 2nd, 1996, and it says "Thanks for agreeing to review this interesting case," et cetera, et cetera.

So I would say sometime shortly on or shortly before December 2nd of '96.

Q By the way, is that your entire file on this case before you?

A This is my entire file except for the depositions. I didn't drag the depositions with me. But this is my entire file. It includes the pictures, it includes correspondence between

myself and the law firm, which basically is "Enclosed is this, enclosed is that," and Here's when we're going to do the deposition," the opinion letters I've talked about, the reports I've talked about, and my letter.

And the only thing I don't have with me is the microscopic slides, and I didn't drag the depositions with me because I figure you guys got those.

Q Okay. Let me ask you if you agree with this conclusion as to cause of death.

"Immediate cause of death, hemoperitoneum." Immediate cause of death.

A No.

Q "As a result of laceration of liver," intervening cause of death.

Agree, disagree?

A No. I think that's probably what caused the hemoperitoneum. But I don't think it has anything to do with his cause of death.

Q "As a result of attempted cardiopulmonary resuscitation," intervening cause of death.

A Yes. I think the CPR is what caused the liver laceration which caused hemoperitoneum.

Q "As a result of septic shock," intervening cause

of death

A I don't believe the septic shock enters into the picture on this case

Q Okay. And then I guess As a result of bacterial wound infection."

Again, you don't think that enters into the picture other than that --

A Again, I think he had bacterial wound infection and he had a bacteremia I don't see any evidence to bring in sepsis or septic shock, no

Q Let me just go back to some things we discussed and just try and wrap this up before we have to put more quarters in, as you say

Can you point to me any text that would support concluding that a thromboembolism in the lung is the cause of death when there's no evidence found at autopsy of embolism, of an embolism in the lung?

MR. TABER: Objection

Q Do you see my problem?

A I think I understand that question

I think it s xing of a negative proposition, that if it's not found because it's not looked for, nobody is going to be able to report it

The second thing is, it's just my own little pet peeve, is that when somebody asks me to be an expert, I don't go run and do literature searches or medical searches because a medical student can be an expert if that's what you want them to do. I base my testimony on my knowledge, experience, and readings I've done in the past. I don't routinely go back and do literature searches. So I can't tell you whether it's ever been reported in the literature, but I would tend to doubt it.

Q I mean you don't know of any literature that has supported a conclusion of a thromboembolism causing death when there was no emboli found in the lung at autopsy. Correct?

A Certainly not in the acute phase. People can throw a pulmonary emboli over their lifetime, develop pulmonary hypertension and die as a result of that, and the bottom underlying cause is the emboli and the emboli are long gone.

But in the acute phase such as this case, I don't know of any literature that documents it as a cause of death if the pathologist doesn't find it.

Q Couple times you said they weren't looked for,

"they" meaning emboli. What evidence do you have that Dr. Daniels and Dr. Matus didn't look for emboli in the lungs?

A Well, what I have is two things. Actually, three things.

Number one, they didn't look for emboli at all. They certainly didn't look for air emboli. They didn't look for any blood clots in the legs that could be a source of emboli. Their only comment is -- there's no mention of it under the Cardiovascular section and then under the Lung section they just say "No thromboemboli are noted." Okay?

That, to me, means that we didn't see anything obviously. It doesn't say we traced out the blood vessels, it doesn't say we examined the periphery, it just said "No thromboemboli are noted." It doesn't tell me at all that they spent much time looking for them.

It's like the famous "No enlarged parathyroid glands are found." It doesn't mean I didn't look for them. And if no enlarged parathyroid glands are found, no unenlarged parathyroid glands are found either.

Basically they didn't give any description

of the pulmonary vasculature in a case that strains for it.

Q Well, what if Dr. Daniels were to testify under oath that he looked for emboli and he didn't see any? And he looked hard for them and he didn't see any. Would you have any reason to doubt his testimony?

MS. MASSEY: Objection.

MR. WALTERS: Objection.

A I would have no reason to doubt his testimony that he looked for them. He may have looked for them as hard as he could. I think, number one, he missed them; and I think, number two, if he's going to continue to do coroner forensic work, he may need or choose to spend some time with the coroner's office in Columbus or Cincinnati. I wouldn't recommend Cleveland.

Q You wouldn't recommend Cleveland?

A No.

Q Why not?

A I've seen a lot of cases come out of that office where standard medical examiner forensic procedures were not followed.

MR. LANSDOWNE: Sounds like -- are you still there, Doctor? Apparently not.

MR. TABER: We're off the record.

(Short break)

BY MR. LANSDOWNE:

Q Just a few more things here.

A All righty.

Q Other people might have some questions.

I have a copy of a one-page compilation of your notes here. I just want to ask you a few things.

The very last thing on there is "Big dilated heart not C" --

A "Not consistent with."

Q -- exsanguination." What do you mean by that?

A Well, if somebody is exsanguinating, they're losing blood. You would expect the heart to be, you know, collapsed down, not dilated, because of a decreased amount of blood. But when the heart dilates, particularly the right side, it's indicative of obstruction of flow or pericardial tamponade, which you don't get pericardial tamponade -- I'm sorry -- it's indicative of some type of obstruction to flow so the heart is not able to pump it out. So it's not consistent with exsanguination or blood loss.

Q I know what your comments were about literature, but have you read any literature about the effects of TPA on the ability to find emboli at autopsy?

A Not for this case. I've read materials in the past. And the vast majority of the times that it's used, if it's not -- obviously if it's not successful, you find the clots. If it is successful, you know, the clots go away.

Q And the person survives.

A And we don't autopsy them.

Q Right. But in general it's accepted that the use of TPA will not prevent finding emboli at autopsy. Correct?

A In general, yes.

MR. LANSDOWNE: I'm just checking over my notes here. If anyone else has any questions, they could go ahead while I check them over. I don't know if anybody does.

MR. TABER: Dennis, there's one opinion you haven't asked him that he has discussed with Don. If you would like to let me go ahead, I can follow up on a question you asked.

EXAMINATION OF HARRY J. BONNELL, M.D.

BY MR. TABER:

Q Doctor, correct me if I misstate, but I think you were asked whether 1500 cc's of blood loss could cause death. And I think there wasn't a time period mentioned. But I understand from Don that you have an opinion as to whether 1500 cc's of blood loss would cause death over a two-day period.

A Yes. When I was talking about it causing death, that's acute blood loss. That's a single event. If you slowly are losing blood, that much over, you know, a two- to three-day period, you know, you'd have to lose a lot more. It's like the body compensates. And so I'm referring to like sudden losses.

Sane thing when I say 40 percent of lung tissue or lung volume being affected by the blood clot. That's acutely. If you lost that percent over the period of several days or weeks, the person certainly survives that. They may become a respiratory cripple, but it's not lethal.

The blood loss being lethal and the amount of lung being damaged lethally are a one-time or

very short interval-event, not spread over days.

MR. LANSDOWNE: I think I follow your conclusion there, Doctor.

MR. WALTERS: Identify yourself.

MR. LANSDOWNE: This is Dennis Lansdowne again.

EXAMINATION OF HARRY J. BONNELL, M.D.

BY MR. LANSDOWNE:

Q With respect to that, what you're saying is that 1500 cc's over a couple days, the body would compensate for that, so it would not likely be the cause of death even if there was a bleed back at the time of the original injury. Is that right?

A That's correct.

Q And by "compensate," what do you mean?

A I mean that it -- although your hemoglobin and your hematocrit will drop down, you will still replace that lost volume enough that you can keep up a blood pressure and you can keep adequate oxygenation and perfusion of your organs. That's what I mean by the body has the ability to compensate and adjust. It can pick up the heart rate or the pulse rate so it pumps

a little bit more blood when the intravascular volume is down a little bit.

Q At some point, even when you're losing blood slowly, the body is not able to compensate or "keep up," which is, I think, the term that you used in your report.

A That's correct. If you continue to have a blood loss, eventually your body will not be able to keep up with it. Now, the body can do great things. If you look at, for example, alcoholics who have gastrointestinal bleeding, I know they easily can lose 40 to 50 cc's, you know, a day, into their intestines and they continue on in their alcoholic ways and they don't die from that blood loss. But if they develop a sudden bleed from a ruptured blood vessel, then it becomes rapid and they die.

So it depends upon how much is being lost in a period of time. And the bottom underlying factor, of course, in every individual is their status beforehand. In other words, do they have other risk factors that put them at a greater risk of dying from any kind of extra pressure or compromise.

Q So would an infection in a person have an effect

upon their ability to withstand extra pressure or compromise?

A Yes. An infection already stresses the body, particularly the immune system And so it would decrease their ability to respond to an initial insult. More so -- not so much, I think, in a healthy 20-year-old as much as a- you know- older- multi-diseased- 60- or 70-year-old

I hope I'm not offending any of you on video for saying that

Q Do you know how much blood Mr Porter lost from the laceration to his thigh?

A No I don't I understand that a lot of his dressings here blood-soaxed- but I did not see any good measurements as to how much he lost that way

Q Are you able to even give a range for how much he might have lost?

A No- I'm not Not from the record that I saw- no

Q Are you able to say whether the combination of 1500 cc's of blood lost over a couple days plus the amount of blood lost from his le_ would have been enough to cause an arrest in this patient, or even without the amount of blood from the

leg, or are you just not able to respond to that?

MS. MASSEY: Objection.

A I don't really think I can respond to that because I cannot in my own mind estimate how much blood he lost there through his leg injury or through his fractured leg. I just don't know.

Q So putting it another way then, it is possible that with the combined loss of blood from his leg, and, hypothetically, a loss over a period of a couple days of the 1500 cc's from his liver, coupled with the compromised status from his infection, that it is possible that that could have led to his arrest.

MS. MASSEY: Objection.

MR. TABER: Objection.

A I think whatever the volume was from his leg and if you throw in the volume from the abdomen and all the other things you put in, I think that all those contributing could have caused his death. But I would not expect it to be a sudden drop in blood pressure and a sudden cardiac arrest. I would expect that he would have, you know, gone into shock, slowly decreased his

blood pressure and increased his pulse. At least that's the typical history or scenario when somebody, as we say, slowly goes down the tubes.

Q Even if they're under anesthesia?

A I would not -- for this duration of anesthesia I think that that opinion would still be true. The anesthesia could support them, but over the time interval of, I think, an hour to an hour and a half of anesthesia the scenario just doesn't match it. And of course neither does the timing of the injury to the liver. But is it possible? Yes, anything's possible.

Q Give me one more minute here, Doctor.

I really don't know exactly how to ask this, but let me try.

With respect to the sections of the lung that you have, they are identified as one is from the periphery and two are interior. Is that correct?

A No, they're not identified as to where they're from.

Q Are you able to tell --

A Oh, you mean the lung. I'm sorry. I was thinking liver.

No, they're not identified. What you're looking at is what's on the slide. And if you are asking me whether or not I remember seeing pleural surface, pleural surface would indicate the surface of the lung and therefore the periphery. And as I remember, only one of them showed pleura.

Q Do you know how much of the lung was examined microscopically?

A In general, I would have to say a minimal amount. When you consider the total volume of the lung and what little bit is represented on those slides, we're probably easily looking at well less than 1 percent of total lung volume by what's on the slide.

Q And for taking samples, is that a normal percentage?

A That would probably be a normal percentage if you were not thinking about thrombotic phenomenon, if this were somebody who obviously had a heart attack or was run into by a car. I would hope that there would have been more there. And I don't know how much they may have saved and kept in a jar for additional processing.

Q Are you saying that they should have examined more than --

A My opinion, yes, sir.

Q And you think that somewhere in that lung tissue you would have found something. Correct?

A If there had been additional sampling, yes, sir.

Q When you're selecting the sample, do you try and select the -- how do you go about selecting it if you're trying to find emboli?

A What you should do is you start with the pulmonary arteries at the hilum, or central portion of the lung, and then you trace them all out as they split. It's kind of like looking at the root system of a tree. And you go as far out as you can in looking for any emboli that are there.

If you find anything, you obviously select that area. If you don't find anything, then you select multiple areas. My practice would be at least two from each lobe. So it would be a total of at least ten sections from the periphery or pleural surface of the lung, and probably keep a whole lot of lung tissue, if not the entire lung, in a fixative or in formalin until the original stuff comes back. And then I

know whether I need to look at some more or not.

Q And do you know, in terms of the procedure that you described, following the trunks out, do you know whether that was done in this case?

A It's not described so I don't know whether it was done. There's no evidence that it was done. If they're going to say now, if the pathologist now says he did it, then I certainly cannot doubt the fact that he did it. And all I can say is that the amount of lung tissue seen underneath the microscope is a lot less than what I would expect if no emboli were seen grossly and were adequately looked for.

Q If you determine -- I mean in this case the coroner did determine a cause of death.

A "A" cause of death, yes, sir.

Q And once you've determined a cause of death, does that affect how you approach the rest of the autopsy?

A Well, it's -- there's a doctor, forensic pathologist, who gives an entire one-hour lecture on exactly what you just said, and that is: Are you determining a cause of death or "the" cause of death?

If you go in there and see a belly full of

blood and you say, "Aha, I know why he died" and you stop looking for possibilities, you may have found a cause of death, you have not necessarily found the cause of death. You may be ignoring something. And that's what 1 think happened in this case.

Q You would acknowledge if you have somebody hit by a car, you're not going to section as much lung as you would somebody that you're suspecting of having an emboli, correct?

A That's correct.

Q So part of what you do in an autopsy is determined by the history that you have when you get the body, right?

A Correct. And then what you find as you're doing the autopsy.

Q And what you find as you're going, correct?

A Right.

MR. LANSDOWNE: I think that's all the questions I have for you, Doctor.

THE WITNESS: Okay. Anybody else?

MS. MASSEY: I don't have any.

EXAMINATION OF HARRY J. BONNELL, M.D.

BY MR. WALTERS:

Q Doctor, I'm Steve Walters. I represent the anesthesiologist. Just have a few questions.

In the beginning of this deposition you listed the things that you reviewed since writing your report of June 25th of this year. And you listed the reports of three doctors. I take it that you have not reviewed the report of a pathologist by the name of Hoffman?

A Hoffman? No, I have not read a report by Hoffman.

Q Dr. Hoffman, first name Robert, is an M.D./Ph.D. at University Hospitals of Cleveland. And he's director of autopsy pathology. He authored a report of June 27th of '97 that I believe has been provided to everybody in this case. You haven't seen that?

A That's correct, I have not.

Q At some point in the latter part of your questioning by Mr. Lansdowne you were asked questions about your opinion relative to, and Mr. Lansdowne said hemoperitoneum, immediate cause of death; laceration of liver, intervening cause of death; attempted cardiopulmonary

resuscitation, intervening cause of death. Do you recall that series of questions?

A Yes, I do.

Q That was from the report of Dr. Hoffman he was questioning you about, and I mention that for your benefit.

In Dr. Hoffmann's report he concludes that a circulatory collapse occurred in this case, most probably from sudden bacterial sepsis. If I understand correctly, you are familiar with that, that term?

A That's correct.

Q I know I have you at a disadvantage because for some reason you were not provided the report of Dr. Hoffman. I don't mean to imply that Dr. Hoffman anywhere in his report considers and rejects a thrombotic embolus. So I'm trying to give you some sense of the report without your having the benefit of looking at it. Bear with me.

Can a sudden bacterial sepsis produce cardiac arrest?

A It's possible, yes.

Q In this case, and I think we've agreed, it was somewhere around 10:28, I'll use that term for

want of another time, this young man, Mr. Porter, had a cardiac arrest. Correct?

A Yes.

Q Now, that's the first cardiac arrest that is noted in the record, is that correct?

A Yes,

Q Is every cardiac arrest reflective of a sudden drop in blood pressure?

A Is it reflective of it? You mean causative of it? I don't understand what you mean by "reflective."

Q Let me see if I can rephrase it.

You spoke earlier in response to questions about a sudden drop in blood pressure.

A Right.

Q And my question to you is, when a person has a cardiac arrest, is that synonymous with a sudden drop in blood pressure?

A No. If you throw a pulmonary embolism, for example, you will have a sudden drop in blood pressure, but your heart has not yet arrested, it will still try to beat. You can get a sudden drop in blood pressure in different types of shock and your heart will continue to beat. Actually, will try to make up for it and will

usually increase

Somebody is talking to me on this mw and I don't know who it is Hold on a second

MR. WALTERS: We're on mute.

(Short break)

A I mean you can have sudden drop in blood pressure for some other reason than a cardiac arrest.

Q Let's take the reverse Can you have a cardiac arrest in which there is not a sudden drop in blood pressure?

A I -- the exception to that, I think, is where you may have a progressive slow drop in blood pressure followed by cardiac arrest But if you have a cardiac arrest and the heart's not pumping anymore, I don't see how you can keep = blood pressure.

Q In this particular case -- I'm not going to try to go back over old ground -- you listed three findings which together with the clinical picture led you to conclude that there was a thrombotic embolus as the cause of r. Porter's cardiac arrest, correct?

A Right.

Q You testified also that you found no evidence of

sepsis in this case. And I'm trying to understand whether that response is an indication of a definition of sepsis that perhaps is different from the --

A My definition of sepsis is the equivalent, is that there are clinical results or patient-measurable, observable results due to a bacteremia. So that a sepsis is not only just bacteria in the blood, but it's an overwhelming infection in the blood and the person goes on and develops hematologies such as shock, changes in pulse rate, things like that.

A lot of people use the term "sepsis" just simply to mean that there's bacteria in the bloodstream. And I would use the term bacteremia. But if somebody is using the term "sepsis" interchangeably with "bacteremia," then this person could have had sepsis.

Q Okay.

In terms of the expected result of a thrombotic embolus sufficient enough to cause a precipitous drop in blood pressure, do I understand correctly that you would not expect to see a spontaneous regaining of previous blood pressure values in a patient that had such an

embolism?

A Not unless the embolism somehow, you know, dislodges itself and allows blood to get through the lungs enough to generate a pressure. I think we were talking about saddle emboli and if it was a saddle embolus, would you expect a return of blood pressure. 1 think only if there was somehow movement of the embolus or the embolus maybe going over to take out only one side of the lung so you can get some pressure out the other side of the lung. But I would not expect a spontaneous return to a blood pressure that's even higher.

Q Dr. Bonnell, a frequent source of thrombotic emboli is a thrombus in the deep veins of the legs, is that correct?

A That's correct.

Q Am I also correct that that can occur in a patient who is not undergoing any procedure but is simply lying in bed?

A Yes, that's true. I think I mentioned that to some extent, that not only should the right leg or the injured leg have been looked at, but so should the other one if he's on long bed rest.

There are other risk factors for

developing blood clots besides trauma. These are both inborn problems developing with your coagulation process as well as obesity, bed rest, prolonged sitting, things like that, varicose veins. They're all known to place people at increased risk for clots even without trauma.

Q Do we have any indication in this case that the surgeon at the time of the second debridement was performing procedures on any of the deep veins of the leg?

A All I have is an -- is it appears he's debriding the tissue. Does not show any -- it's not specific enough for me to know what blood vessels he's working around. I don't know how deep he's going.

Q And I gather from what you said earlier that in terms of a thrombus originating in the lower extremities, whether or not the surgeon is working in or around the veins of the lower extremity may not even matter. The thrombus may arise and migrate and become an embolism in the lungs simply by reason of the inactivity. Is that --

A It may come as a result of the inactivity.

Usually they break loose as a result of something, and I was seen it like people getting out of their beds to get in a wheelchair to be discharged home and t ex don't make it Or they go into the bathroom, have a bowel movement and change positions and stress themselves, and the embolus comes loose Mhey're being transferred to or from a bed or wheelchair and it breaks loose

And then there are those, certainly we don't know what the circumstances are, when they break loose and those are the ones where you die at home or something like that

Q And in this case we do have a situation that involves one of those frequently found precipitating factors, namely, the transfer of the patient upon completion of the surgery to the bed.

A That's correct.

MR. WALTERS: I don't have anything else.

EXAMINATION OF HARRY J. BONNELL, M.D.

BY MR. LANSDOWNE:

Q Doctor, it's Dennis Lansdowne again.

Just wanted to follow up on this air

embolism that you had mentioned before And I know you can't really give an opinion that he did have an air embolism. but assuming that he did. do you have any idea where an air embolism would come from under these circumstances?

A Under these circumstances the only reasona le source would be from the operative site If things were being exposed and things like that. you may have air entering there Usually it enters more through the larger or the greater blood vessels than that But that would be the only source that would be most likely

There's always a possibility of it entering through an intravenous line. but there's nothing that I see that would suggest that as the route

Q Okay So the two possibilities would be an intravenous line and something at the operative site?

A Yes And for probability-wise. I would say the operative site in this case But I certainly have to. you know consider the other possibility. But it would only be a possibility

Q Well, given a debridement. what would cause air

to be forced into the vessels?

A In general, the pressure in the venous system, and particularly the great veins, is more toward a negative mode. In other words, the blood -- the heart basically sucks blood into it on the right side. It pulls the venous blood back in. And because of that, because of its negative pressure, you can get blood getting into veins.

Q You mean air getting --

A Air getting into the veins. I'm sorry.

Again, it's most likely with larger veins like those entrances to the chest and neck. But it's always a possibility if that area is being manipulated.

Q Well, wouldn't you say that that's really a rare circumstance, given this kind of operative procedure, to have an air embolism?

A Yes, it would be. I would certainly not -- I would not bet much money on it. Probably the odds are probably better than the lottery, but I would not bet a lot of money on it.

Q But pretty close to the lottery?

A Well, it depends upon whose lottery you're talking about. It's a possibility. And I think it's a thought that needs to be entertained and

it certainly is something that should have been ruled out.

Q Right. But in the absence of using some kind of forced air, you don't usually see an air embolism from a debridement of the leg, correct?

A Right. It would be most rare. It would be most surprising. I probably would write it up if I had time.

Q When you were doing this case, I assume you approached it as you would approach any autopsy within your office except that you don't have the body.

A Well, you know, I approached it from reviewing it. In a particular case like this, it's a little bit easier than most autopsies. We usually don't have as much history or medical records when we do autopsies here. It's just kind of the nature of the beast. A lot of times we don't have the information in the records or as much as we would like.

But yes, I read the records, got the history, read the autopsy report, was not thrilled with what I read, and then looked at the microscopic slides, looked at the toxicology report, and saw more questions or problems

there, and then wrote my opinions down and the notes as I went through it.

Q I assume that from a mind-set standard, you looked at it with no preconceived notions of what the cause of death might be.

A That's correct. I just looked at it and then I gave my opinion. You know, just like any other case. And, you know, sometimes I call the attorney back and I say settle for whatever you can get. And the other times I call back and will tell the attorney, you know, they screwed up here. You should sue them for everything you can get.

Other times I call them back and say it's not here and there's major problems in the autopsy reports. I just did that for a case in Tucson. I said the decedent in this case does not have pneumonia, this is a fib. And either the plaintiff's attorney dropped it or he went to find another expert.

Q Right. But --

A I do them open-minded because I just tell them what I see and what my opinion is. And then they can do whatever they want with it.

Q Right. But in this particular case, you going

into it, you considered a number of possibilities and then excluded them, I assume.

A Yes. I just -- you know, I think that is the way your mind works all the time, is: Why did this guy die? And what documentation is there for this? And what documentation is there for that? What are the facts and what do they substantiate? And, you know, what should have been looked for and wasn't looked for?

You know, this is something I do, not only, you know, in cases like this, but when I'm going over, reviewing cases, with residents or fellows or students rotating through our office. We do it at the autopsy table. "You need to look for this. Don't forget that." When I get a report back, "You forgot to put in that you looked for this and it wasn't there." Because there are pertinent negatives as well as pertinent positives.

Q And one of the things that ultimately you have considered, I assume, was sepsis?

A If I would have thought of sepsis, I would have looked for vegetations on the heart valves. They say they're normal. And I, you know, would have looked for sepsis as a possibility, but

sepsis usually doesn't give a dilated right ventricle. That's why it doesn't fit in my opinion.

Q And he was being treated with antibiotics?

A That's true. Not that everything was covered. I'm sure that there was all kinds of stuff in that water that may not have been covered by antibiotics. I don't know. And some organisms, particularly the anaerobic organisms, can progress even in the face of antibiotics.

Q When you were talking about definitions, sudden bacterial sepsis has a particular accepted definition, doesn't it?

A My understanding of it is what I gave you. I don't know if there's something in the dictionary or in a microbiology text. That's my understanding of it as how I've seen it used before.

MR. LANSDOWNE: Okay. Thank you.

THE WITNESS: You're welcome.

MR. LANSDOWNE: Anyone else?

MR. TABER: Doctor, we'd like you to read it and not waive signature, if that's okay with you.

THE WITNESS: That's fine with me.

MR. TABER: Can we get a waiver of the seven-day requirement then?

MR. LANSDOWNE: Sure.

MR. TABER: Thank you.

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THE STATE OF OHIO,) SS: CERTIFICATE
COUNTY OF CUYAHOGA.)

I, Judith Ann Volak, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that the within-named witness, Harry J. Bonnell, M.D., was first duly sworn to testify the truth, the whole truth and nothing but the truth in the cause aforesaid; that the testimony then given by him was by me reduced to stenotypy in the presence of said witness, afterwards transcribed on a computer/printer, and that the foregoing is a true and correct transcript of the testimony so given by him, as aforesaid.

I do further certify that this deposition was taken at the time and place in the foregoing caption specified.

I do further certify that I am not a relative, counsel or attorney of either party, or otherwise interested in the event of this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Cleveland, Ohio, on this 19th day of December 1997.

Judith Ann Volak

Judith Ann Volak, Notary Public
within and for the State of Ohio
My Commission expires November 30, 2000.

THE STATE OF _____)
) SS:
COUNTY OF _____)

Before me, a Notary Public in and for said state and county, personally appeared the above-named Harry J. Bonnell, M.D., who acknowledged that he did sign the foregoing transcript and that the same is a true and correct transcript of the testimony so given.

IN TESTIMONY WHEREOF, I have hereunto affixed my name and official seal at _____, this _____ day of _____, 1997.

_____
Harry J. Bonnell, M.D.

_____
Notary Public

My Commission expires: _____